A G E N D A
ISLE OF WIGHT COUNTY PLANNING COMMISSION
June 25, 2024

1. CALL TO ORDER

INVOCATION

PLEDGE OF ALLEGIANCE

2. ROLL CALL/DETERMINATION OF A QUORUM

BOBBY BOWSER, CHAIRMAN
THOMAS J. DISTEFANO, VICE-CHAIRMAN
BRIAN CARROLL
CYNTHIA TAYLOR
JAMES FORD
JENNIFER S. BOYKIN
GEORGE RAWLS
RICK SIENKIEWICZ
RAYNARD GIBBS
MATTHEW SMITH

3. ACTION ON REQUESTS TO WITHDRAW OR TABLE PENDING AGENDA ITEMS

4. APPROVAL OF AGENDA

5. CONSENT AGENDA

A. June 13, 2024 Board of Supervisors Regular Meeting Action List

6. CITIZENS' COMMENTS

7. PUBLIC HEARINGS

A. CUP-6-23 Old Stage Highway Utility Scale Solar Energy Facility

Application of Elk Development, LLC, applicant, and William Pennie, Jr. and Teresa L. Crocker, property owners, for a conditional use permit for a major utility service, specifically a 3.0 MW utility-scale solar energy generation facility, on approximately 27.32 acres on a 94.21-acre tract located on Old Stage Highway with tax parcel number 13-01-005 in the Rural Agricultural Conservation (RAC) zoning district

8. OLD BUSINESS

9. NEW BUSINESS

A. COUNTY ATTORNEY'S REPORT

B. PLANNING DIRECTOR'S REPORT

1. Recreational Vehicles Ordinance Continued Discussion

Recreational Vehicle (RV) Ordinance Discussion

2. Comprehensive Plan Five Year Review Project Update

Comprehensive Plan Five Year Review Project Update

3. Planning Commission Annual Retreat Discussion

Planning Commission Discussion on Possible Dates for the 2024 Annual Retreat

10. CLOSED MEETING

11. ADJOURNMENT

PLANNING REPORT

PLANNING REPORT

APPLICATION:

Application of Elk Development, LLC, applicant, and William Pennie, Jr. and Teresa L. Crocker, property owners, for a conditional use permit for a major utility service, specifically a 3.0 MW utility-scale solar energy generation facility, on approximately 27.32 acres on a 94.21-acre tract located on Old Stage Highway with tax parcel number 13-01-005 in the Rural Agricultural Conservation (RAC) zoning district

ELECTION DISTRICT:

District 3

LOCATION:

The proposed project is located at 8699 Old Stage Highway (Rte.10). The access road to the site is located on Morgarts Beach Road. To the west of the site is the Keystone Segment of the Captain John Smith National Historic Trail. To the north is the historic resource known as the 1790 Bourne-Turner House located at 16303 Morgarts Beach Road. There is an area of residential development to the northeast. There is additional scattered residential development to the south along Old Stage Highway. A property location map is attached to this staff report.

BACKGROUND:

The 27.32-acre project is situated on a parcel consisting of approximately 94.21 acres primarily consisting of agricultural fields. The property is in the RAC zoning district. Not all acreage comprising this parcel is proposed for the solar facility. Based on the project area, 27.32 acres of crops will be removed from production. Approximately 23 acres will be in the fenced area of the solar facility project area. The subject property has never been developed and has been used historically for agriculture. Of the acreage included in the project area, six of the acres are considered prime farmland, with four of those acres included inside the fenced area.

DESCRIPTION:

The applicant has proposed a three-megawatt (MW) solar energy generation facility in the west portion of the property. An existing electric line that bisects the project area along Old Stage Highway will serve as the interconnection point.

The project will consist of solar panels along with their racking systems and metal posts, inverters, and fencing.

A perimeter fence will encompass the solar panels and ancillary equipment and is required to be harmonious with the rural agricultural and historical character of the County. The site will bolster the existing vegetation to the east with a ten-foot landscape buffer along that same portion of the site. Screening around the remainder of the site will be in accordance with the County's requirements. An internal access drive made from an all-weather aggregate base will provide access to the arrays. The southern boundary of the site is located in the Highway Corridor Overlay District (HCOD).

Public Facility Impacts:

The applicant has proposed to use Morgarts Beach Road via Old Stage Hwy (Rt.10). Approximately 1300 feet of unpaved road on Morgarts Beach is proposed to reach the entrance to the site. Any roadway damage within the right-of-way that occurs after project construction begins will be documented and analyzed by both the applicant and VDOT. All costs for damage repairs will be paid by the applicant. The approved truck route will be monitored and enforced as a condition of approval, with permit revocation an option if violations occur.

In establishing the use, the enjoyment of neighboring properties may also be temporarily impacted by construction traffic and noise generation.

To ensure adequate provision of emergency services, the Fire Rescue Department has reviewed this application and has no concerns at this time. The applicant is required to submit an emergency response plan with the submission of the preliminary site development plan. The plan shall include a training program to be provided, at the discretion of the County, to County emergency responders concerning safety for on-site emergency response. The applicant shall install a Knox Box or other remote access technology at the facility access gates.

Environmental Assessment:

The project lies within the in the County's Chesapeake Bay Preservation Area (CBPA) Overlay District. There are no impacts proposed to any wetlands or watercourse with this proposal. If approved, wetlands are required to be confirmed by USACE during the site plan approval process.

No impacts to threatened or endangered species under the jurisdiction of the

Virginia Department of Conservation and Recreation (DCR) are anticipated because of the proposed project. There are no impacts to identified ecological core areas. The applicant states that no tree removal is proposed as part of the project.

Historic Resources:

A Phase 1 Cultural Resources Survey of the project area was conducted by Stantec. This report was sent by the applicant to the Virginia Department of Historic Resources (VDHR) for their review and concurrence with the survey findings and recommendations. A letter from VDHR was provided with the application and is included as an attachment to this staff report. The letter was provided as technical assistance to assess potential impacts on historic properties.

During the archaeological survey, a shovel test was positive for cultural material. Three radial shovel tests were excavated at 25-foot intervals to determine the bounds of the newly identified cultural resource, with no radial shovel tests positive for additional cultural material. One new isolated archaeological site find (2607-IF1) was identified during this investigation. By definition, isolated archaeological find 2607-IF1 is not eligible for listing to the national registry of historic places (NRHP). No further archaeological work Is recommended within the Project Area.

The architectural survey identified a total of ten individual resources located within the architectural study area, defined as the project area and a 0.5-mile radius around the project area. Four of the identified resources included previously recorded resources and six newly recorded resources.

One of these resources, known as the Keystone Segment Historic District of the Captain John Smith National Historic Trail (DHR #500-0006), had a federal determination of eligibility prior to the survey and was therefore not resurveyed. Other surveyed resources consisted of farms and single-family dwellings with associated outbuildings. The Bourne-Turner House (OHR #046-0031) had been determined as potentially eligible for listing in the NRHP by OHR in 2015. Based on the current survey, it is recommended that the resource maintain its NRHP eligibility status as the house and secondary resources retain integrity and appear to have not been significantly altered since the previous survey.

The Old Stage Highway Cemetery (OHR #046-5636), is not visible from the public right of-way and was therefore not able to be resurveyed. Based on the circumstances, the resource was considered eligible for environmental review. The

Bourne-Turner house is roughly 1100 feet from the project area. The Old Stage Highway Cemetery is approximately 725 feet. The boundary of the Captain John Smith National Historic Trail is just a few feet from the project area. The study made a determination that the visual impact from the solar facility could negatively impact the Trail resource by changing the historic viewshed from the Trail. Current Ordinance requirements include a minimum 250 foot setback from historic or cultural resources as well as three rows of landscaping of staggered heights to screen the facility. Although the concept plan does not show this required setback, staff would like to state for the record that this will be required at site plan submittal and the concept plan as shown does not currently comply with this requirement.

The remaining resources surveyed during the current project are generally reflective of the late nineteenth to mid-twentieth century development of Isle of Wight County and lack direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing in the NRHP. As such, it is recommended that the resources are not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey. Mitigation was proposed in the Phase study. A mitigation memo has been attached to this report from VDHR.

Economic Impact Assessment:

According to the applicant's economic impact study, the proposed facility would generate approximately $226,500 in cumulative county revenue over a 25-year operational life and approximately $325,900 in cumulative county revenue over a 35-year operational life based on both projected real estate and machinery and tax revenues. In contrast, projected real estate tax revenue on the current agricultural land use over a 25 year period is $6,700 and a total of $8,900 over 35 years. The report also includes projected revenues resulting from construction activity on the site, but due to its temporary nature, it is not included in the staff report.

According to the 2022 Census of Agriculture (USDA-NASS), Isle of Wight County has 212 farms totaling 80,316 aces of land. The average farm size is 379 acres. The average annual market value of agricultural products sold per farm is $346,011, or $912.96 per acre. Using the same data to derive market values for crops cultivated on 27.32 acres to be converted for this project, the farmland generates an estimated $24,942.07 in market value.

Currently, agriculture and silviculture are two of the County's top industries. This project would be the tenth solar energy generation facility in the County and represents a subtraction of approximately .03% of the County's cultivated land (USDA-NASS, 2017). A table showing the previously approved and proposed solar energy facilities is attached to the staff report.

Staff also sent the project's fiscal impact analysis to the Commissioner of Revenue for review. The rollback estimate should be updated based on the total lease area rather than just the solar facility acreage. The acreage subject to the Conditional Use Permit would be reassessed for real estate taxes at $15,000 per acre.

Viewshed Analysis:

An effects evaluation, in addition to the Phase I architectural survey, was conducted for NRHP-listed, eligible, and potentially eligible properties that may be affected by the proposed project. Two resources were assessed for effects and included the potentially eligible Bourne-Turner House (OHR #046-0031) and the portion of the NRHP-eligible Keystone Segment Historic District of the Captain John Smith National Historic Trail (DHR #500-0006) within the current architectural study area. One resource, the Old Stage Highway Cemetery (DHR #046-5636), had not been evaluated for NRHP eligibility but was not visible from the public ROW. Based on the current proposed project area and the existing landscape, it is recommended that the proposed project would have an adverse effect on the Bourne-Turner House (OHR #046-0031) and the portion of the Keystone Segment of the Captain John Smith National Historic Trail Historic District (DHR #500-0006) located within the current architectural study area. The proposed project would have no effect on the Old Stage Highway Cemetery (DHR #046-5636). Mitigation in the form of a donation to the Isle of Wight County Museum has been accepted by VDHR.

COMPREHENSIVE LAND USE PLAN:

The future recommended land use designation for these properties is Rural Agricultural Conservation (RAC) and Environmental Conservation (EC) under the adopted Comprehensive Plan. Appropriate uses for the RAC land use designation include agriculture, horticulture, forest lands, and scattered low-density residential uses. Other uses such as resource extraction and utility-scale solar facilities are also permitted when appropriately sited with a Conditional Use Permit. Appropriate uses for the EC land use designation include wetlands, farms,

forest uses, open space, and limited park facilities.
Solar energy facilities are considered compatible with RAC land use when properly sited and with the application of appropriate development criteria.

The areas designed as EC are outside of the proposed project area and should be preserved due to environmental constraints unless site-specific analysis demonstrates there are no environmental concerns in a specific area. In order to be consistent with the goals of the Comprehensive Plan, the proposed use will require screening landscaping and appropriate fencing to minimize its visual impacts on the surrounding area.

ORDINANCE REVIEW:

The zoning district classification for the subject parcels is RAC. The RAC zoning district is intended to preserve and protect areas of the County that are predominantly in agricultural and forestal uses and to maintain the existing land base to support those activities.

The applicant proposes to establish a three MW utility scale solar energy facility which is classified as a major utility service use type in the Zoning Ordinance. These facilities are permitted as conditional uses in the RAC zoning district and may be considered compatible with appropriate conditions to mitigate any potential negative impacts on the surrounding community.

The parcel is located just outside of 500-foot Highway Corridor Overlay District (HCOD) boundary line. Equipment is shown outside of the HCOD boundary line. At a minimum, the project will be required to meet the minimum setbacks of 75 feet from adjacent property lines and 125 feet from residential use parcels as required by the Zoning Ordinance. There is also a 250-foot setback requirement for all inverters and electrical equipment. The Ordinance also requires a minimum setback of 250 feet from any historical or cultural resource.

Following approval of the CUP request, the applicant will be required to submit a site plan application for review and approval that demonstrates compliance with all current plan criteria contained in Section 5-5003.M.4, supplemental use regulations for utility scale solar energy facilities, of the Zoning Ordinance.

Section 1-1017 of the Zoning Ordinance provides standards for review of a

conditional use permit application that the Planning Commission and Board of Supervisors shall consider before granting a conditional use permit. They are as follows:

1. That the establishment, maintenance, and operation of the conditional use will not be detrimental to or endanger the public health, safety, and general welfare;
2. That the conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially impair the use of other property within the immediate proximity;
3. That adequate utilities, water, sewer or septic system, access roads, storm drainage and/or other necessary public facilities and improvements have been or will be provided;
4. That adequate measures have been or will be taken to provide ingress and egress so designated as to minimize traffic congestion on the public streets;
5. That the proposed conditional use is not contrary to the goals and objectives of the Isle of Wight County Comprehensive Plan;
6. That the conditional use shall, in all other respects, conform to the applicable regulations of the zoning district classification in which it is located and to the special requirements established for the specific use; and,
7. That the use(s) at the location proposed will not result in a multiplicity or saturation of similar uses in the same general neighborhood of the proposed use.

In addition to the standards and other guidelines described in the Zoning Ordinance, the Board may impose conditions or limitations on any approval, including the posting of performance guarantees. Such conditions may include, but are not necessarily limited to:

1. The number of persons living or working in the immediate area and the proposed hours of operation, as may be applicable;
2. Traffic conditions, including facilities for pedestrians, such as sidewalks and parking facilities; the access of vehicles to roads; peak period of traffic; and proposed roads, but only if construction of such roads will commence within the reasonably foreseeable future;
3. The orderly growth of the neighborhood and community and the fiscal impact of the County;
4. The effect of odors, dust, gas, smoke, fumes, vibration, glare, and noise upon the use of surrounding properties;
5. Facilities for police, fire protection, sewerage, water, trash and garbage

collection and disposal, and the ability of the County or persons to supply such services;
6. The degree to which the development is consistent with generally accepted engineering and planning principles and practices;
7. The structures in the vicinity such as schools, houses of worship, theatres, hospitals, and similar places of public use;
8. The purposes set forth in this ordinance, the County's Comprehensive Plan, and related studies for land use, roads, parks, schools, sewers, water, population, recreation, and the like;
9. The environmental impacts, the effect on sensitive natural features, and opportunities for recreation and open space; and,
10. The preservation of cultural and historic resources or landmarks.

Following approval of the CUP, the applicant will be required to submit a site plan for review and approval in accordance with the Zoning Ordinance requirements and conditions of approval.

AGENCY REVIEW:

The application was forwarded to the following departments for their review:

Economic Development: The department stated it had no concerns.
Environmental Planner: All concerns addressed with the conditional use permit. Further information will be required at site plan review.
Commissioner of Revenue: Rollback estimates should be based on the entire acreage of the entire lease area not just the acreage of the solar facility. The acreage subject to the Conditional Use Permit would be reassessed at $15,000 per acre.
Emergency Services: Staff will work with applicant during site plan review on required Emergency Response Plan to include annual training.
Utility Services: Staff will review site plan for compliance with State Stormwater regulations.
Isle of Wight County Museum: Please see attached memo.
Virginia Department of Transportation (VDOT): No concerns at this time. Please note that, should the conditional use permit be approved, the project will be subject to site plan review and approval from all necessary agencies.

STAFF CONCLUSIONS:

Strengths:

1. The proposed use would generate additional nonresidential tax revenue for future public service and facility needs for the County.

Weaknesses:

1. The proposed use would remove agricultural land from production.
2. Temporary impacts to residential development in the area from construction traffic and noise is expected during the construction phase.
3. There are adverse impacts to several historical resources without appropriate setbacks and screening. The concept plan does not demonstrate the ability to comply with current Ordinance requirements.
4. The facility as proposed is not appropriately sited as recommended for the designated future recommended RAC area in the Comprehensive Plan.

STAFF RECOMMENDATION:

Based on the weaknesses listed above, staff recommends denial of the CUP request. However, should the CUP be approved, staff recommends the following conditions: 1) Topsoil shall be stockpiled on the site and shall be stored out of view from adjacent properties and public roads. 2) No improvements shall be located closer than 250 feet from boundary of the Keystone Segment of the Captain John Smith Trail. 3) The applicant shall submit a seed mix for site groundcover that includes native pollinators blooming in spring/summer as recommended by DCR. 4) The applicant will work directly with the Isle of Wight County Chamber of Commerce, Paul D. Camp Community College, and the Economic Development Department to ensure inclusion of local contractors in the bidding process. 5) A laminated Emergency Response Poster will be mounted near the front gate. The poster will include a general site plan, evacuation routes and muster points, emergency response chain of command, directions to the closest hospital, coordinates to the closest life flight landing area, and other pertinent information associated with the facility during an emergency response. 6) The facility perimeter fencing will be equipped with push bar pedestrian gates to permit emergency exits from the facility. 7) Adherence to the proposed transportation plan shall be required for all facility traffic. Truck traffic shall be limited to only to the preferred route as described in in the transportation plan. No other local routes in Isle of Wight County may be used. The applicant shall coordinate deliveries outside of school bus pickup and drop-off times. 8) Excluding the bufferyards, the ground between the panels and in areas not otherwise covered by gravel or infrastructure shall be planted and maintained with a vegetative cover. This vegetative cover will be managed with mowing and/or grazing. 9) Hours of operation for construction and post-construction operation shall be limited to

Monday through Friday, 7:00 a.m. to 6:00 p.m. Saturdays from 7:00 a.m. to 5:00 p.m. No construction is to occur on Sundays by any party involved with the project. 10) As part of the site plan review, the applicant shall provide documentation that the selected panels and all power-generating equipment on-site are "Tier 1" modules, as established by the most recent "PV Module Tier 1 List" issued by Bloomberg NEF or a similar third party analysis widely accepted in the solar industry. Additionally, the make and model of the selected panels and all power-generating equipment initially installed and replaced on the site must qualify, for disposal purposes only, as non-hazardous waste under applicable U.S. Environmental Protection Agency tests (e.g. TCLP). 11) The applicant shall implement a program for the collection of baseline data establishing pre-construction soil conditions for the production of row crops for the agricultural areas within the project area. The program shall establish the relevant characteristics of the topsoil. The baseline data shall be derived from field and laboratory testing of soil conditions, including depth, density, and quality from representative locations. Laboratory testing shall be conducted by an accredited laboratory. Parameters for assessing soil quality may include the following: infiltration rate, bulk density, water holding capacity, pH, percent organic matter, cation exchange capacity, Phosphorous/Phosphate (P), Nitrogen (N), and Potassium/Potash (K). After 30 years of operation and again after 35 years of operation, soil conditions shall be determined for the same sampling locations using the same parameters and the results used to plan soil restoration activities. After equipment is removed as part of decommissioning, soil conditions shall be determined for the same sampling locations using the same parameters. Soil restoration activities shall be performed as necessary during operations or decommissioning to return soil conditions to at least baseline conditions. The County will be provided with data of soil conditions within 30 days after the receipt of results. 12) Any recommendations provided by VDHR during site plan review will be adhered to, in addition to requirements in the zoning ordinance.

ATTACHMENTS:

Description	Type	Upload Date
Application	Backup Material	6/14/2024
Concept Plan	Backup Material	5/20/2024
Narrative	Backup Material	6/14/2024
Transportation Route	Backup Material	5/20/2024
Economic Impact Analysis	Backup Material	6/14/2024
Visual Impact Analysis	Backup Material	5/20/2024
Wetland Study	Backup Material	5/22/2024
Threatened and Endangered Species Assesssment	Backup Material	5/22/2024

Phase 1 Study	Backup Material	5/20/2024
Isle of Wight County Musuem Response	Backup Material	5/20/2024
Mitigation Memo DHR	Backup Material	5/20/2024
Location Map	Backup Material	5/20/2024
Location Closeup Map	Backup Material	5/20/2024
Zoning Map	Backup Material	5/20/2024
Land Use Map	Backup Material	5/20/2024
Ecological Core map	Backup Material	5/22/2024
Solar Facility Table	Backup Material	6/18/2024

Local Roots, Global Reach

ISLE OF WIGHT
COUNTY, VIRGINIA
DEPARTMENT OF PLANNING AND ZONING

APPLICATION FOR CONDITIONAL / SPECIAL USE PERMIT

This application should be used to petition for a permit for certain uses which, because of their unique characteristics or potential impacts on adjacent land uses, are not generally permitted in certain zoning districts as a matter of right, but which may, under the right set of circumstances and conditions be acceptable in certain specific locations. The following application requirements are consistent with the procedures set forth in Section 1-1017, *Conditional Uses,* and Section 1-1018, *Special Use Permits for Uses Not Provided For,* of the Isle of Wight County Zoning Ordinance, as amended.

A. APPLICATION FOR (CHECK ALL THAT APPLY):

[x] Conditional Use Permit (Are applicant proposed conditions attached?): x Yes _____ No

The proposed use or activity is listed as a conditional use in the RAC zoning district as per Section 4-2003 in Article IV of the Isle of Wight County Zoning Ordinance.

[ ] Special Use Permit (Are applicant proposed conditions attached?):_____Yes _____ No

Proposed Use or Activity: Solar Energy Generation Facility

B. PROJECT DESCRIPTION:

Project Name: VAL025

Property Address (if any): 8699 OLD STAGE HWY, SMITHFIELD, VA 23430

Election District: 3

Comprehensive Plan Designation: RURAL AGRICULTURAL CONSERVATION

The use permit will apply to 27.32 acres out of 94.21 total acres

Tax Parcel Identification # 13-01-005 Number of acres to be effected: 94.21

Tax Parcel Identification #_____Number of acres to be effected: _____

Tax Parcel Identification #_____Number of acres to be effected: _____

Proposed Utilities (check all that apply): Public Water_____ Private Well _____

Public Sewer_____ Private Septic _____

C. **APPLICATION INFORMATION:**

Applicant(s) Name(s): ELK DEVELOPMENT, LLC

Address: 6865 DEERPATH ROAD, SUITE 330

City, State, Zip Code: ELKRIDGE, MD, 21075

Phone No.: 570-847-7555 Email: rhickox@pivotenergy.net Fax No.:

Property Owner(s) Name(s): CROCKER WILLIAM PENNIE JR & TERESA L

Address: 16338 MORGARTS BEACH RD

City, State, Zip Code: SMITHFIELD, VA 23430

Phone No.: 757-651-9280 Email: fnhrugershooter@gmail.com Fax No.:

5/16/2024

Applicant Signature **Date**

24 MAR 23

Owner Signature ***if different*** **Date**

NOTICE: THE ATTACHED CHECKLIST MUST BE COMPLETED, CERTIFIED, AND SUBMITTED OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE.

Remit Application to: Isle of Wight County Central Permitting, 17140 Monument Circle, Suite 100
P. O. Box 80, Isle of Wight, Virginia 23397

FOR OFFICE USE ONLY:

Complete Application Received On: _____ Fees Paid: _____
Tax Query: [ ] Current [ ] Delinquent Distribution Date: _____
Posted/Date to Post: _____

AGENCIES REFERRALS:

_____ Department of Conservation & Recreation
_____ Economic Development
_____ Emergency Services
_____ General Services
_____ Environmental Planner
_____ Health Department
_____ Transportation Manager
_____ Commission of Revenue
_____ Other _____

_____ Inspections
_____ Sheriff's Office
_____ Town of Smithfield
_____ Town of Windsor
_____ VDOT
_____ Schools
_____ Budget & Finance
_____ County Attorney

Verified By: _____ Date: _____

COUNTY OF ISLE OF WIGHT
DISCLOSURE OF REAL ESTATE HOLDINGS

Applicant ELK DEVELOPMENT, LLC

Address 6865 DEERPATH ROAD, SUITE 330
Street

ELKRIDGE MD 21075
City State Zip

REAL ESTATE HOLDINGS TO BE AFFECTED

Location or Address	Description
8699 OLD STAGE HWY, SMITHFIELD, VA 23430	AGRICULTURE FIELDS & WOODLAND

OTHER OWNERS OF AFFECTED REAL ESTATE
(Not Required for Corporation whose stock is traded on a national or local stock exchange or having more than 500 shareholders.)

Name of Individuals Corporation/Partnership Business Association	Address
CROCKER WILLIAM PENNIE JR & TERESA L	16338 MORGARTS BEACH RD
	SMITHFIELD, VA 23430
Pivot Energy	
Elk Development, LLC (a wholly owned subsidiary of Pivot Energy)	

Does any member of the Isle of Wight County Planning Commission or governing body have any interest in such property, either individually, by ownership of stock in a corporation owning such land, partnership, as the beneficiary of a trust, or the settlor of a revocable trust, or whether a member of the immediate household of any member of the Planning Commission or governing body has any such interest? Yes[ ] No[X]
If yes, names of members:

_____

_____

I do solemnly swear that the foregoing statement(s) and attachments(s), if any, are complete, correct, and true.

Applicant: Michael Sloan - President, East of Pivot Energy Applicant: _____ Date: _____
Printed or Typed Name Signature

Commonwealth of Virginia
County of Isle of Wight

Subscribed and sworn to before me_____,
A Notary Public in and for the County of Isle of Wight, Commonwealth
of Virginia, this_____day of_____, 20_____.

_____
Notary Public

My Commission Expires_____

SUBMITTAL CHECKLIST FOR CONDITIONAL / SPECIAL USE PERMIT APPLICATIONS

In conjunction with Section 1-1017, *Conditional Uses*, and Section 1-1018, *Special Uses Permits for Uses Not Provided For*, of the Isle of Wight County Zoning Ordinance, as amended, the following information shall be submitted for a Conditional / Special Use Permit Application. Please note that it is the applicant's responsibility to ensure that the application is in compliance with all Federal, State and County regulations.

No application for a Conditional / Special Use shall be certified as complete unless the following information is provided**. The required number of copies may be reduced with permission of the Zoning Administrator.**

- ☒ Application: Ten (10) copies of the original, executed application, one (1) digital copy of all application documents, and one (1) original executed application. Both the applicant(s) and the property owner(s) must have their signature(s) notarized on page 3 of the application.

- ☒ The appropriate fees have been submitted with the application. Checks should be made payable to: Treasurer, Isle of Wight County.

- ☒ Ten (10) copies of a statement of the reasons for seeking such permit and if applicable, a statement of conditions.

- ☒ Ten (10) copies of a narrative description of the property which shall include the Tax Parcel Identification

- ☒ Ten (10) copies of a concept plan of the property showing all existing and proposed physical improvements and such other information as is necessary to clearly indicate to the Planning Commission and Board of Supervisors that adequate provisions shall be made for compliance with all standards for that particular use and the extent of the property to be so used on a given parcel or parcels. Such document shall be drawn to scale and shall include the following information:
  - A vicinity map at a scale of no less than one (1) inch equals two thousand (2,000) feet
  - Title of drawing
  - Date of drawing
  - Existing wood line
  - North arrow
  - Scale bar
  - Current zoning of parcel(s) to be rezoned, including tax map number(s) and owner(s)
  - Current zoning of adjacent parcel(s), including tax map number(s) and owner(s)
  - Street names including route number and width(s) of the right-of-way(s)
  - Ten (10) full size copies, with one (1) reduced 11-inch X 17-inch copy and a digital copy shall be submitted

- Please note that additional information on the site layout may be requested by the Zoning Administrator during the review process to **review the application and prepare the staff reports for the Planning Commission and Board of Supervisors more effectively**.

☒ Ten (10) copies of such supplemental material as may be necessitated by the proposal itself or the district in which located or proposed to be located, and in accordance with Section 5-5000, *Supplementary Use Regulations,* of the Isle of Wight County Zoning Ordinance.

☒ A WQIA (Water Quality Impact Assessment) if located in the Chesapeake Bay Preservation Area.

☒ All real estate taxes must be paid and current at the time of submittal; otherwise, the submittal will be refused at the counter. Proof of the most recent tax payment to the County must accompany the application.

I, the undersigned, certify that this application is complete, accurate and contains all required and requested information, documents and other submittals, and that all statements made herein are, to the best of my knowledge, true and correct. I further certify that I have exercised due diligence to obtain the most recent, complete and correct information available. I understand that any section not completed in its entirety may delay processing of this application and the date of the Planning Commission public hearing and that the submittal of a complete application does not guarantee the application will be placed on the next available Planning Commission agenda.

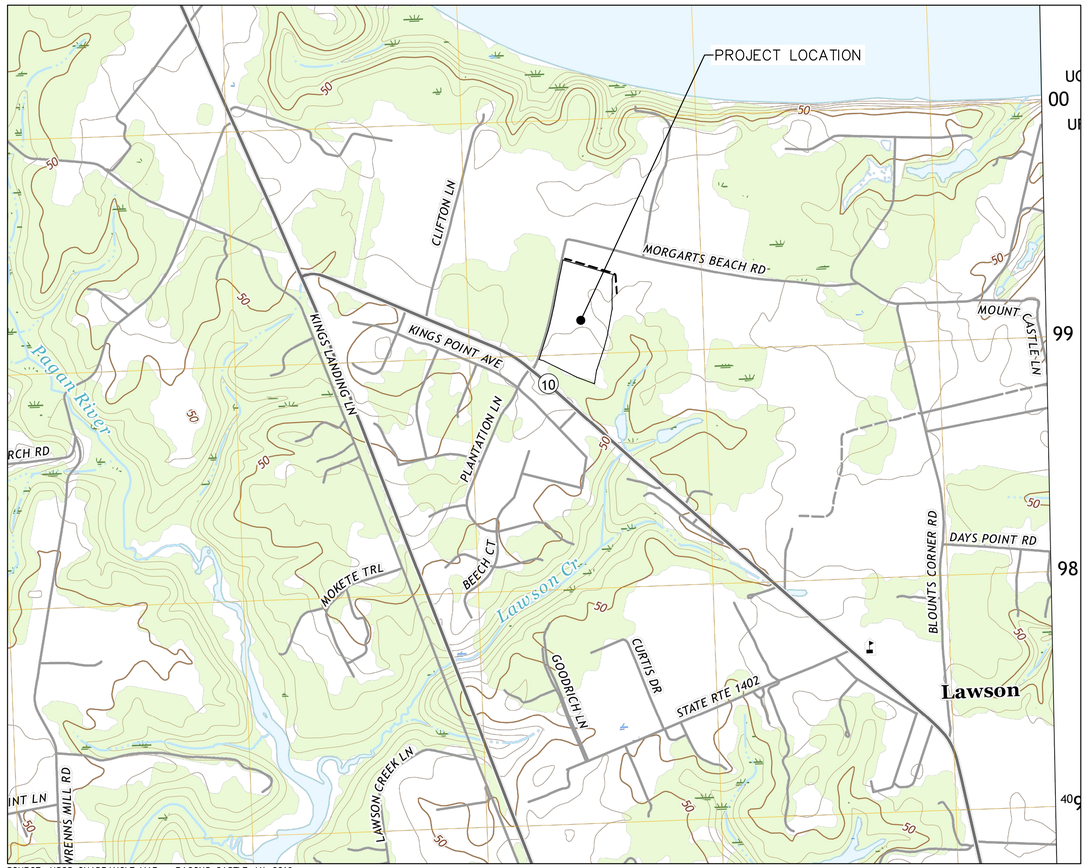
Jon Fitzpatrick

Printed or Typed Name

Signature

16/05/2024

Date



SOURCE: USGS QUADRANGLE MAP – BACONS CASTLE, VA 2019

VICINITY MAP

1000 0 1000 2000

SCALE: 1" = 1000'

CONDITIONAL USE CONCEPT PLAN

VAL025
Solar Energy System

8699 OLD STAGE HWY, SMITHFIELD
HARDY MAGISTERIAL DISTRICT
ISLE OF WIGHT COUNTY, VIRGINIA

GENERAL NOTES

1. SOLAR PANEL AND ELECTRICAL LAYOUT AND DESIGN PROVIDED BY PIVOT ENERGY, 6865 DEERPATH ROAD, STE 330, ELKRIDGE, MD 21075. 410-779-9377
2. SITE PLANS AND DESIGN PERFORMED BY DAWOOD ENGINEERING, INC., 11 GRANDVIEW CIRCLE, SUITE 116, CANONSBURG, PA 15317, 855-432-9663.
3. THE DEVELOPER SHALL COMPLY WITH ALL APPLICABLE COUNTY ORDINANCES IN EFFECT AT TIME OF SUBMISSION OF THE PLAN.
4. SITE DEVELOPMENT PLAN APPROVAL DOES NOT RELIEVE THE OWNER FROM ALL APPLICABLE SIGN REGULATIONS. ALL PROPOSED ON-SITE SIGNAGE SHALL CONFORM TO THE COUNTY ORDINANCES.
5. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER IN WRITING.
6. NOTHING SHALL BE PLACED, PLANTED, SET OR PUT WITHIN THE AREA OF ANY EASEMENT THAT WOULD ADVERSELY AFFECT THE FUNCTION OF THE EASEMENT OR CONFLICT WITH THE EASEMENT AGREEMENT.
7. ALL EXISTING UTILITIES HAVE BEEN SHOWN IN ACCORDANCE WITH THE AVAILABLE INFORMATION. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. ADDITIONAL UTILITIES MAY BE ENCOUNTERED.
8. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL ABOVE AND BELOW GROUND UTILITIES AND STRUCTURES AND WILL BE RESPONSIBLE FOR THE PROTECTION OF THESE UTILITIES AND STRUCTURES AT ALL TIMES.
9. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AND COMPLETELY AT HIS EXPENSE.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A COPY OF ALL PERMITS RELATED TO THE CONSTRUCTION SHOWN ON THESE PLANS ON THE JOB SITE AT ALL TIMES.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE TRAFFIC SAFETY AS MANDATED BY DOT, OSHA, DEQ AND OTHER AGENCIES.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF CONSTRUCTION AND DEMOLITION WASTE MATERIAL.
13. CONTRACTOR SHALL DEVELOP A PLAN FOR CONSTRUCTION TO AVOID DIRECT IMPACT TO ANY OF THE HISTORICAL RESOURCES IDENTIFIED. IN ADDITION, SHOULD ANY ARCHAEOLOGICAL ARTIFACTS BE DISCOVERED DURING CONSTRUCTION THE LANDOWNER SHALL BE NOTIFIED IMMEDIATELY. THE LANDOWNER SHALL CONSIDER USING THE ISLE OF WIGHT COUNTY MUSEUM AS A REPOSITORY FOR DISCOVERED ARTIFACTS.
14. IN ACCORDANCE WITH ISLE OF WIGHT ZONING ORDINANCE 5-5003, SECTION M.4.h., CONTRACTOR SHALL INSPECT AND VIDEO DOCUMENT ALL SECONDARY ROADS TO BE UTILIZED BY CONSTRUCTION VEHICLES PRIOR TO STARTING CONSTRUCTION AND AGAIN AFTER CONSTRUCTION IS COMPLETE. ALL ROADS DAMAGED BY SOLAR FARM CONSTRUCTION TO BE REPAIRED BY THE CONTRACTOR IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS.

SURVEY NOTES

1. BOUNDARY AND TOPOGRAPHIC INFORMATION IS BASED ON FIELD SURVEY PERFORMED BY DAWOOD ENGINEERING, INC. IN OCTOBER AND NOVEMBER 2022.
2. THE LEGAL RIGHT-OF-WAY ON VA-10 IS 50 FEET.
3. THE LEGAL RIGHT-OF-WAY ON SR 673 IS 30 FEET BASED ON INSTRUMENT #040006491
4. VERTICAL CONTROL IS BASED ON NAVD 88 GEOID 18.
5. HORIZONTAL CONTROL IS BASED ON VIRGINIA STATE PLANE COORDINATE SYSTEM-SOUTH ZONE, NAD83 (2011) (EPOCH 2010.00).
6. ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY AND ARE BASED UPON SURFACE FEATURES AND RECORD DRAWINGS PROVIDED. LOCATIONS OF UNDERGROUND UTILITIES AND STRUCTURES MAY VARY FROM LOCATION SHOWN HEREON. ADDITIONAL BURIED UTILITIES AND STRUCTURES MAY BE ENCOUNTERED.
7. THE SITE IS NOT SITUATED WITHIN A FLOOD HAZARD AREA ACCORDING TO FEMA FLOOD INSURANCE RATE MAP PANEL NUMBER 51093C0070E, EFFECTIVE DATE 12/2/2015.
8. A FIELD DELINEATION OF WETLAND HABITATS WAS CONDUCTED BY DAWOOD ENGINEERING, INC. IN OCTOBER 2022. THE WETLANDS AND WATERCOURSES IDENTIFIED HAVE BEEN DELINEATED ON THE SURVEY.

LAND OWNERS

PARCEL 13-01-005
WILLIAM PENNIE JR & TERESA L CROCKER

SOURCE OF TITLE

INSTRUMENT #090005573
RECORDED IN ISLE OF WIGHT COUNTY
ON SEPTEMBER 18, 2009
GRANTEE: WILLIAM PENNIE CROCKER, JR
AND TERESA L. CROCKER
GRANTOR: MARY C. CROCKER

LEGEND
(TYPICAL ALL PLAN SHEETS)

- R/W Right of Way
- ℄ Center Line
- R Record
- F Found
- U Used
- B Book
- P Page
- I.P. Fnd. Iron Pin Found
- Pipe. Fnd. Pipe Found
- Stone Fnd. Stone Monument Found
- IP. Mon. Fnd. Iron Pin Monument Found
- Mon. Fnd. Concrete Monument Found
- Axle Found
- Fence Post Found
- Angle Iron Found
- Mag Nail Found
- Railroad Spike Found
- Benchmark
- Bollard
- Road Sign
- Post Or Pole
- Handicapped Parking
- Electric Vault
- Electric Meter
- Electric Pole
- Guy Wire
- Light Post/Pole
- Telephone Manhole
- Cable Box
- Water Meter
- Water Manhole
- Water Spigot
- Water Valve
- Sanitary Sewer Cleanout
- Sanitary Sewer Manhole
- Gas Meter
- Gas Valve
- Gas Marker
- Gas Test Station
- Storm Sewer Inlet
- Storm Sewer Manhole
- Parcel Boundary Line
- Legal Right-Of-Way Line
- Center Line
- Edge Of Bituminous Paving
- Edge Of Gravel
- Curb
- Fence Line
- Guide Rail
- Building Line
- Tree Line
- E Overhead Electric Line
- UE Underground Electric Line
- T Overhead Telephone Line
- UT Underground Telephone Line
- CTV Overhead Cable TV
- UCTV Underground Cable TV
- W Water Line
- SS Sanitary Sewer Line
- G Gas Line
- Storm Sewer Line
- Water Edge / Stream
- Wetlands
- XXX Soil Type and Limits XXX
- Minor Contour
- Major Contour

va811.com Dig With CARE

CALL 811 BEFORE YOU DIG
ALLOW REQUIRED TIME FOR MARKING
RESPECT THE MARKS
EXCAVATE CAREFULLY

THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTION ACT, AS AMENDED, REQUIRES THREE BUSINESS DAYS NOTICE TO UTILITIES BEFORE YOU DIG, DRILL, OR BLAST. DIAL 8-1-1 OR 1-800-552-7001 NOT LESS THAN 3 BUSINESS DAYS NOR MORE THAN 15 BUSINESS DAYS PRIOR TO THE EXCAVATION OF A WORK AREA.

VIRGINIA ONE CALL SYSTEM TICKET NUMBER
DESIGN TICKET No.: A230601979-00A DATE: 11/02/22

LIST OF PUBLIC UTILITIES

COMPANY: AT&T (ATT392)
CONTACT: COLIN PROFITT
804-869-7359
IN EVENT OF DAMAGE CALL: 800-252-1133

COMPANY: COLUMBIA GAS (CGV333)
CONTACT: UTILIQUEST
703-754-2116
IN EVENT OF DAMAGE CALL: 800-544-5606

COMPANY: CHARTER COMMUNICATIONS (CHC191)
CONTACT: JEFF WAGGONER
804-641-3544
IN EVENT OF DAMAGE CALL: 855-272-2862

COMPANY: DOMINION EAST DISTRIBUTIO (DOM409)
CONTACT: UTILIQUEST
804-286-1721
IN EVENT OF DAMAGE CALL: 866-366-4357

COMPANY: MID-ATLANTIC BROADBAND (MBC487)
CONTACT: STAKE CENTER LOCATING
801-364-1063
IN EVENT OF DAMAGE CALL: 866-480-1934

COMPANY: VERIZON (VZN757)
CONTACT: UTILIQUEST
757-315-8119
IN EVENT OF DAMAGE CALL: 888-483-1233

LISTING OF REQUIRED PERMITS

- ISLE OF WIGHT COUNTY APPROVALS
  CONDITIONAL USE
  SITE DEVELOPMENT PLAN
- VDOT LAND USE PERMIT (LUP-CEI) FOR DRIVEWAY CONSTRUCTION WITHIN MORGARTS BEACH RD RIGHT-OF-WAY
- VDOT LAND USE PERMIT (LUP-UT) FOR UTILITY INSTALLATION WITHIN MORGARTS BEACH RD AND OLD STAGE HWY RIGHT-OF-WAY (BY DOMINION)
- VDEQ VPDES (VAR10) FOR LAND DISTURBANCE EXCEEDING 1-ACRE

PLAN SHEET INDEX:

C1 ..... COVER SHEET
C2 ..... PROPERTY PLAT / NEARBY RESOURCES MAP
C3 ..... ENVIRONMENTAL SITE ASSESSMENT PLAN
C4 ..... EXISTING CONDITIONS SITE PLAN
C5 ..... SITE DEVELOPMENT PLAN

REVISIONS

NO.	DATE	DESCRIPTION
1	10/03/23	PER COUNTY COMMENTS
2	12/13/23	PER COUNTY COMMENTS
3	4/10/24	REVISED SOLAR LAYOUT

DOCUMENT PREPARED BY:
DAWOOD
11 Grandview Cir, Ste 116, Canonsburg, PA 15317
T 724.746.0730 www.dawood.us

SCALE:

DOCUMENT PREPARED FOR:
ELK DEVELOPMENT, LLC
6865 DEERPATH ROAD, SUITE 330
ELKRIDGE, MD 21075
410-779-9377

CONDITIONAL USE CONCEPT PLAN
FOR
VAL025 Solar Energy System
8699 OLD STAGE HWY, SMITHFIELD
HARDY MAGISTERIAL DISTRICT, ISLE OF WIGHT CO., VA

DRAWING TITLE
COVER SHEET

DATE	MARCH 28, 2023
JOB NO.	2200547.01
FILE NAME	LD-SK-TI
DRAWN BY	CWW
CHECKED BY	JTP
SHEET NO	C1

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April 10, 2024 5:53 PM

ZONING REQUIREMENTS / SITE DATA		
TAX PARCEL	13–01–005	
ZONING DISTRICT	RURAL AGRICULTURAL CONSERVATION (RAC) DISTRICT & HIGHWAY CORRIDOR OVERLAY (HCO) DISTRICT	
EXISTING LAND USE	AGRICULTURE	
PROPOSED LAND USE	AGRICULTURE	SOLAR ENERGY SYSTEM (UTILITY SERVICE/MAJOR)
WATER/WASTEWATER	EXISTING TO REMAIN	N/A
SITE ACCESS	MORGARTS BEACH ROAD	
REQUIRED LOT SIZE	40,000–SF	
ACTUAL LOT SIZE PER USE	57.33 AC	24.79 AC
TOTAL LOT SIZE	82.12 AC	
REQUIRED LOT WIDTH	150–FT	
ACTUAL LOT WIDTH	1818 FT	
REQUIRED LOT FRONTAGE	120–FT	
ACTUAL LOT FRONTAGE	917 FT (VA 10) + 3260 FT (SR 673)	
MINIMUM FRONT SETBACK	60–FT	SOLAR ENERGY SYSTEMS: 75–FT ALL PROPERTY LINES (125–FT FROM RESIDENTIAL PARCELS)
MINIMUM SIDE SETBACK	15–FT (ONE SIDE) 35–FT (BOTH SIDES) (15–FT ACCESSORY STRUCTURES)	
MINIMUM REAR SETBACK	35–FT (5–FT ACCESSORY STRUCTURES)	
MAXIMUM BUILDING HEIGHT	LESSOR OF 35–FT OR 3–STORIES	
ACTUAL BUILDING HEIGHT	< 35 FT	N/A
MAXIMUM HEIGHT FOR GROUND–MOUNTED SOLAR PANELS	15–FT AT MAXIMUM TILT (EXCEPT FOR VEGETATION MANAGEMENT OR FOR INSPECTION, MAINTENANCE, OR REPAIR)	
MAXIMUM SOUND FROM SOLAR ENERGY SYSTEM	60 DbA (A–WEIGHTED DECIBELS) AS MEASURED AT ANY PARCEL LINE	
MINIMUM STORMWATER MANAGEMENT FACILITY SETBACK	20–FT FROM PUBLIC RIGHT–OF–WAY, PROPERTY LINES, EASEMENTS, OR ANY BUILDING	

LANDSCAPING AND SCREENING REQUIREMENTS	
TOTAL SITE REQUIREMENTS	
8–1003.B.	MINIMUM 25% EVERGREEN SPECIES MINIMUM 50% NATIVE SPECIES MINIMUM 15% LANDSCAPE SURFACE RATIO
LANDSCAPING ZONE REQUIREMENTS	
8–1005.F.1.	60' WIDE FRONTAGE ZONE 1.75 POINTS / LF MINIMUM 60% NON–ORNAMENTAL MAXIMUM 50% EVERGREEN
8–1005.F.2.	10' WIDE BUFFER ZONE 0.9 POINTS / LF (ADJ. TO RES. STRUCTURE) 0.45 POINTS / LF (NOT ADJ.) ONE PEDESTRIAN BREAK PER 50 LF (MIN. 6' WIDE)
8–1005.F.5.	10' WIDE SCREENING ZONE 0.8 POINTS / LF NOT INCLUDING FENCES/BERMS/WALLS
SOLAR ENERGY REQUIREMENTS	
5–5003.M.4.e.i.	PUBLIC ROAD 50' WIDE BUFFERYARD THREE STAGGERED ROWS OF TREES AND SHRUBS AT MAXIMUM 8–FT ON CENTER
5–5003.M.4.e.ii.	ABUTTING RESIDENTIAL PARCEL 50' WIDE BUFFERYARD THREE STAGGERED ROWS OF LARGE AND SMALL CANOPY TREES AND MEDIUM SHRUBS AT MAXIMUM 8–FT ON CENTER

SITE AREA TABULATION		
PARCEL SIZE	3,577,326 SF	82.12 AC
PROJECT AREA LIMITS OF CONSTRUCTION	1,273,421 SF	29.23 AC
PROPOSED LAND DISTURBANCE	TBD	TBD
PROPOSED TREE CLEARING	2700 SF	0.06 AC
PROJECT AREA ACREAGE:	**EXISTING**	**PROPOSED**
SOLAR FARM (FENCED AREA)	0	23.60 AC (86%)
OPEN SPACE	24.79 AC (100%)	3.72 AC (14%)
BUILDING AREA	0	0
IMPERVIOUS COVERAGE	0	0.26 AC
MOUNTED SOLAR PANELS	n/a	4.99 AC
FENCING	0	0.20 AC
LANDSCAPING	n/a	3.02 AC
POINT OF INTERCONNECTION	n/a	0.08 AC
CROPS (TYPE VARIES)	24.79 AC	0
PASTURE	0	0
WOODLAND	0.06 AC	0
PARCEL AREA ACREAGE:	**EXISTING**	**PROPOSED**
CROPS (TYPE VARIES)	48 AC	15 AC
PASTURE	0	0
WOODLAND	31 AC	31 AC

NET DEVELOPABLE ACREAGE *		
GROSS SOLAR LEASE AREA	27.32 Acres	
TIDAL WETLANDS	0	AT 100%
100–YEAR FLOODPLAINS	0	AT 100%
RESOURCE PROTECTION AREAS (INCLUDING 100–FT BUFFER)	0	AT 100%
NON–TIDAL WETLANDS	0	AT 50%
SLOPES >15% BUT <30%	0.03	AT 50%
SLOPES >30%	0.01	AT 100%
POWER TRANSMISSION LINE EASEMENTS	0	AT 100%
GAS TRANSMISSION LINE EASEMENTS	0	AT 100%
STREET RIGHT–OF–WAY, EXISTING OR PLANNED, PUBLIC OR PRIVATE	27.32	AT 20%
SOLAR LEASE AREA NET DEVELOPABLE AREA *	21.83 Acres	

* NDA CALCULATIONS FOR SOLAR LEASE AREA ONLY. NDA OUTSIDE THE SOLAR LEASE AREA HAS NOT BEEN DETERMINED

NO.	DATE	REVISIONS DESCRIPTION
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DOCUMENT PREPARED BY:

DAWOOD
11 Grandview Drive, Suite 116, Commodore, PA 15717
T 724.746.0700 www.dawood.us

SCALE: 1" = 200'

DOCUMENT PREPARED FOR:

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6865 DEERPATH ROAD, SUITE 330
ELKRIDGE, MD 21075
410-779-9377

CONDITIONAL USE CONCEPT PLAN
FOR
VAL025 Solar Energy System
8699 OLD STAGE HWY, SMITHFIELD
HARDY MAGISTERIAL DISTRICT, ISLE OF WIGHT CO., VA

DRAWING TITLE
PROPERTY PLAT / NEARBY RESOURCES MAP

DATE	MARCH 28, 2023
JOB NO.	2200547.01
FILE NAME	LD–SK–0A
DRAWN BY	CWW
CHECKED BY	JTP
SHEET NO	C2

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MORGARTS BEACH ROAD

SOLAR LEASE BOUNDARY

WETLAND AND WATERCOURSE DELINEATION STUDY AREA BOUNDARY

Wetland W01 (PEM)

Watercourse R01 (EPH)

STONY BUILDING

Historical Resource (approximate location)
Captain John Smith National Historic Trail, Keystone Segment, Historic District
(James River and 0.5 mile landward)
DHR# 500-0006
(federal determination of eligibility for listing in the NRHP)

MORGARTS BEACH ROAD (ROUTE 673)
(50' R/W DEPARTMENT RESPONSIBILITY)

Historical Resource
Old Stage Highway Cemetery
DHR# 046-5636
(not evaluated)
(LOCATION UNKNOWN)

STATE ROUTE 10 (OLD STAGE HIGHWAY)
(50' R/W)

5A, 11E, 14B, 18A, 18B, 19A, 19B, W

SOILS LIST

MAP SYMBOL	MAP UNIT NAME	PROJECT ACREAGE	PARCEL ACREAGE	FARMLAND	ERODIBLE LAND
5A	EMPORIA FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	0	0.1	PRIME FARMLAND	NOT HIGHLY ERODIBLE
11E	NEVARC AND REMLIK SOILS, 15 TO 35 PERCENT SLOPES	0	4.4	NOT PRIME FARMLAND	HIGHLY ERODIBLE
14B	PEAWICK-SLAGLE COMPLEX, 2 TO 6 PERCENT SLOPES	12.5	21.1	FARMLAND OF STATEWIDE IMPORTANCE	POTENTIALLY HIGHLY ERODIBLE
18A	SLAGLE FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES	0	3.3	PRIME FARMLAND	NOT HIGHLY ERODIBLE
18B	SLAGLE FINE SANDY LOAM, 2 TO 6 PERCENT SLOPES	6.0	15.1	PRIME FARMLAND	POTENTIALLY HIGHLY ERODIBLE
19A	UCHEE LOAMY SAND, 0 TO 2 PERCENT SLOPES	4.4	16.0	NOT PRIME FARMLAND	NOT HIGHLY ERODIBLE
19B	UCHEE LOAMY SAND, 2 TO 6 PERCENT SLOPES	1.9	20.1	NOT PRIME FARMLAND	POTENTIALLY HIGHLY ERODIBLE
W	WATER	0	2.1	NOT PRIME FARMLAND	–

LEGEND

- Water Edge / Stream
- Wetlands
- Soil Type and Limits (XXX)
- Minor Contour
- Major Contour
- SLOPES >15% <30%
- SLOPES >30%

Slopes Table

Area ID	Minimum Slope	Maximum Slope	Area (Acres)	Color
1	0%	15%	27.29	
2	15%	30%	0.03	
3	30%	9999%	0.01	

REVISIONS

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DOCUMENT PREPARED BY:

DAWOOD
11 Grandview Blvd, Ste 116, Greenville, PA 16377
T 724.746.0730 www.dawood.us

SCALE: 1" = 100'

DOCUMENT PREPARED FOR:

ELK DEVELOPMENT, LLC
6865 DEERPATH ROAD, SUITE 330
ELKRIDGE, MD 21075
410-779-9377

CONDITIONAL USE CONCEPT PLAN
FOR
VAL025 Solar Energy System
8699 OLD STAGE HWY, SMITHFIELD
HARDY MAGISTERIAL DISTRICT, ISLE OF WIGHT CO., VA

DRAWING TITLE
ENVIRONMENTAL SITE ASSESSMENT PLAN

DATE	MARCH 28, 2023
JOB NO.	2200547.01
FILE NAME	LD-SK-EN
DRAWN BY	CWW
CHECKED BY	JTP
SHEET NO	C3

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MORGARTS BEACH ROAD

13-01-004
KISER MICHAEL S & DANA H
PLAT 2012-20-1

LOCATION BASED ON AERIAL IMAGERY

E POLE

Wetland W01 (PEM)

SOLAR LEASE BOUNDARY

EASEMENT FOR ACCESS AND UTILITIES (INSTRUMENT #040006491 ISLE OF WRIGHT COUNTY RECORDS)

20' EASEMENT (INSTRUMENT #040006491 ISLE OF WRIGHT COUNTY RECORDS)

PARCEL C PLAT 2-98-1
13-01-006
ENNIS DEBORAH &
TURNER KATHRYN

1 STORY BUILDING

INST: 040006491
13-01-006A
CROCKER WILLIAM P. JR.
& TERESA LEE

RAC
RURAL AGRICULTURAL CONSERVATION
ZONING DISTRICT

FARM LANE

Watercourse R01 (EPH)

WETLAND AND WATERCOURSE DELINEATION STUDY AREA BOUNDARY

PARCEL D-1 PLAT 2-98-1
13-01-006A
ENNIS DEBORAH

Historical Resource (approximate location)
Captain John Smith National Historic Trail,
Keystone Segment, Historic District
(James River and 0.5 mile landward)
DHR# 500-0006
(federal determination of eligibility for
listing in the NRHP)

MORGARTS BEACH ROAD (FOUTS 673)
(50' R/W DEDICATED PUBLIC ROAD)

13-01-003
ERVING MARY WYNNE

INST: 058909
13-01-005
CROCKER WILLIAM
PENNIE JR. & TERESA
11-30-2005

13-01-005
INST: 200002940
HAMPTON ROADS SANITATION MAP
CROCKER WILLIAM PENNIE JR & TERESA

Historical Resource
Old Stage Highway Cemetery
DHR# 046-5636
(not evaluated)
(LOCATION UNKNOWN)

13-01-035B
DB 289 PG 8
RIBERIO, MARY B.

HIGHWAY CORRIDOR OVERLAY DISTRICT 500'

20' UTILITY EASEMENT (INSTRUMENT #200002940 ISLE OF WRIGHT COUNTY RECORDS)

APPROXIMATE LOCATION OF UNION CEMETERY LOCATION BASED ON AERIAL IMAGERY

ASPHALT

50.0'

STATE ROUTE 10 (OLD STAGE HIGHWAY)
(50' R/W)

5A 18A 19A 14B 18B 19B 11E W

REVISIONS

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DOCUMENT PREPARED BY:

DAWOOD
11 Grandview Blvd, Ste 116, Greenville, PA 16375
T 724.746.0730 www.dawood.us

SCALE: 1" = 100'

DOCUMENT PREPARED FOR:

ELK DEVELOPMENT, LLC
6865 DEERPATH ROAD, SUITE 330
ELKRIDGE, MD 21075
410-779-9377

CONDITIONAL USE CONCEPT PLAN
FOR
VAL025 Solar Energy System
8699 OLD STAGE HWY, SMITHFIELD
HARDY MAGISTERIAL DISTRICT, ISLE OF WIGHT CO., VA

DRAWING TITLE
EXISTING CONDITIONS SITE PLAN

DATE	MARCH 28, 2023
JOB NO.	2200547.01
FILE NAME	LD-SK-EC
DRAWN BY	CWW
CHECKED BY	JTP
SHEET NO	C4

O:\2022JOBS\2200547-01\LD\CAD\DRAWINGS\2200547-01-LD-SK-EC
Apr 10, 2024 - 5:54 PM

MORGARTS BEACH ROAD

13-01-004
KISER MICHAEL S & DANA H
PLAT 2012-20-1

LOCATION BASED ON AERIAL IMAGERY

18A

19A

5A

SOLAR ENERGY SYSTEM SETBACK LINE

Wetland W01 (PEM)

DIRT FARM LANE (12' WIDE)

SOLAR LEASE BOUNDARY

3 STAGGERED ROWS OF TREES AND SHRUBS AT MAXIMUM 8-FT ON CENTER

25' CLEAR SIGHT TRIANGLE

PRIVATE ENTRANCE (GRAVEL)

EASEMENT FOR ACCESS AND UTILITIES (INSTRUMENT #040006491 ISLE OF WRIGHT COUNTY RECORDS)

LOCATION BASED ON AERIAL IMAGERY

20' EASEMENT (INSTRUMENT #040006491 ISLE OF WRIGHT COUNTY RECORDS)

14B

PARCEL C PLAT 2-98-1
13-01-006
ENNIS DEBORAH &
TURNER KATHRYN

RAC
RURAL AGRICULTURAL CONSERVATION ZONING DISTRICT

18B

1 STORY BUILDING

INST: 040006491
13-01-006A
CROCKER WILLIAM P. JR.
& TERESA LEE

19B

Historical Resource (approximate location)
Captain John Smith National Historic Trail,
Keystone Segment, Historic District
(James River and 0.5 mile landward)
DHR# 500-0006
(federal determination of eligibility for listing in the NRHP)

50' LANDSCAPING FRONTAGE ZONE (8-1005.E.1)

50' LANDSCAPING BUFFER AREA (8-1005.A.3.a(3))

Waterbody W01 (EPM)

WETLAND AND WATERCOURSE DELINEATION STUDY AREA BOUNDARY

PV MODULES, TYP

SOLAR ENERGY SYSTEM SETBACK LINE

PARCEL D-1 PLAT 2-98-1
13-01-006A
ENNIS DEBORAH

13-01-003
EWING MARY WYNNE

MORGARTS BEACH ROAD (ROUTE 673)
(50' R/W PRESCRIPTIVE EASEMENT)

CONTINUOUS VEGETATIVE LANDSCAPING SCREEN

INST: 058909
13-01-005
CROCKER WILLIAM
PENNIE JR. & TERESA
11-30-2005

SECURITY FENCE

SDR REQ'D, TABLE 2-5, 25 MPH, = 280'
(ACTUAL SDR >280')

CONC. EQUIPMENT PAD (16'x86')

13-01-005
INST: 200002940
HAMPTON ROADS SANITATION MAP
CROCKER WILLIAM PENNIE JR & TERESA

10' LANDSCAPING SCREENING ZONE (8-1005.F.5.)

MODERATE VOLUME COMMERCIAL ENTRANCE (GRAVEL)

25' CLEAR SIGHT TRIANGLE

15" CULVERT

AERIAL MV LINE

UTILITY POLE, TYP 7 PLACES

GRAVEL ROAD (16' WIDE)

UNDERGROUND MV LINE

TEMPORARY STAGING AREA, PARKING, AND LAYDOWN YARD

3 STAGGERED ROWS OF TREES AND SHRUBS AT MAXIMUM 8-FT ON CENTER

Historical Resource
Old Stage Highway Cemetery
DHR# 046-5636
(not evaluated)
(LOCATION UNKNOWN)

SDL REQ'D, TABLE 2-5, 25 MPH, = 280'
(ACTUAL SDL >280')

VEGETATION TO BE CUT AS REQUIRED FOR AERIAL LINES

RAC
RURAL AGRICULTURAL CONSERVATION ZONING DISTRICT

11E

W

HIGHWAY CORRIDOR OVERLAY DISTRICT

500'

13-01-035B
DB 289 PG 8
RIBERIO, MARY B.

20' UTILITY EASEMENT (INSTRUMENT #200002940 ISLE OF WRIGHT COUNTY RECORDS)

APPROXIMATE LOCATION OF LAWSON DITCH BASED ON AERIAL IMAGERY

SOLAR ENERGY SYSTEM SETBACK LINE

AERIAL MV LINE

POI MV INTERCONNECTION (EXISTING POLE)

LIMITS OF CONSTRUCTION (LOC)

ASPHALT

STATE ROUTE 10 (OLD STAGE HIGHWAY)
(50' R/W)

REVISIONS

NO.	DATE	DESCRIPTION
1	10/03/23	PER COUNTY COMMENTS
2	12/13/23	PER COUNTY COMMENTS
3	4/10/24	REVISED SOLAR LAYOUT

DOCUMENT PREPARED BY:

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SCALE: 1" = 100'

DOCUMENT PREPARED FOR:

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6865 DEERPATH ROAD, SUITE 330
ELKRIDGE, MD 21075
410-779-9377

CONDITIONAL USE CONCEPT PLAN
FOR
VAL025 Solar Energy System
8699 OLD STAGE HWY, SMITHFIELD
HARDY MAGISTERIAL DISTRICT, ISLE OF WIGHT CO., VA

DRAWING TITLE
SITE DEVELOPMENT PLAN

DATE	MARCH 28, 2023
JOB NO.	2200547.01
FILE NAME	LD-SK-PN
DRAWN BY	CWW
CHECKED BY	JTP
SHEET NO	C5

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April 10, 2024 5:54 PM

Pivot Energy

Conditional Use Permit Application for: Elk Development, LLC's

(a holding Company of Pivot energy)

VAL025- Old Stage Highway Project

Pivot Energy

1601 Wewatta St., # 700
Denver, CO 80202

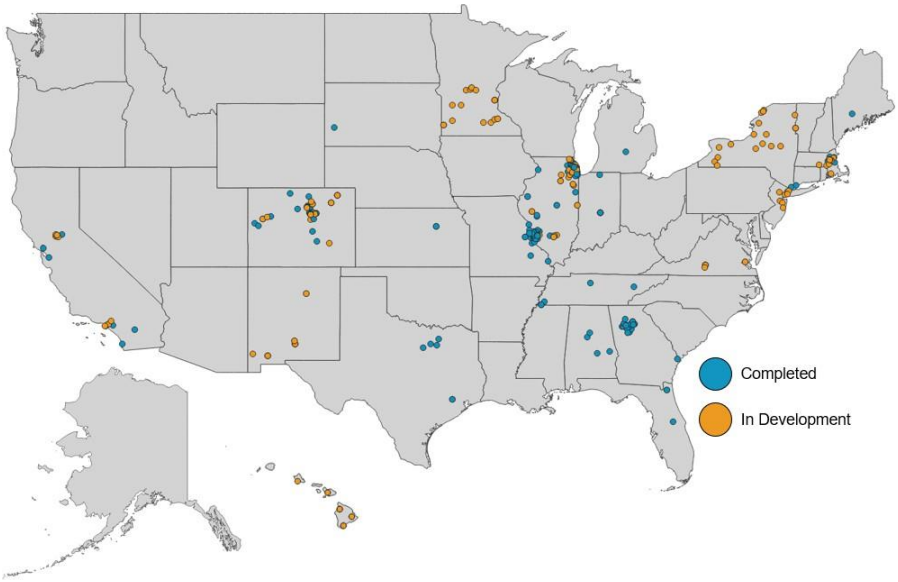
Executive Summary

Elk Development, LLC, a holding company of, Pivot Energy is pleased to apply for a Conditional Use Permit (CUP) from the County of Isle of Wight for Elk Development, LLC's VAL025- Old Stage Highway Project (aka: Old Stage) (the Project). This Project represents a small, solar photovoltaic (PV) facility totalling three (3) megawatts in capacity as measured in alternating-current (AC). The proposed project is located at 8699 Old Stage Hwy, Smithfield, Virginia. The subject parcel is identified as tax parcel 13-01-005 owned by William Pennie Jr & Teresa L Crocker. The site is accessed off Morgarts Beach Rd (SR 673), approximately 3.5-miles north of Smithfield. The site is in the Rural Agriculture Conservation (RAC) zoning district in Isle of Wight County. Hardy Elementary School is located approximately 0.7 miles southeast of the subject parcel. There are no recreation facilities within 1-mile of the site. The parcel is 94.21 acres, the project will encompass 27.32 acres (leased area) of the parcel with 23.6 within the fence line and 33 acres of land coming out of production (Please see Plan Drawing C2 for full tabulation of acrage).

This project will positively impact the local community by employing local labor, decarbonizing the local grid, offering a discount to local subscribing Dominion customers, and providing increased resources to the County over the life of the project. Pivot's lead developer on this project, Robert Hickox, has previous experience permitting similar solar projects in Virginia. With a strong development and customer relationship background in small utility, commercial, and community solar projects, Pivot continues to expand its offerings throughout the solar industry by working with low-income communities, residential renters and homeowners, agricultural customers, local businesses, & local government organizations.

Prior Solar Development Success:

Recently Completed and Ongoing Projects



Community Solar Development Experience

Background on Pivot Energy

Pivot Energy is a turnkey solar developer of commercial and industrial solar projects founded in 2009 and headquartered in Denver, Colorado. Pivot has become a national leader in commercial and industrial solar projects, with hundreds of successful projects completed for many small, mid-sized and Fortune 500 companies, as well as for nonprofit, government, and military organizations.

Pivot Energy has built or developed the most community solar projects of any developer in Colorado and has expanded to build projects nationwide over the last several years. Our development team works in conjunction with our EPC team to plan a project for success from the beginning and execute in a timely manner. Pivot will provide turnkey development of the community solar garden, from initial site planning and engineering to system design, construction, commissioning, and customer subscriptions.

Pivot Energy is a certified B Corps, using a triple bottom line approach to measure our progress on more than just a financial basis. Our goal is to achieve balance between three, sometimes opposing, ends of People, Planet, and Profit. B Corps, or Benefit Corporations, are redefining success in business to include benefits to workers, society, and the environment. We aim to balance these measures in all aspects of our projects to bring widespread benefit to multiple areas of the community.

Experience with Developing and Operating Similar Solar Facilities

Pivot Energy has invested heavily in both the Colorado community solar market as well as community and commercial solar nationally. Our company also has community solar projects either under construction or in development in states including Minnesota, Illinois, New York, New Mexico, Virginia, and more totaling well over 150MW.

In Colorado Pivot has become the largest community solar developer having built or in process of developing more than 70 MW of community solar. Pivot Energy is also one of the only developers to never abandon a community solar project with a 100% success rate post-bid. Our team's experience is deeply rooted in development having built many of the early projects at previous companies and then coming together as a team of industry experts to accelerate community solar development, construction, and customer adoption throughout the country.

Pivot Energy's SunCentral team has also become the largest and most all-encompassing subscription manager in Colorado with thousands of residential customers and serving more than 16MW of low-income customer capacity throughout Colorado. We are proud that our SunCentral management platform is so widely used by the market. Our team regularly communicates with MPEI to not only manage customers within the market but also look for ways to improve how utilities and developers can communicate and operate to continuously provide better experiences to the end customer and bring projects to successful completion.

Pivot Energy Acquisition by ECP

As of June 1, 2021 Pivot Energy is wholly owned by Energy Capital Partners (ECP)[1]. Founded in 2005, ECP is a leading investor across energy transition, electrification and decarbonization infrastructure assets, including power generation, renewables and storage solutions, environmental infrastructure and efficiency & reliability assets facilitating the energy transition. The ECP team, comprised of 53 people with 500 years of collective industry experience, deep expertise and extensive relationships, has consummated more than 60 transactions over the last 10 years, representing more than $45 billion of enterprise value.

More information on the acquisition available at: https://www.prnewswire.com/news-releases/ecp-announces-acquisition-of-pivot-energy-301303505.html

ECP has extensive experience in energy infrastructure with portfolio companies including Sunnova and Calpine. The investment in Pivot Energy by ECP allows for Pivot to not only develop solar assets and manage customers through our SunCentral platform but to maintain ownership of the assets through their full life. Additionally, Pivot Energy is a part of ECP's continued commitment to Environmental, Social, and Governance (ESG) goals and their expansion into renewable energy. Pivot Energy is ECP's first certified B Corporation and, as noted in their 2021 ESG Report highlights ECP's "ability to source attractive investments that have positive benefits from both a social justice and environmental standpoint."[2]

More information on ECP's ESG goals available at:
https://www.ecpgp.com/system/uploads/fae/file/asset/136/ECP_ESG_Report_2021_Web.pdf

In addition to the funding from ECP, Pivot Energy is nearing closing with both our tax equity partner and back leverage partner for our 2024 project portfolio that this project would be placed into. Pivot Energy is in final negotiations with a single tax equity partner that we have chosen as well as a single back leverage partner which are allowing us to get industry leading terms and cost of capital to make these projects very financially efficient.

In August 2022, Pivot Energy acquires SGC Power a Maryland-based community solar developer, who develops, and designs solar projects that produce long-term lease income for property owners while providing affordable clean energy to surrounding communities.

More information on the acquisition available at: Pivot Energy Announces Acquisition of Maryland-Based Community Solar Developer SGC Power (prnewswire.com)

[1] PR Newswire – ECP Announces Acquisition of Pivot Energy: https://www.prnewswire.com/news-releases/ecp-announces-acquisition-of-pivot-energy-301303505.html

[2] Energy Capital Partners (ECP) – ESG Report: https://www.ecpgp.com/system/uploads/fae/file/asset/136/ECP_ESG_Report_2021_Web.pdf

Selected Customer List

Our customer list includes small, midsized, and Fortune 500 companies, as well as utilities, nonprofits, governments, and military institutions.

Project Design

Elk Development, LLC seeks to develop Old Stage with a collective nameplate capacity up to 3MWac. The clean energy generated by the solar array will be delivered to Dominion Energy's grid (the Grid) at 12kV, 3 phase distribution line along Old Stage Hwy. The Project is designed to be a community solar project that would offer a discount to local Dominion customers on their utility bill once operational. The system will be installed at 8699 Old Stage Hwy in Isle of Wight County. The subject parcel is identified as tax parcel 13-01- 005 owned by William Pennie Jr & Teresa L Crocker. The site is accessed off Morgarts Beach Rd (SR 673), approximately 3.5-miles north of Smithfield. The property consists of woodland and agricultural fields. The site is in the Rural Agriculture Conservation (RAC) zoning district.

Old Stage will be comprised of approximately 7,770 solar PV panels from Tier 1 manufacturers. Elk Development and Pivot Energy only uses crystalline solar panel using silicon and inert borophosphosilicate glass on their solar facilities. These panel are recyclable and do not have the potential toxic effects of cadmium-telluride panels (CDTe).

Standard additional equipment includes single axis tracker components, DC to AC inverters, medium-voltage transformers and control cabinets, project switchgear, meters, and the attachment facilities to the current local grid.

These panels will be mounted to a single-axis tracking (SAT) system designed to maximize the panel production by following the rising and setting of the sun. This SAT system includes linked horizontal steel support beams known as torque tubes, with a centrally located drive train system. The rows will be 22 feet apart (center-to-center) and the square footage of the panels will account for approximately 24% of the total Project acreage. The racking system will be affixed to pile-driven metal beams at a depth of approximately 10 feet. At full tilt, the maximum height of any panel will be under fifteen feet (15').

The solar panels in each row will be wired together into a circuit. There will be a DC to AC string inverter for approximately every 3 rows, typically mounted on a piling adjacent to the tracker structure. Once the inverter converts the panels DC power to AC, this power will be transmitted from the string inverters via three-phase direct-buried cables (at a depth of approximately 4.5 feet) and aggregated at the AC collection switch gear before moving to the medium-voltage transformer. This transformer will be mounted on a concrete slab alongside project switchgear and control cabinet. After the transformer steps up the electric power voltage to match the existing Grid, the power is transmitted to the Project's protective recloser and metering equipment before connecting with Dominion's powerlines.

An internal access drive made from all-weather aggregate base will provide access to the array. This Site access will be restricted by a perimeter security fence in compliance with Federal and State regulations. Manual swing gates will be built at the main entrance and other required entry points as determined by maintenance crews and/or safety personnel. National Electric Code Standards for safety and signage will be met or exceeded.

The project will be obscured from view by providing fence and using natural and planted vegetative buffers will meet or exceed the standards outlined by the County of Isle of Wight's ordinance.

Environmental Impact

Land Use

The project area is currently open agricultural field. Woodland areas exist on the subject parcel outside the project limits. The site is bounded on three sides by woodland and agricultural fields with a dwelling to the north. A residential neighborhood is located south of the property across Old Stage Hwy. The site fronts on Old Stage Hwy (BUS VA-10) to the south and Morgarts Beach Rd (SR 673) to the west and north.

Topography

The site topography can be described as fairly flat coastal plain. The site predominately slopes gently eastward with some low spots on the property. There are no steep slopes within the project area. A topographic survey of the project area was performed by Dawood Engineering, Inc. in October and November 2022. The streams and wetlands within the project area were delineated by Dawood Engineering, Inc. in October 2022. The vertical datum used is the North American Vertical Datum 1988 (NAVD 88). The horizontal datum is the North American Datum 1983 (NAD 83), Virginia State Plane Coordinate System.

Soils

The soil delineation for this project was completed using the United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey. Soil types expected within the subject parcel include Slagle fine sandy loam (18A, 18B), Yemassee fine sandy loam (23), Emporia fine sandy loam (5A, 5B), Chipley sand (4), Nawney loam (10), and Nevarc and Remlik soils (11E). Of these, 11E is a highly erodible soil, 5B and 18B are potentially highly erodible, and 4, 5A, 10, 18A, and 23 are not highly erodible. Soils 5A, 5B, 18A, and 18B are prime farmland. Soils 23 are prime farmland if drained. Soils 4, 10, and 11E are not prime farmland.

As indicated by the Virginia Department of Energy geological mapping, the site is underlain by the Charles City Formation (Qcc). This formation varies from 0-55 feet or more in thickness and consists of light- to medium-gray and light- to dark-yellowish and reddish-brown sand, silt, and clay composing surficial deposits of riverine terraces and coast-parallel plains. This unit is adjacent to, and inset below, the Windsor Formation and older deposits.

Wetlands & Receiving Waters

Pivot Energy has engaged a qualified environmental professional to conduct a field delineation to confirm that the site is designed away from the few identified, isolated wetlands to ensure no negative environmental impact. A summarized copy of this report is included in our application packet. Runoff from the subject parcel drains to Lawson Creek, or one of its tributaries. Lawson Creek flows through the eastern edge of the property. Lawson Creek is a tributary of Pagan River in the James River basin.

Wildlife Habitats

Coordination with various state and federal agencies determined no adverse impacts to threatened or endangered species are anticipated as a result of the project. Refer to the Threatened and Endangered Species Assessment prepared by Dawood Engineering, Inc for additional information.

Cultural and Historical Resources

A Phase I Cultural Resources Survey was completed by Stantec Consulting Services. Inc. in February and March 2023. No previously recorded archaeological nor architectural sites are located within the project area. One new isolated archaeological find, a whiteware body sherd, was identified. The find is not eligible for listing to the NRHP. One new architectural resource was identified on the subject parcel outside the project limits but was determined not eligible for listing in the NRHP. Three resources located within 0.5 miles of the project were considered eligible or potentially eligible for listing in the NRHP. Refer to the Cultural Resource Assessment prepared by Dawood Engineering, Inc for additional information.

State Agency Diligence

Before solar projects in Virginia can begin construction, they must be vetted by the Virginia Department of Environmental Quality (VADEQ) regulation process in the form of permits by rule (PBR). This state-level oversight ensures that conditions and standards necessary to protect the Commonwealth's natural resources are met by a proposed project. This review, in coordination with the Virginia Department of Historic Resources, the Virginia Department of Wildlife Resources, and the Virginia Department of Conservation and Recreation analyze the proposal for potential impacts on wildlife, historic resources, prime farmland, and environmental impact.

The thorough diligence involved in securing VADEQ's PBR—and any subsequent mitigation measures required—offer strong protection for localities considering a project like ours. The land use decision within our CUP application is only the first of many steps a project must satisfy before submitting for a building permit.

Construction

Construction of the solar energy system, including access road and interconnection to the electric grid, is to occur in three phases. The first phase of the project is anticipated to take 6 months to complete and will consist of construction of 1 MW of solar panels, electrical switch gear, site preparation, fencing, access road, and vegetative buffers. As Dominion Energy approves the interconnection of the second and third 1MW section of solar panels (both currently in study by the utility) they will be installed.

Construction of first phase is scheduled to start in September 2024. Finish date of the third phase is anticipated to be in April 2025. This schedule is based on the latest available information. Actual dates may vary based on regulatory requirements, weather, and other unforeseen issues. It is anticipated that onsite work will be conducted during the standard workweek (Monday through Friday) when workers will be onsite from 7:00AM to 5:00PM (10 hours). In the event of inclement weather, missed weekdays may be occasion made up on Saturdays to maintain construction schedules.

Construction activities associated with the project include establishing access, material delivery and storage, loading and hauling, construction of racking system with driven posts for foundations, mounting of solar modules, construction of equipment pads, installing equipment, trenching underground cable ductbanks, backfill and compaction, installing utility poles and aerial power lines, installing security fencing, and revegetation.

Construction of the solar energy system and site appurtenances is to occur in sections to limit disturbed area. The following is a general estimation of duration of the activities associated with the project. Some will occur simultaneously as work progresses. Estimated timing of the construction activities are as follows:

- Sediment control devices are to be installed in each area before any upslope earth disturbance commences. It is anticipated installing the sediment control devices will take approximately 1 week.
- Access road construction is anticipated to take roughly 1 week.
- Construction of the racking system and installation of solar modules will take approximately 4 months.
- Construction of the equipment pad and installation of equipment will take approximately 3 weeks.
- Trenching and cable installation will take approximately 6 weeks.
- Installing the poles and overhead power lines, including the interconnection, will take approximately 2 weeks.
- Final restoration, including seeding and mulching, is to be completed immediately as improvements are finished in each area. It is anticipated final restoration will take approximately 2 weeks.
- Sediment control devices are to be removed once the upslope area has been permanently stabilized. This should take less than 1 week.

Operations and Maintenance

After construction is complete, we anticipate minimal site access requirements for Project maintenance activities. At a minimum, the Project will undergo two annual preventative maintenance checks, once in the spring (~April) and once in the fall (~August). While all products installed on site are of the highest quality per industry standard testing practices & classifications, occasional dispatch to site may be required to correct outages on an as-needed basis. Corrective activities such as this may add two to four site access instances each year.

As the long-term owners & operators of the proposed Project, our team will also actively monitor site performance 24/7 and will address any issues in a timely manner. Based on performance impact, our contracted O&M providers will respond within 24, 48, or 72 hours depending on the outage type. Our sites are unmanned regularly unless maintenance is required, which would occur between Monday – Friday from 8 AM – 5 PM.

Average rainfall in the County of Orbit Rd. anticipated to be adequate for natural cleaning of the panels. Vegetative ground cover will be managed during the growing season in compliance with local requirements, including but not limited to land use permit specifications, water management plans, and site access agreements.

Solar Grazing – Vegetative Maintenance through Dual Ag Use

“Solar Grazing” is a method of vegetation control for solar sites that utilizes livestock. Sheep are best suited due to their size and grazing behavior. Ground cover is established with a “Fuzz and Buzz” mix that is conducive to grazing as well as pollinating. Projects such as the proposed Old Stage. would contract with local sheep farmers to move onto site in the Spring, care for them during grazing season, and move off site in the Winter. Sheep are excellent at grazing under panels where mowing is more labor intensive. The perimeter fence protects sheep from predators and solar panels provide shelter from rain, wind, and direct sun on hot days.

Pivot Energy has established a partnership with United Agrivoltaics to help lead our Solar Grazing initiatives. With a network of sites across the country and partners in Solar Grazing since 2015, United Agrivoltaics will assist Pivot Energy in a vegetative maintenance plan for this dual use.

Impacts and Mitigations

Water – No on-site source of potable water will be required during construction or operations for Old Stage. If any on-site water source is required during construction or operation, it will be supplied by the host Project and sourced off-site. No new well will be dug for this project.

Sound – The majority of sound associated with the proposed Project will occur during construction. This is expected to be the result of material deliveries to the Property and support beam installation for the array. Impacts from noise are mitigated from a selected site that has few abutting neighbors and restricted hours of construction operations.

Once operational, Old Stage will be practically inaudible. At a distance of 3ft from the security fence, our inverters and racking equipment create a sound comparable to a home HVAC unit. These sound measurements fall to less than 50dB at only 50ft from the perimeter—equivalent to background noise in the County.

Glare – No glare hazard is expected during construction or operations. Our Tier I panels are treated with anti-glare coating and are designed to absorb as much sunlight as possible. The setbacks and robust vegetative screening from neighbors will further obscure any visual impact of the proposed Project.

Odor – Our EPC team will store, collect, and dispose of any solid construction material waste to prevent any odors from the Site, mitigating any impact on neighboring properties. No detectable odors are produced from the solar array components during operations.

Dust – Possible dust occurrence during operations is most likely to result from delivery or construction trucks on the Site. This will be mitigated by spraying water on dry dirt and enforcing a 5 MPH speed limit within the construction area. Minimal vehicle or foot traffic during operations and vegetative groundcover will naturally mitigate against concerns for dust.

Security and Access – The perimeter fence around the array will be no taller than 8 feet in height and contain no barbed wire. This fence will be black or another neutral color with final design approval to be sought from the Planning Director. The gates within the fence will remain locked while access will be coordinated through our operations and maintenance personnel. Our Site will provide a "Knox Box" to provide 24/7 access for local emergency personnel. The Applicant will ensure suitable access from Pocket Road is maintained for fire or other emergency vehicles.

Removal

At the end of the Project's life, it will be decommissioned and removed from the Property. Formal notice of end of operations will be sent to County via Certified Mail. The Project will then be completely removed from the Property and reasonably restored to previous condition within 365 days of receipt of notice. Old Stage would expect County approval of our decommissioning plan—to include posting of surety funds—prior to building permit issuance. We have included a preliminary decommissioning cost estimate in our submission.

Economic Development

Jobs

To the extent possible, Old Stage will source local materials and labor for the construction and maintenance of the project. We estimate that this project will create approximately 30 new construction positions and 1-2 operations positions. Operations jobs will be focused on facility upkeep with responsibilities such as vegetation management, equipment repair, and component maintenance. Typical cadence for site maintenance is every two to three months.

Increased County Revenue

Additionally, this project's lease revenue would provide direct fiscal benefit to the County. This has been outlined in a report commissioned from MAGNUM ECONOMIC's *"VAL025 - OLD STAGE HIGHWAY ECONOMIC AND FISCAL CONTRIBUTION TO ISLE OF WIGHT COUNTY, VIRGINIA*". This report has been included in our application.

Regulatory Conformance

Virginia Code § 15.2-2232 requires that the Board of Supervisors makes a determination as to whether or not the general location, character, and extent of a proposed solar energy facility is in substantial accord with the locality's adopted comprehensive plan.

The Project includes construction of an approximately 27.32-acre solar farm (including buffer areas) within the existing field. Existing woodland and buildings are to remain. The proposed development is shown on the concept plan included with the conditional use application. A solar energy system (utility service/major) is a permissible use by conditional use within the RAC district. This statement has been prepared to show the proposed use will conform to the standards of the Zoning Ordinance. We believe the standards of section 1-1017 (Conditional Uses) have been met and respectively request the conditional use be granted. The standards for review and the conditions and guarantees have been addressed as follows:

Zoning Ordinance Section 1-1017.H – Standards for review of a conditional use application

1. *That the establishment, maintenance, and operation of the conditional use will not be detrimental to or endanger the public health, safety, and general welfare;*
   The adverse effects of the proposed use on the public health, safety, and general welfare would be minimal. The developer intends to design, construct, operate, inspect, and maintain the proposed development to meet or exceed all applicable federal, state, and local requirements and in general conformance with manufacturer recommendations and industry standards. All proposed equipment is to be readily accessible for fire and police protection. Measures, such as vegetative screening and security fencing, are proposed to mitigate any potential adverse effects and limit access.
2. *That the conditional use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially impair the use of other property within the immediate proximity;*
   The proposed use is compatible with the other uses in the area providing energy for the neighborhood and will not be injurious nor substantially impair the use of other property in the area. Existing and proposed screening will limit the visual impact from adjacent property and roadways.
3. *That adequate utilities, water, sewer or septic system, access roads, storm drainage and/or other necessary public facilities and improvements have been or will be provided;*
   The proposed use does not require permanent water supply or sewage disposal. With established vegetation beneath and around the solar panels, the existing storm drainage facilities should be adequate and will be supplemented with further management facilities as needed during Site Plan Review. A short gravel access road is to be constructed to provide direct access to the solar energy system. Connection to the existing power lines in the adjacent roadway is to be provided in conformance with the electric company and regulatory standards.
4. *That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion on the public streets;*
   Traffic generated by the use should be negligible consisting of the occasional inspection or maintenance vehicle. A gravel drive from the public roadway is to be constructed to provide access directly to the solar farm.

5. *That the proposed conditional use is not contrary to the goals and objectives of the Isle of Wight County comprehensive Plan;*

The proposed use is consistent with the comprehensive plan. As stated in the plan, a solar farm is an appropriate use for the Rural Agricultural Conservation area. The use is consistent with the priority to protect natural resources and rural lifestyle and the policy to facilitate non-residential development. Converting the area from an agricultural field has the potential to reduce the amount of stormwater runoff, increasing groundwater quantity, by changing the ground cover. This would also potentially improve the quality of surface water and groundwater by reducing the use of fertilizers and pesticides. The combination of natural and supplemental screening and fencing to be maintained around the solar panels will preserve the rural character of the area.

"Require facilities to be located adjacent or close to existing electric transmission lines."
The project proposes to interconnect to the Dominion three-phase powerlines that run across the property's road frontage along Old Stage Hwy.

"Require facilities to be located outside of DSDs."
The project is sited on a property that is approximately 7.0 miles away from the nearest DSD (Newport).

"Avoid or minimize impact to prime farmland or farmlands of statewide importance as defined by the USDA and Commonwealth of Virginia, respectively."
The parcel being used takes up only 24.78. acres of cropland out the 94 acre property, which will continue to be farmed. Given the average farm size of 340 acres and over 80,000 total farm acres in Isle of Wight County, Old Stage presents a negligible impact on farmlands, which it more than offsets by providing homes with clean, locally generated power.

Additionally Pivot Energy promotes as a standard the use of sheep grazing as vegetation control on the site, which will allow the land to continue to function as agricultural lands.

"Facilities should be located outside of the viewshed of any scenic, cultural, or recreational resources (i.e., solar facilities may not be seen from surrounding points that are in line-of sight with a resource location) or within the Highway Corridor Overlay district."
The proposed existing, mature vegetative buffer along Old Stage Hwy will provide complete screening of the site from the public.

The Comprehensive Plan also outlines several Policy themes with Action Items associated toward those ends. Below are some of the more applicable selections regarding solar projects and our determination of the project would fit.

Preserve: Protect water quality from sedimentation and pollutants carried by runoff through the continued enforcement of the local stormwater management program.
Before final site plan approval, Pivot Energy must secure confirmation from the Virginia Department of Environmental Quality that the designed stormwater management features will meet or exceed the rates of current property use. Verification of this confirmation will safeguard against any degradation of local stormwater management as a result of the project.

Shape: Protect rural historic landscapes by ensuring development is consistent with existing community character through performance criteria for new development.

The vegetative screening plans provided offer mature, existing bufferings required by the solar ordinance. Exceeding the vegetative screening standard by this degree shows the specific focus on existing community character.

Serve: Encourage collaboration with the private sector to provide integrated infrastructure in the most efficient way possible.

Serve: Design and develop public facilities, wherever possible, that take advantage of alternative energy sources and conserve energy in operations.

Serve: Ensure all major utility service use types mitigate any potential negative impacts to the character and future viability of surrounding land uses.

The Old Stage project offers alternative energy sourced power generation for the local community, financed by private investment, to the net fiscal benefit for the county. By designing vegetative buffering that exceeds the county requirement for solar projects in its particular location, Old Stage is sited respectfully to local character and land uses while allowing the site landowner to exercise his property rights.

Educate: Continue to grow programs that enhance job skills of County residents needed by employers.

Pivot has contacted SHINE to coordinate plans for community colleges and academic institutions across Virginia so we can increase access to solar training programs across the state.

6. *That the conditional use shall, in all other respects, conform to the applicable regulations of the zoning district classification in which it is located and to the special requirements established for the specific use;*

   The developer intends to design, construct, operate, inspect, and maintain the proposed development to meet or exceed all applicable regulations.

7. *That the use(s) at the location proposed will not result in a multiplicity or saturation of similar uses in the same general neighborhood of the proposed use.*

   The proposed use at this location will not result in a saturation of similar uses in the same neighborhood. The only other known solar farms in the county are at Oliver Farms and Bennetts Creek Nursery located approximately 9-miles south of the site off VA-10/VA-32 near the county line with Suffolk. There are two other proposed solar projects approximately 10-miles south of this project. One project is currently under construction on Redhouse Road. Another project is approved but not yet constructed on Orbit Road.

   Proximity to three phase power lines and substations limits the available areas suitable for the installation of solar projects. After this site is constructed the electrical infrastructure supporting these facilities will be built out and not able to support further development.

Zoning Ordinance Section 1-1017.I – Conditions and guarantees

1. *The number of persons living or working in the immediate area and the proposed hours of operation, as may applicable.*

   N/A - No persons are to be located on-site. Any necessary maintenance personnel will be stationed elsewhere. Operations will be continuous while the sun is shining though personnel will generally only be onsite during inspections and maintenance.

2. *Traffic conditions, including facilities for pedestrians, such as sidewalks and parking facilities; the access of vehicles to roads; peak periods of traffic; and proposed roads, but only if construction of such roads will commence within the reasonably foreseeable future;*
   The nature of the proposed use, the site layout, and its relation to access streets are such that both pedestrian and vehicular traffic should not conflict with the normal traffic of the neighborhood. Traffic should be minimal utilizing a proposed gravel drive for access. Adequate parking is proposed for the occasional need. Fencing is proposed to restrict access.

3. *The orderly growth of the neighborhood and community and the fiscal impact on the county;*
   The proposed use is of such location, size, and character that, in general, it will be in harmony with the appropriate and orderly growth of the neighborhood and will not be detrimental to the orderly growth of adjacent properties. The proposed use will a provide supplementary energy source for the community. Traffic will be minimal and sufficient landscaping is proposed to screen adjacent properties. The proposed use will not have a significant fiscal impact on the county, other than the increase in tax base due to the change in use.

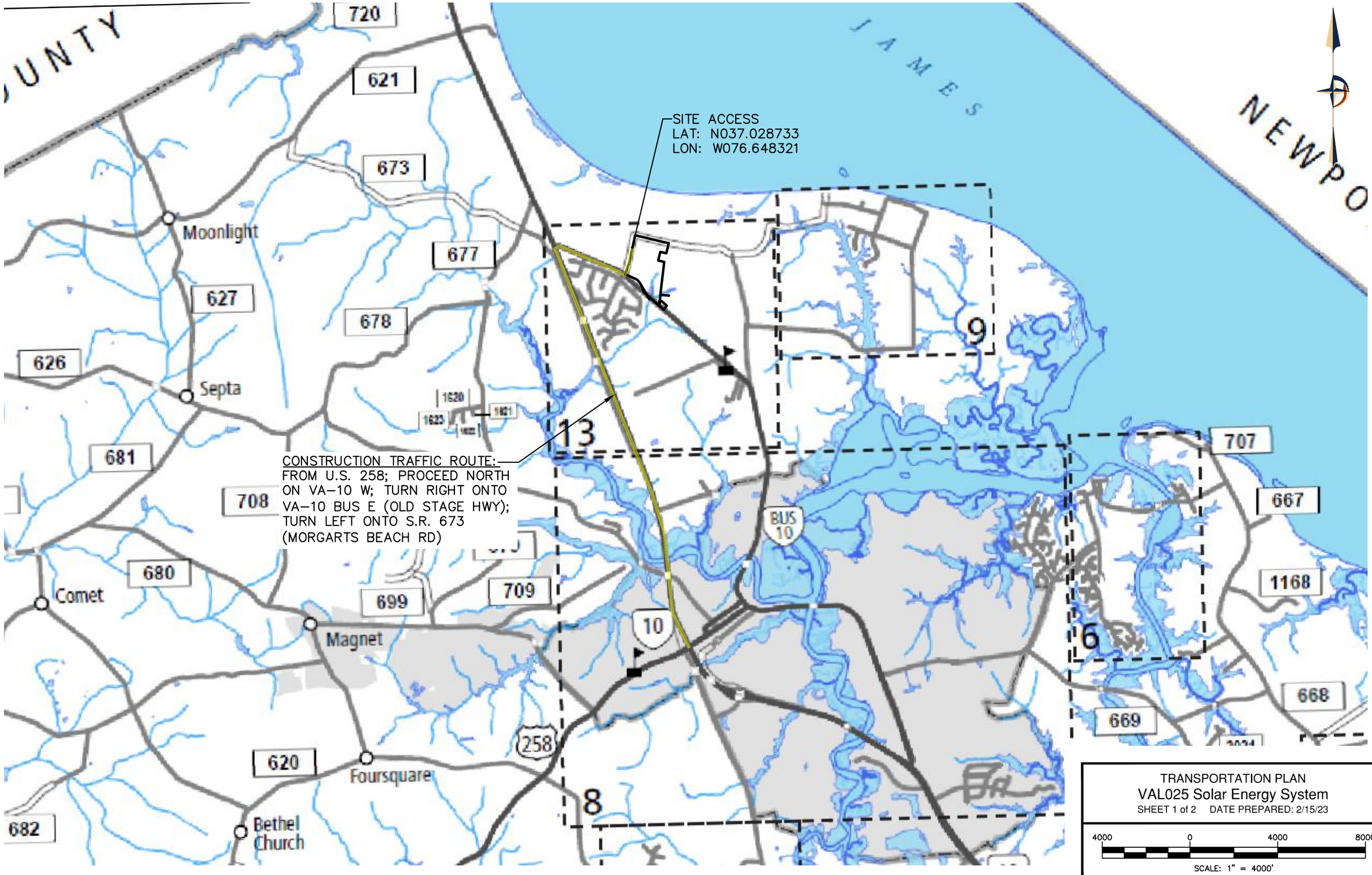
4. *The effect of odors, dust, gas, smoke, fumes, vibration, glare, and noise upon the use of surrounding properties;*
   The proposed use, under normal operations, is not expected to produce any significant effects that would adversely impact the surrounding properties. Solar panels are designed to absorb light, with any glare to be minimized by the angle and tilt of the panels. Additionally, the proposed screening will further obscure any glare to adjacent roads and properties. All equipment is to be designed and operated in accordance with Federal, State, and local regulations. The solar panels will produce virtually no noise, vibrations, fumes, smoke, gas, dust, or odors. The system equipment is not expected to generate meaningful noise levels, vibrations, fumes, smoke, gas, dust, or odors. The location of the solar panels and equipment within the parcel and the use of vegetative screening will reduce the effect of odors, dust, gas, smoke, fumes, vibration, glare, and noise from the use adversely impacting surrounding properties.

5. *Facilities for police, fire protection, sewerage, water, trash and garbage collection and disposal, and the ability of the county or persons to supply such services;*
   The proposed use would not create undue impacts to police, fire protection, or ambulance services. Fencing is proposed to restrict access and standard fire safety measures are to be utilized to reduce fire hazards. All proposed equipment is to be readily accessible for fire and police protection. Emergency response service to the site is to be facilitated through the construction of a new access road. Connection to the existing power lines in the adjacent roadway is to be provided in conformance with the electric company and regulatory standards. The proposed use does not require sewerage, water, or waste disposal services.

6. *The degree to which the development is consistent with generally accepted engineering and planning principles and practices;*
   The developer intends to design, construct, operate, inspect, and maintain the proposed development to be consistent with generally accepted engineering and planning principles and practices.

7. *The structures in the vicinity such as schools, houses of worship, theaters, hospitals, and similar places of public use;*
   The nearest such public facility is the Hardy Elementary School approximately 0.7-miles southeast of the subject parcel.

8. *The purposes set forth in this ordinance, the county's comprehensive plan, and related studies for land use, roads, parks, schools, sewers, water, population, recreation, and the like;*
   The proposed use does not conflict with the purposes set forth in the ordinance nor comprehensive plan. The proposed use is consistent with the comprehensive plan. Due to the nature of the use, the effect on the roads, parks, schools, sewers, water, population, and recreation should be negligible. The use does not involve the construction of facilities that would directly cause an increase in population or increase the demand for public facilities and services.
9. *The environmental impact, the effect on sensitive natural features, and opportunities for recreation and open space;*
   N/A – Any adverse environmental impact from the proposed use is negligible. The proposed construction area is limited to the existing farm field. The development will not result in the loss or damage of any sensitive feature. Recreation and open space aren't applicable to this development as it will not result in additional residents.
10. *The preservation of cultural and historic resources or landmarks.*
    There are no known cultural or historic resources or landmarks within the project area. The proposed construction area is limited to the existing access and farm field. One new architectural resource, a house, was identified on the subject parcel outside the project limits. Three historical resources are located near the project, a cemetery across Morgarts Beach Road west of the project, a house on the parcel north of the project site, and the Captain John Smith Historic Trail north of the project area. Existing and proposed screening will minimize any adverse impact to these resources. Mitigation for any adverse effect of the proposed project on the resources is being coordinated with the Virginia Department of Historic Resources.



TRANSPORTATION PLAN
VAL025 Solar Energy System
SHEET 1 of 2 DATE PREPARED: 2/15/23

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SCALE: 1" = 4000'

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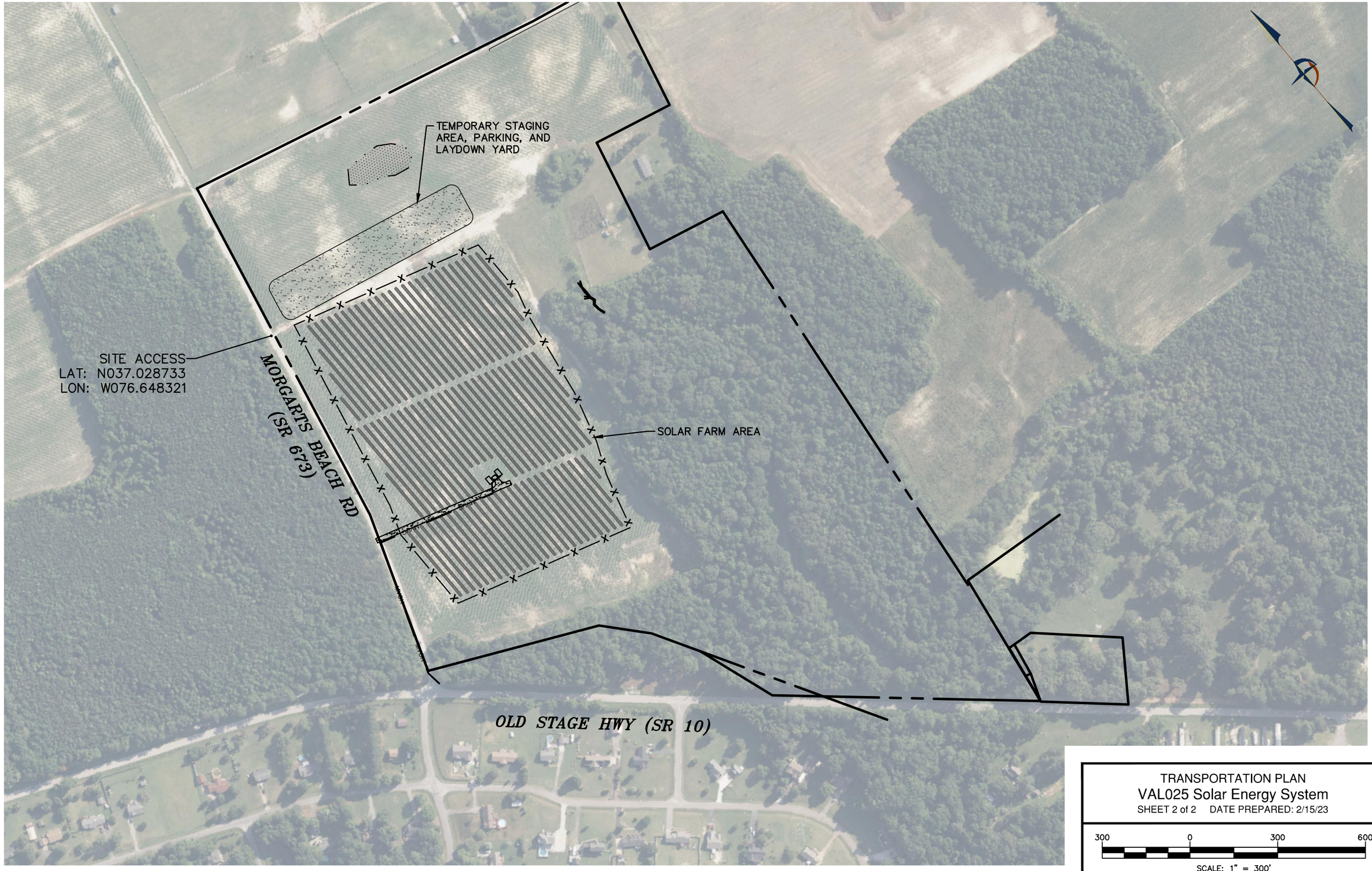

TRANSPORTATION PLAN

VAL025 Solar Energy System

SHEET 2 of 2 DATE PREPARED: 2/15/23

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SCALE: 1" = 300'

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VAL025- OLD STAGE HIGHWAY

ECONOMIC AND FISCAL CONTRIBUTION TO ISLE OF WIGHT COUNTY, VIRGINIA

Prepared for

Pivot Energy

MAY 2024

MANGUM economics

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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 29 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.
- **Advanced Applied Technology:** The Mangum Team specializes in analyzing how advanced technology developments (like data centers, fiber networks, and advanced manufacturing plants) contribute to the state and local economies. We have worked with local governments, trade associations, developers, and operating firms across the country to show how investments in advanced critical infrastructure transform local economies 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

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Founder and CEO

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Executive Summary

This report assesses the economic and fiscal contribution that the proposed Old Stage Highway project would make to Isle of Wight County, Virginia. The primary findings from that assessment are as follows:

1) **VAL025- Old Stage Highway (Old Stage Highway) is a proposed 3-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility. The project would be located near Morgart's Beach Road and Old Stage Highway in Isle of Wight County, Virginia. The total actively used, fenced-in solar site including a solar buffer would be approximately 27.32 acres of land.**

2) **The proposed Old Stage Highway project would make an economic contribution to Isle of Wight County:**

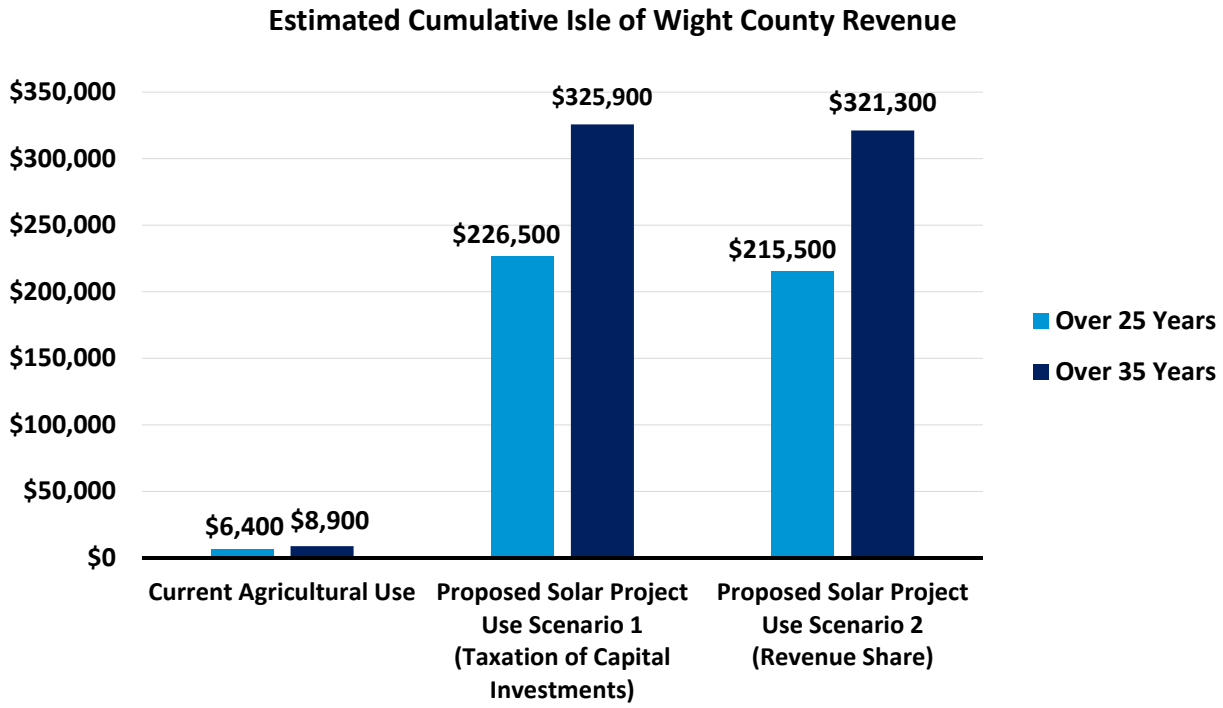
   - The proposed Old Stage Highway project would provide an estimated one-time pulse of economic activity to Isle of Wight County during its construction phase supporting approximately:
     - 3 jobs.
     - $98,000 in associated wages and benefits.
     - $180,500 in economic output.
   - The proposed Old Stage Highway project would provide an estimated annual economic impact to Isle of Wight County during its ongoing operational phase supporting approximately:
     - < 1 job.
     - $21,200 in associated wages and benefits.
     - $72,400 in economic output.

3) **The Old Stage Highway project would have a significantly greater fiscal impact on Isle of Wight County than the property generates in its current agricultural use:**

   - $24,000 in state and local tax revenue from the one-time pulse of economic activity associated with the project's construction.
   - The proposed Old Stage Highway project would generate approximately $226,500 in cumulative county revenue over a 25-year operational life and approximately $325,900 in cumulative county revenue over a 35-year operational life assuming revenues are generated from the reassessment of the real property and the taxation of the associated capital investments (Scenario 1).
   - The proposed Old Stage Highway project would generate approximately $215,500 in cumulative county revenue over a 25-year operational life and approximately $321,300 in cumulative county revenue over a 35-year operational life assuming revenues are

generated from the reassessment of the real property and payments associated with a locally adopted revenue share ordinance (Scenario 2).

- In the property's current agricultural use, it would generate approximately $6,400 in cumulative county revenue over 25 years and approximately $8,900 in cumulative county revenue over 35 years.



The estimates provided in this report are based on the best information available and all reasonable care has been taken in assessing the quality of that information. However, because these estimates attempt to foresee the consequences of circumstances that have not yet occurred, it is not possible to be certain that they will be representative of actual events. These estimates are intended to provide a good 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 VAL025- Old Stage Highway (Old Stage Highway) project would make to Isle of Wight County, Virginia. This report was commissioned by Pivot Energy and produced by Mangum Economics.

The Project

Old Stage Highway is a proposed 3-megawatt (MW) alternating current (AC) solar photovoltaic power generating facility. The project would be located near Morgart's Beach Road and Old Stage Highway in Isle of Wight County, Virginia. The total actively used, fenced-in solar site including a solar buffer would be approximately 27.32 acres of land.

Economic and Fiscal Impact

This section quantifies the economic and fiscal contribution that the proposed Old Stage Highway project would make to Isle of Wight 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 operations phase.

Method

To empirically evaluate the likely local economic impact attributable to the proposed Old Stage Highway project, the analysis employs a regional economic impact model called IMPLAN.[1] The IMPLAN model is one of the most commonly used economic impact simulation models in the U.S., and in Virginia is used by UVA's Weldon Cooper Center, the Virginia Department of Planning and Budget, the Virginia Employment Commission, and other 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 Old Stage Highway 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

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

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 Old Stage Highway 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).

Construction Phase

This portion of the section assesses the economic and fiscal impact that the one-time pulse of activity associated with construction of the proposed Old Stage Highway project would have on Isle of Wight County.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- The Old Stage Highway project would employ approximately 50 full-time equivalent construction workers. Approximately 80 percent of those workers would be from Virginia, but are assumed to be from outside of Isle of Wight County.[2]
- The out-of-state workers would stay in the county during the construction period.
- Per diem spending for in-state workers would be approximately $15.[3]
- Per diem spending for out-state workers would be approximately $139.[4]
- All construction expenditures are assumed to take place during a six-month period.[5]

Economic Impact

Applying these assumptions in the IMPLAN model results in the following estimates of one-time economic and fiscal impact. As shown in Table 1, construction of the proposed Old Stage Highway project would not provide a direct impact to Isle of Wight County because the construction labor is assumed to be from outside of the county.[6]

[2] Data Source: Pivot Energy.
[3] Data Source: U.S. General Services Administration.
[4] Data Source: U.S. General Services Administration.
[5] Data Source: Pivot Energy.
[6] Per diem spending is considered a household (employee) to business transaction and is therefore not a direct impact.

Taking into account the per diem spending of the construction workers, the total estimated one-time impact on Isle of Wight County would support approximately: 1) 3 jobs, 2) $98,000 in wages and benefits, 3) $180,500 in economic output, and 4) $24,000 in state and local tax revenue.

Table 1: Estimated One-Time Economic and Fiscal Impact on Isle of Wight County from Construction of the Old Stage Highway Project

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	-	-	-
2nd Round Indirect and Induced Economic Activity	3	$98,000	$180,500
Total Economic Activity	**3**	**$98,000**	**$180,500**
Fiscal Impact			
State and Local Tax Revenue			**$24,000**

**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 Old Stage Highway project would have on Isle of Wight County during its operational phase.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- The Old Stage Highway project would spend approximately $53,000 each year for maintenance and repair, vegetative control, and other operational expenditures.[7]
- The Old Stage Highway project would make confidential lease payments to landowners.[8]

Economic Impact

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 2, annual operation of the proposed Old Stage Highway project would directly support approximately: 1) < 1 job, 2) $13,800 in wages and benefits, and 3) $41,800 in economic output to Isle of Wight County.

Taking into account the economic ripple effects that direct impact would generate, the total estimated annually supported impact on Isle of Wight County would be approximately: 1) < 1 job, 2) $21,200 in wages and benefits, and 3) $72,400 in economic output.

[7] Data Source: Pivot Energy.
[8] Data Source: Pivot Energy.

Table 2: Estimated Annual Economic Impact on Isle of Wight County from the Ongoing Operation of the Old Stage Highway Project

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	< 1	$13,800	$41,800
2nd Round Indirect and Induced Economic Activity	< 1	$7,400	$30,600
Total Economic Activity	**< 1**	**$21,200**	**$72,400**

Fiscal Impact Assumptions

The analysis is based on the following assumptions:

- Total capitalized investment in machinery and tools in the Old Stage Highway project is estimated to be approximately $6.2 million.[9]
- The leased acreage of the Old Stage Highway project would encompass approximately 24.8 acres located in Isle of Wight County.[10]
- The approximately 27.32 actively used, fenced-in acres including a solar buffer would be removed from the land use program and reassessed at a solar use assessment value of $15,000 per acre.[11]
- The initial interconnection request for Old Stage Highway was filed in 2021.[12]
- Tax rates are assumed to remain constant throughout the analysis.
- The Old Stage Highway project's total generation capacity would be 3 MW AC.[13]
- The Old Stage Highway project would become operational in 2025.[14]

Fiscal Impact

This portion of the section quantifies the direct fiscal contribution that the proposed Old Stage Highway project would make to Isle of Wight County. The analysis considers two scenarios. Both scenarios include the additional revenue that the Old Stage Highway project would generate for Isle of Wight County over a 25-year period and a 35-year period from the increased property assessments associated with reassessing the site as solar use property. Scenario 1 then describes the additional revenue Old Stage Highway would generate for Isle of Wight County from taxes levied on the capital investment in machinery and tools, while Scenario 2 tax revenue generated from the capital investment will be

[9] Data Source: Derived from data provided by Pivot Energy.
[10] Data Source: Pivot Energy.
[11] Data Source: Isle of Wight County staff and Pivot Energy.
[12] Data Source: Pivot Energy.
[13] Data Source: Pivot Energy.
[14] Data Source: Pivot Energy.

replaced with revenue associated with a locally adopted revenue share ordinance and based on the project's total generation capacity.

Reassessment of Property

Table 3 details the increased tax revenue associated with reassessing the 27.32-acre solar site as solar use property. The county real estate tax revenue from the fenced-in acreage after reassessment is estimated to be approximately $2,900 per year, for a cumulative total of approximately $72,700 over a 25-year operational life and approximately $101,800 over a 35-year operational life. Adding one-time rollback taxes of approximately $4,300 increases that cumulative total to approximately $77,100 over 25 years and approximately $106,200 over 35 years. In contrast, the property currently generates approximately $260 per year for the county, for a cumulative total of approximately $6,400 over 25 years and approximately $8,900 over 35 years.

Table 3: Estimated County Revenue Generated by the Proposed Old Stage Highway Project over 25 Years and 35 Years from Real Estate Taxes

	Over 25 Years	Over 35 Years
Estimated Increased Appraised Value of Property[15]	$409,800	$409,800
Isle of Wight County Real Estate Tax Rate[16]	0.0071	0.0071
Annual County Real Estate Tax – Solar Use	$2,900	$2,900
Revenue over Operational Life	**$72,700**	**$101,800**
One-time Rollback Taxes[17]	**$4,300**	**$4,300**
Total Cumulative Revenue over Operational Life	**$77,100**	**$106,200**

**Totals may not sum due to rounding.*

Scenario 1: Taxation of Capital Investment in Machinery and Tools

Table 4 separately details the additional annual revenue that the proposed Old Stage Highway project would generate for Isle of Wight County over a 25-year period and a 35-year period from taxes levied on capital investment in machinery and tools. 1) the taxable portion of capital investments based on the stepdown local tax exemption pursuant to Virginia Code §58.1-2606.1[18], times 2) Isle of Wight County's

[15] Calculated as 19.4 acres times $15,000 per acre.
[16] Data Source: Isle of Wight County's Commissioner of Revenue's office.
[17] Rollback taxes are computed as the difference between the current land use value assessment tax and the tax on the fair market value for the affected acreage for five complete tax years plus the current year. Does not account for changes in assessment values over time.
[18] Virginia Code §58.1-2606.1 stipulates that solar facilities 5MW or less are subject to a stepdown exemption from local property taxes if the project is approved by the locality on or after July 1, 2022. The amount of the exemption is 80 percent in the first five years, 70 percent in years six through ten, and 60 percent thereafter.

depreciation guidelines for machinery and tools[19], times 3) Isle of Wight County's real estate tax rate of $0.71 per $100 of assessed value pursuant to Virginia Code §58.1-2606.1.[20]

As the data in Table 4 indicate, based on these calculations the estimated additional county revenue from taxation of capital investments associated with the proposed Old Stage Highway project would be approximately $3,520 in the project's first year of operation, with that figure projected to increase to approximately $7,030 in year 11 of the project as the value of the exemption is reduced for a cumulative total of approximately $149,400 over 25 years and approximately $219,700 over 35 years.

Table 4: Estimated County Revenue by Proposed Solar Investment Over 25 Years and 35 Years

Year	Total Capital Investment Subject to Exemption[21]	Depreciated Value of Taxable Capital Investment[22]	Additional Annual County Tax Revenue Solar Investment[23]
1	$6,190,100	$495,208	$3,520
2	$6,190,100	$495,208	$3,520
3	$6,190,100	$495,208	$3,520
4	$6,190,100	$495,208	$3,520
5	$6,190,100	$495,208	$3,520
6	$6,190,100	$742,812	$5,270
7	$6,190,100	$742,812	$5,270
8	$6,190,100	$742,812	$5,270
9	$6,190,100	$742,812	$5,270
10	$6,190,100	$742,812	$5,270
11	$6,190,100	$990,416	$7,030
12	$6,190,100	$990,416	$7,030
13	$6,190,100	$990,416	$7,030
14	$6,190,100	$990,416	$7,030
15	$6,190,100	$990,416	$7,030
16	$6,190,100	$990,416	$7,030
17	$6,190,100	$990,416	$7,030
18	$6,190,100	$990,416	$7,030

[19] Because Old Stage Highway would be independently owned and does not meet the definition of an "Electric Supplier" because it is under 25 MW, it would be assessed locally. Although the actual potential local assessment methodology is not known, the analysis presented is based on the assumption that the investment would be assessed as machinery and tools because of the Virginia Department of Taxation Tax Ruling 14-37, which determined that production of electricity for sale or resale by a private entity is eligible for the industrial manufacturing processing exemption from sales and use taxes.

[20] Data Source: Isle of Wight County's Commissioner of Revenue's office. Pursuant to Virginia Code §58.1-2606.1, Old Stage Highway would be taxable at a rate not exceeding the county's real estate tax rate.

[21] Data Source: Pivot Energy.

[22] Accounts for Isle of Wight County's depreciation guidelines for Machinery and Tools. Also accounts for the stepdown exemption from local property taxes pursuant to Virginia Code §58.1-2606.1 for projects 5 MW or less and approved by a locality after July 1, 2022. The amount of the exemption is 80 percent in the first five years, 70 percent in years six through ten, and 60 percent thereafter.

[23] Calculated pursuant to Virginia Code §58.1-2606.1. Because Old Stage Highway would be independently owned and does not meet the definition of an "Electric Supplier" because it is under 5 MW, it would be taxed at the Isle of Wight County real estate tax rate of $0.71 per $100.

Year	Total Capital Investment Subject to Exemption[21]	Depreciated Value of Taxable Capital Investment[22]	Additional Annual County Tax Revenue Solar Investment[23]
19	$6,190,100	$990,416	$7,030
20	$6,190,100	$990,416	$7,030
21	$6,190,100	$990,416	$7,030
22	$6,190,100	$990,416	$7,030
23	$6,190,100	$990,416	$7,030
24	$6,190,100	$990,416	$7,030
25	$6,190,100	$990,416	$7,030
CUMULATIVE TOTAL OVER 25 YEARS			**$149,400**
26	$6,190,100	$990,416	$7,030
27	$6,190,100	$990,416	$7,030
28	$6,190,100	$990,416	$7,030
29	$6,190,100	$990,416	$7,030
30	$6,190,100	$990,416	$7,030
31	$6,190,100	$990,416	$7,030
32	$6,190,100	$990,416	$7,030
33	$6,190,100	$990,416	$7,030
34	$6,190,100	$990,416	$7,030
35	$6,190,100	$990,416	$7,030
CUMULATIVE TOTAL OVER 35 YEARS			**$219,700**

**Totals may not sum due to rounding.*

Scenario 1: Total Fiscal Impact

Table 5 combines the results from the calculations depicted in Tables 3 and 4 to provide an estimate of the cumulative fiscal contribution that the proposed Old Stage Highway project would make to Isle of Wight County over its operational life under Scenario 1. As these data indicate, that cumulative total is approximately $226,500 over 25 years and approximately $325,900 over 35 years.

Table 5: Estimated Cumulative County Tax Revenue from the Proposed Old Stage Highway Project under Scenario 1

	Over 25 Years	Over 35 Years
County Real Estate Tax Revenue	$77,100	$106,200
County Revenue from Taxation of Capital Investments	$149,400	$219,700
TOTAL Cumulative Revenue	**$226,500**	**$325,900**

**Totals may not sum due to rounding.*

Scenario 2: Revenue Share Ordinance

The following section describes the additional annual revenue that the proposed Old Stage Highway project would generate for Isle of Wight County assuming the county adopts an energy revenue share ordinance under Virginia Code §58.1-2636. The Virginia Code currently stipulates that a locality may assess an annual revenue share of up to $1,400 per megawatt (MW) alternating current (AC) generation capacity of a solar facility. However, legislation that was passed in the 2021 General Assembly (SB 1201/HB 2006) and went into effect on July 1, 2021, allows a 10 percent escalator to be applied to the $1,400 per MW revenue share every five years, beginning in 2026. Section 58.1-3660 further stipulates that capital investment associated with the solar project will be exempt from taxation if the county adopts an energy revenue share ordinance.

Table 6 details the revenue generated from a revenue share ordinance including the 10 percent escalator. Based on a total generation capacity of 3 MW AC and an assumed commissioning date of 2025, a revenue share ordinance would generate approximately $138,500 over a 25-year operational life and approximately $215,200 over a 35-year operational life.

Table 6: Estimated County Revenue Generated from Revenue Share Ordinance over 25 Years and 35 Years[24]

Year	MW	Payment per MW with Escalator	Annual County Revenue
1	3	$1,400	$4,200
2	3	$1,540	$4,620
3	3	$1,540	$4,620
4	3	$1,540	$4,620
5	3	$1,540	$4,620
6	3	$1,540	$4,620
7	3	$1,694	$5,082
8	3	$1,694	$5,082
9	3	$1,694	$5,082
10	3	$1,694	$5,082
11	3	$1,694	$5,082
12	3	$1,863	$5,590
13	3	$1,863	$5,590
14	3	$1,863	$5,590
15	3	$1,863	$5,590
16	3	$1,863	$5,590
17	3	$2,050	$6,149
18	3	$2,050	$6,149
19	3	$2,050	$6,149
20	3	$2,050	$6,149
21	3	$2,050	$6,149
22	3	$2,255	$6,764

[24] Data Source: Pivot Energy.

Year	MW	Payment per MW with Escalator	Annual County Revenue
23	3	$2,255	$6,764
24	3	$2,255	$6,764
25	3	$2,255	$6,764
CUMULATIVE TOTAL OVER 25 YEARS			**$138,500**
27	3	$2,480	$7,441
28	3	$2,480	$7,441
29	3	$2,480	$7,441
30	3	$2,480	$7,441
31	3	$2,480	$7,441
32	3	$2,728	$8,185
33	3	$2,728	$8,185
34	3	$2,728	$8,185
35	3	$2,728	$8,185
CUMULATIVE TOTAL OVER 35 YEARS			**$215,200**

**Totals may not sum due to rounding.*

Scenario 2: Total Fiscal Impact

Table 7 combines the results from the calculations depicted in Tables 3 and 6 to provide an estimate of the cumulative fiscal contribution that the proposed Old Stage Highway project would make to Isle of Wight County over its operational life. As these data indicate, that cumulative total is approximately $215,500 over 25 years and approximately $321,300 over 35 years.

Table 7: Estimated Cumulative County Revenue from the Proposed Old Stage Highway Project over 25 Years and 35 Years under Scenario 2

	Over 25 Years	Over 35 Years
County Real Estate Tax Revenue	$77,100	$106,200
County Revenue from Revenue Share Ordinance	$138,500	$215,200
TOTAL Cumulative Revenue	**$215,500**	**$321,300**

**Totals may not sum due to rounding.*

Current Agricultural Use

This section provides a benchmark for the previous estimates of the fiscal contribution that the proposed Old Stage Highway project would make to Isle of Wight County by estimating the fiscal contribution that the site makes to the county in its current agricultural use.

Economic Impact Assumptions

The analysis is based on the following assumptions:

- The proposed Old Stage Highway project would be situated within an approximate 24.8-acre tract of agricultural land used to produce cotton.[25]

Economic Impact

Applying these assumptions in the IMPLAN model results in the following estimates of annual economic impact. As shown in Table 8, in its current agricultural use the proposed Old Stage Highway project site directly supports approximately: 1) < 1 job, 2) $6,700 in wages and benefits, and 3) $17,700 in economic output to Isle of Wight County.

Taking into account the economic ripple effects that direct impact generates, on average, the total annually supported impact on Isle of Wight County is approximately: 1) < 1 job, 2) $10,500 in wages and benefits, and 3) $27,200 in economic output.

Table 8: Total Estimated Annual Economic Impact of the Old Stage Highway Project Site on Isle of Wight County – Current Agricultural Use[26]

Economic Impact	Employment	Wages and Benefits	Output
1st Round Direct Economic Activity	< 1	$6,700	$17,700
2nd Round Indirect and Induced Economic Activity	< 1	$3,800	$9,500
Total Economic Activity	**< 1**	**$10,500**	**$27,200**

**Totals may not sum due to rounding.*

Fiscal Impact Assumptions

- The current assessment value of the affected acreage is approximately $35,900.[27]

[25] Data Source: Pivot Energy.
[26] Calculations based data from the U.S. Department of Agriculture and IMPLAN Group, LLC for Virginia.
[27] Data Source: Derived from Isle of Wight County's property card database.

Fiscal Impact

Table 9 details the estimated tax revenue that the proposed Old Stage Highway site generates for Isle of Wight County in its current agricultural use. As the data in Table 9 indicate, the current county real estate tax revenue from the project site is estimated to be approximately $260 per year, for a cumulative total of approximately $6,400 over 25 years and approximately $8,900 over 35 years.

Table 9: Estimated County Revenue Generated by the Proposed Old Stage Highway Project Site over 25 Years and 35 Years from Real Estate Taxes – Current Agricultural Use

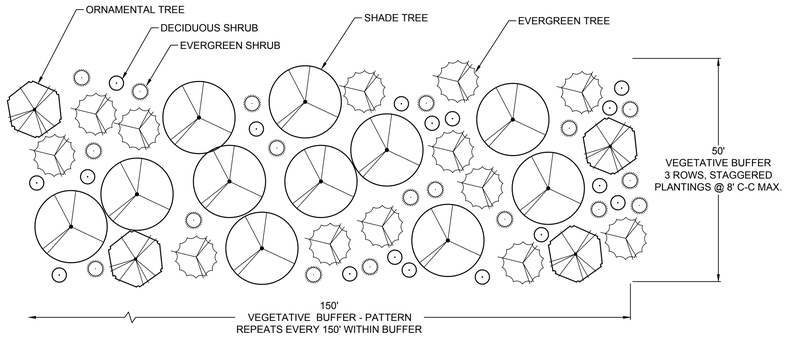
	Over 25 Years	Over 35 Years
Estimated Assessed Value of Property – Current Agricultural Use[28]	$35,900	$35,900
Isle of Wight County Real Estate Tax Rate[29]	0.0071	0.0071
Estimated Annual County Real Estate Tax – Current Agricultural Use	$260	$260
Total Cumulative Revenue over Operational Life	**$6,400**	**$8,900**

**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.

[28] Data Source: Derived from Isle of Wight County's property card database.
[29] Data Source: Isle of Wight County's Commissioner of Revenue's office.

KEY MAP
NOT TO SCALE



PROPOSED LANDSCAPE BUFFER | VIEW 1
NOT TO SCALE

EXISTING CONDITIONS | VIEW 1
NOT TO SCALE

PROPOSED LANDSCAPE BUFFER | ESTIMATED TIME OF PLANTING | VIEW 1
NOT TO SCALE

PROPOSED LANDSCAPE BUFFER | ESTIMATED 5 YEAR GROWTH | VIEW 1
NOT TO SCALE

PROPOSED LANDSCAPE BUFFER | ESTIMATED 10 YEAR GROWTH | VIEW 1
NOT TO SCALE

SUBJECT TO FINAL ENGINEERING

REVISIONS

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SCALE:

DOCUMENT PREPARED FOR:
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6865 DEERPATH ROAD, SUITE 330
ELKRIDGE, MD 21075
410-779-9377

LANDSCAPE PLAN
FOR
VAL025 Solar Energy System
8699 OLD STAGE HWY, SMITHFIELD
HARDY MAGISTERIAL DISTRICT, ISLE OF WIGHT CO., VA

DRAWING TITLE
VIEWSHED ANALYSIS
- VIEW 1 -

DATE	JULY 14, 2023
JOB NO.	2200574.01
FILE NAME	LD-LA-VA
DRAWN BY	TKM
CHECKED BY	JTP
SHEET NO	VA-1

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KEY MAP
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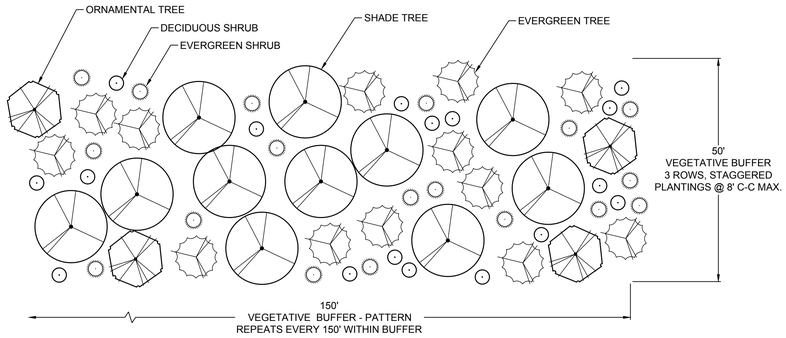

PROPOSED LANDSCAPE BUFFER | VIEW 2
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EXISTING CONDITIONS | VIEW 2
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PROPOSED LANDSCAPE BUFFER | ESTIMATED TIME OF PLANTING | VIEW 2
NOT TO SCALE

PROPOSED LANDSCAPE BUFFER | ESTIMATED 5 GROWTH | VIEW 2
NOT TO SCALE

PROPOSED LANDSCAPE BUFFER | ESTIMATED 10 YEAR GROWTH | VIEW 2
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DRAWING TITLE
VIEWSHED ANALYSIS
- VIEW 2 -

DATE	JULY 14, 2023
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FILE NAME	LD-LA-VA
DRAWN BY	TKM
CHECKED BY	JTP
SHEET NO	VA-2

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EASTERN RED CEDAR

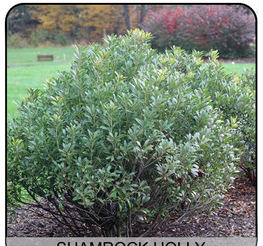
GREEN GIANT ARBORVITAE

FLOWERING DOGWOOD

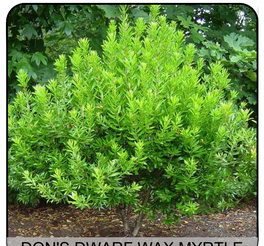
RED SUNSET RED MAPLE

WINTERBERRY HOLLY

RED TWIG DOGWOOD



SHAMROCK HOLLY



DON'S DWARF WAX MYRTLE

PLANT PALETTE

DECIDUOUS TREES

QUERCUS PALUSTRIS (PIN OAK)
HEIGHT: 50-70 FT
SPREAD: 40-60 FT
GROWTH RATE: +1-2 FT/YEAR

ACER RUBRUM ' RED SUNSET'
HEIGHT: 40-50 FT
SPREAD: 30-40 FT
GROWTH RATE: + 2 FT/YEAR

EVERGREEN TREES

JUNIPERUS VIRGINIANA (EASTERN RED CEDAR)
HEIGHT: 30-65 FT
SPREAD: 8-25 FT
GROWTH RATE: + 1-2 FT/YEAR

THUJA PLICATA ' GREEN GIANT"
HEIGHT: 40-60 FT
SPREAD: 12-15 FT
GROWTH RATE: + 2-3 FT/YEAR

ORNAMENTAL TREES

CORNUS FLORIDA (FLOWERING DOGWOOD)
HEIGHT: 15-30 FT
SPREAD: 15-30 FT
GROWTH RATE: + 1-2 FT/YEAR

CRATAEGUS VIRIDIS ' WINTER KING'
HEIGHT: 25-35 FT
SPREAD: 25-35 FT
GROWTH RATE: + 1-2 FT/YEAR

EVERGREEN SHRUBS

MYRICA CERIFERA ' DONS DWARF'
HEIGHT: 3-4 FT
SPREAD: 4-6 FT

ILEX GLABRA ' SHAMROCK'
HEIGHT: 3-4 FT
SPREAD: 3-4 FT

DECIDUOUS SHRUBS

CORNUS STOLONIFERA ' ARTIC FIRE'
HEIGHT: 3-5 FT
SPREAD: 3-5 FT
ILEX VERTICILLATA ' NANA'
HEIGHT: 3-12 FT
SPREAD: 3-12 FT

NOTE: TREES SHALL BE INSTALLED AT 6' - 8' HEIGHT MINIMUM. SHRUBS SHALL BE INSTALLED AT 24-30" HEIGHT MINIMUM. THE PROPOSED VEGETATION DEPICTED IN THIS EXHIBIT ARE FOR CONCEPT PURPOSES ONLY. FINAL PLANT SPECIES WILL BE DETERMINED WITH FINAL DESIGN.

PIN OAK

WINTER KING HAWTHORNE

SUBJECT TO FINAL ENGINEERING

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SHEET NO	VA-3

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WETLAND AND WATERCOURSE DELINEATION REPORT

VAL025

2200547.01

ISLE OF WIGHT COUNTY, VIRGINIA

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November 18, 2022

Revised: October 03, 2023

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1.0 EXECUTIVE SUMMARY

This report presents the findings of a wetland and watercourse delineation study conducted by Dawood Engineering, Inc. (Dawood) for the VAL025 Project ("Project"). The project area of investigation (AOI) consists of approximately 56.9-acres in Isle of Wight County, Virginia (Figure 1).

One palustrine emergent (PEM) wetland and one ephemeral watercourse were delineated for the proposed Project.

The AOI is comprised primarily of active agricultural fields and forest. At the time of the investigation, all fields were planted in cotton.

2.0 METHODOLOGY

Dawood reviewed the AOI for potential jurisdictional waters including wetlands and watercourses (ephemeral, intermittent, and perennial). The methodology for conducting the wetland and watercourse delineation work is presented below.

2.1 Methodology for Delineating Wetlands

The wetland delineation was based on Dawood's professional judgment and interpretation of the technical criteria presented in the *Corps of Engineers Wetlands Delineation Manual, Environmental Laboratory, 1987* (Manual) and the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*. The routine onsite determination method described in the Manual supplemented by the *National Wetland Plant List* (2020) and U.S. Department of Agriculture (USDA) Natural Resources Conservation Service's *Soil Survey Geographic Database* (SSURGO) for Isle of Wight County, Virginia map and metadata were utilized to determine site characteristics and determine if wetlands were present on the site. Dawood completed the following scope of services to identify and delineate jurisdictional wetland boundaries at the site:

1. Office Data Review: Dawood personnel reviewed the U.S. Geological Survey (USGS) topographic mapping (Figure 1), U.S. Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) Map (Figure 2), USDA's SSURGO map (Figure 3), existing aerial photography, and the hydric soils list from the SSURGO's metadata file. These resources were used to identify potential wetland areas prior to conducting the fieldwork. Other potential jurisdictional water bodies located within the project area, such as watercourses and ponds, are also identified from these resources.

2. Site Reconnaissance: Dawood conducted the initial site reconnaissance on October 20, 2022, and performed a follow-up investigation for an expansion of the AOI on October 01, 2023. Dawood performed the investigation using the routine onsite determination method (Environmental Laboratory 1987). First, plant communities present on the site were identified. The dominant plant species within each community were identified and a determination was made on whether hydrophytic (wetland) plants dominated the plant community. Next, a representative test site was located within the plant community and soils were sampled using a manual soil auger to determine if hydric soil indicators were present. Lastly, the test site was inspected to determine if indicators of wetland hydrology (inundation, soil saturation, etc.) were present. When a test site was determined to be within a wetland, further testing was performed to locate the wetland/non-wetland boundary and a second test was typically established

outside of the wetland boundary to document non-wetland conditions. Completed wetland determination data forms are provided in Appendix A. Representative photographs of the AOI were taken and are in Appendix B.

2.2 Methodology for Delineating Watercourses

Dawood reviewed the site for watercourses that would likely be considered jurisdictional by state and or federal regulatory agencies. A weight-of-evidence approach for identifying watercourses is used to evaluate multiple lines of evidence concerning physical and biological indicators of watercourse hydrology. Dawood uses field indicators such as flow, substrate composition, embeddedness, presence/absence of defined bed and banks, origin of hydrologic source, presence/absence of vegetation in the watercourse channel, and composition and relative abundances of resident benthic macroinvertebrates to classify on-site watercourse segments into three watercourse types: ephemeral, intermittent, or perennial. A description of each watercourse type is provided below.

- Ephemeral Watercourse – Watercourse reaches lacking flow or benthic macroinvertebrate communities. Ephemeral watercourses typically flow in direct response to precipitation events and/or snow melt.
- Intermittent Watercourse – Watercourse reaches containing seasonal flows and possibly containing a benthic macroinvertebrate community comprised of taxa with short aquatic life stages (e.g., midges, blackfly larvae).
- Perennial Watercourse – Watercourse reaches containing year-round flow dominated by a diverse benthic macroinvertebrate community and containing permanently aquatic taxa or those with long aquatic life stages (e.g., freshwater mussels, dobsonflies, mayflies, spring salamanders, and stoneflies).

The uppermost limit of a perennial watercourse is determined at the point where there is a shift in the benthic macroinvertebrate community, from one with a predominance of long-lived taxa to one dominated by short-lived taxa. The uppermost limit of an intermittent watercourse is determined at the point where there is a loss of flow and/or benthic macroinvertebrate communities. At this point, the break between intermittent and ephemeral is identified. The uppermost limit of an ephemeral watercourse is determined at the point where the watercourse loses its defined bed and bank, or ordinary high-water mark (OHWM) and a predominance of upland vegetation is observed within the channel.

The limit of each watercourse segment, if present, is marked in the field with surveyor's ribbon flags and subsequently georeferenced using a handheld GPS unit with sub-centimeter accuracy capability.

3.0 FINDINGS

3.1 National Wetlands Inventory Maps

The USFWS NWI map has been prepared based on high altitude infrared aerial photography and limited ground truthing. Wetlands and deepwater habitats are identified on these maps and classified according to the system developed by Cowardin and et. al. (1979).

One NWI resource (PEM1/SS1C) was identified along the eastern limit of the AOI on the Bacons Castle, VA quadrangle NWI map (see Figure 2). Ground truthing was performed in this area during the field investigation and the area was determined to be non-wetland.

3.2 Site Soils

A review of the SSURGO map and database for Isle of Wight County, Virginia (USDA 2022) identifies seven soil mapping units within the project area of investigation. The soil mapping units identified are shown in Figure 3 and summarized in Table 1.

TABLE 1. SUMMARY OF ONSITE SOILS

Map Unit Symbol	Map Unit Name	Drainage Class	Hydric Soil Classification
5A	Emporia fine sandy loam, 0 to 2 percent slopes	Well drained	Hydric
11E	Nevarc and Remlik soils, 15 to 35 percent slopes	Moderately well drained	Hydric
14B	Peawick-Slagle complex, 2 to 6 percent slopes	Moderately well drained	Hydric
18A	Slagle fine sandy loam, 0 to 2 percent slopes	Moderately well drained	Hydric
18B	Slagle fine sandy loam, 2 to 6 percent slopes	Moderately well drained	Hydric
19A	Uchee loamy sand, 0 to 2 percent slopes	Well drained	Hydric
19B	Uchee loamy sand, 2 to 6 percent slopes	Well drained	Hydric

USDA [Survey Area Version: 19 Survey Area Version Date: 09/05/2023]

The following paragraphs provide a short description of the soil series found at the site:

The Emporia series consists of very deep, well drained, and moderately slow to slow permeability soils commonly found in upland areas of the Coastal Plain. Soils of this series are formed in marine sediments. Slopes range from 0 to 50 percent. Depth to bedrock is greater than 72 inches.

The Nevarc series consists of very deep, moderately well drained, and slow permeability soils commonly found int marine terraces of the Coastal Plain. Soils of this series are formed in marine deposits. Slopes range from 2 to 55 percent. Depth to bedrock is greater than 72 inches.

Soils of the Peawick series are very deep and moderately well drained with very slow permeability. They formed in clayey fluvial sediments on stream terraces of the Coastal Plain and Peidmont. Slopes range from 0 to 15 percent. Depth to bedrock is greater than 72 inches.

The Remlik series consists of very deep, well drained soils that formed in loamy and sandy sediments on Coastal Plain side slopes. Permeability is moderate or moderately rapid. Slopes range from 2 to 65 percent. Depth to bedrock is greater than 60 inches.

The Slagle series consists of very deep, moderately well drained soils formed in marine deposits. Slopes range from 0 to 25 percent. Permeability is moderately slow to slow. Depth to bedrock is greater than 72 inches

The Uchee series consists of very deep, well drained, moderately slowly permeable soils that formed in sandy and loamy marine sediments. They are on smooth ridgetops and dissected side slopes of the Coastal Plain. Slopes range from 0 to 25 percent.

3.3 Site Plant Communities

Dominant plant species within extant plant communities were identified and the U.S. Army Corps of Engineers (USACE) wetland plant indicator status was determined according to the *National Wetland Plant List* (2020). The USACE has established five wetland plant indicator categories, defined as follows:

(1) Obligate Wetland (OBL) – Almost always occur in wetlands; rarely in non-wetlands;
(2) Facultative Wetland (FACW) – Usually occur in wetlands, but occasionally occur in non-wetlands;
(3) Facultative (FAC) – Commonly occur in wetlands and non-wetlands;
(4) Facultative Upland (FACU) – Usually occur in non-wetlands, but occasionally occur in wetlands; and
(5) Upland (UPL) – Almost always occur in non-wetlands, rarely in wetlands.

The USACE considers plants classified as OBL, FACW or FAC to be wetland plants (or hydrophytes). The plant communities present on the site are composed of agricultural fields, grassland, and forest.

The dominant plant species observed in the area of investigation and their indicator statuses are recorded on individual data forms presented in Appendix A.

Representative photographs of watercourses, wetlands, and habitat within the project area of investigation are provided in Appendix B.

3.4 Site Hydrology

Site elevations in the project area range from approximately 45 to 75 feet above mean sea level. Surface water on the site is conveyed to Lawson Creek, which carries surface water to Pagan River.

3.5 Delineated Wetlands

One wetland was identified within the area of investigation for the proposed Project. The size, cover-type, based on the Cowardin classification system, and corresponding test sites and photograph numbers are provided below in Table 2. A wetland determination data form is provided in Appendix A and resource photographs are provided in Appendix B. Wetland W01 is classified as non-tidal.

TABLE 2. SUMMARY OF WETLANDS

Wetland Name	Sample Point	Total Delineated Wetland Acreage[1]	Wetland Classification[2]	Tidal/Non-tidal	Isolated?	Associated Photograph Number(s)
W01	W01-SPW	0.46	PEM	Non-tidal	Yes	3, 4

[1] Total Wetland Acreage within AOI

[2]Cowardin 1979

3.6 Delineated Watercourses

Dawood identified one watercourse within the area of investigation that may be considered "jurisdictional" by applicable regulatory agencies. Watercourse name, classification, and delineated length are provided in Table 3 below. Resource photographs are included in Appendix B.

TABLE 3. SUMMARY OF WATERCOURSES

Watercourse Name	Waters Classification	Delineated Watercourse Length (feet)[1]	Associated Photograph Number(s)
R01	Ephemeral	258	1, 2

[1] Total length of Watercourse within AOI

3.7 Other Delineated Waters

No other potentially jurisdictional waters were identified during the site reconnaissance.

4.0 CONCLUSIONS

One PEM wetland and one ephemeral watercourse were identified and delineated for the proposed VAL025 project. No other potentially jurisdictional waters were delineated within the Project's area of investigation. Dawood ecologists flagged and subsequently georeferenced the wetland boundary using a GPS unit with sub-meter accuracy capability. The boundaries of all potential jurisdictional waters are shown on Figure 4. Wetland W01 is considered significantly disturbed due to its location within an agricultural field; however, hydrology, hydrophytic vegetation, and hydric soil indicators were all observed and used to delineate the wetland boundary. Detailed site conditions have been documented in wetland determination data forms included as Appendix A.

5.0 REGULATORY CONSIDERATIONS

5.1 Meetings with Regulatory Agencies

To date, there have been no meetings between Dawood, VMRC, DEQ, or USACE regarding potentially jurisdictional waters identified within the project area of investigation.

5.2 Regulatory Discussion

The USACE and Virginia DEQ regulate discharges of fill and obstructions/encroachments within or across jurisdictional wetlands and watercourses. Discharges of dredged or fill material into waters of the United States, including non-isolated wetlands, require permits from the USACE under the provisions of Section 404 of the Clean Water Act (CWA).

Excavation, filling, dumping, permanent flooding or impounding of wetlands; or activities that may cause draining, that significantly alter or degrade existing wetland acreage or functions are prohibited without a Virginia Water Protection Permit.

To determine if a wetland is classified as an isolated wetland and therefore not regulated under Section 404 of the CWA or Section 10 of the rivers and Harbors Act, an Approved JD must be obtained from the Corps. A Jurisdictional Determination (JD) is a two-step process of 1) identifying and locating aquatic resources (including wetlands) on a property, and 2) determining whether those identified resources are regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act. Regarding wetlands, the JD process determines if a wetland is located adjacent to a traditionally navigable water (TNW) or a relatively permanent water (RPW) that is a tributary to a TNW. If such a connection exists, then USACE will assert jurisdiction over such a wetland. If a wetland is located adjacent to, but not abutting, a RPW or TNW, then the JD process will determine if a significant nexus exists between a wetland and a TNW. If such a nexus exists, then the wetland is regulated by USACE. If the Corps determines that no such nexus exists, then the identified wetland is considered an isolated wetland and is not regulated under Section 404 of the CWA or Section 10 of the Rivers and Harbors Act, presuming that the use, degradation, or destruction of the wetland could not affect interstate commerce.

6.0 DISCLAIMER

Dawood's wetlands and watercourse delineation services were conducted in a manner consistent with the criteria contained in the Manual and the 2012 Supplement and with the level of care and skill ordinarily exercised by members of the environmental consulting profession practicing contemporaneously under similar conditions in the locality of the project. It must be recognized that the delineation was based on field observations and Dawood's professional interpretation of the criteria in the Manual and Regional Supplement at the time of the fieldwork. Wetland determinations may change subsequent to Dawood's delineation based on changes in the regulatory criteria, seasonal variations in hydrology, alterations to drainage patterns and other human activities and/or land disturbances.

7.0 REFERENCES

Cowardin, L. M., V. Carter, and F. C. Golet. 1979. *Classification of Wetlands and Deep Water Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service. Washington D. C. FWS/OBS-79/31.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual,* Technical Report Y-87-1, U.S. Army Engineer Waterway Experiment Station, Vicksburg, Mississippi.

Natural Resources Conservation Service, United States Department of Agriculture, Soil Survey Geographic (SSURGO) Database for Isle of Wight County, Virginia. Survey Area Version: 19; Survey Area Version Date: 09/05/2023.

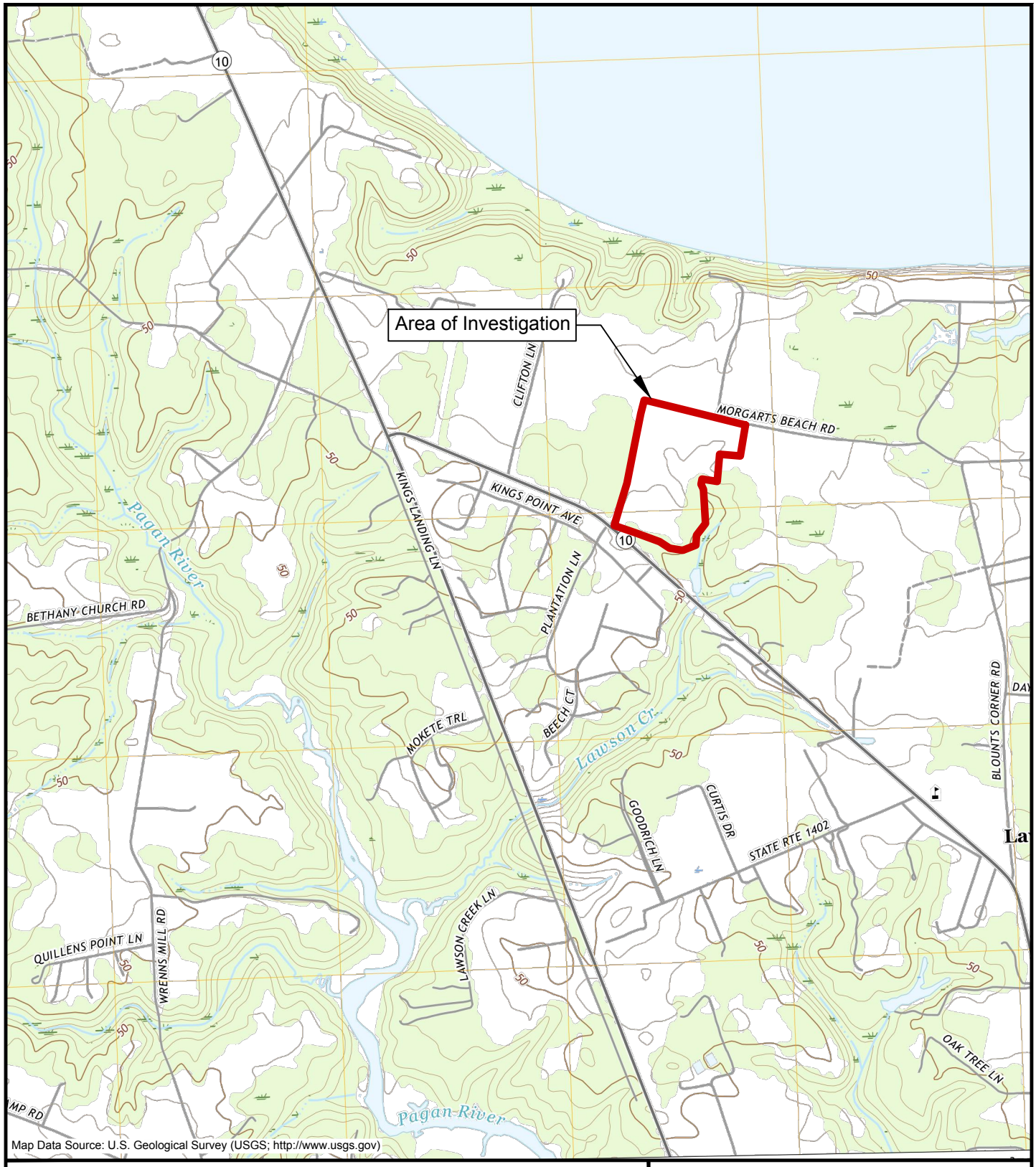
Title 9, Code of Virginia, Agency 25 State Water Control Board, *Chapter 260 Water Quality Standards*.

Title 33, Code of Federal Regulations, Section 404. *Clean Water Act.*

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0, ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers 2020. National Wetland Plant List, version 3.5 https://nam11.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwetland-plants.usace.army.mil%2F&data=02%7C01%7Cjyealy%40dawood.cc%7C483257dd51d24ffe801a08d81d23a087%7C38930086194e44da953df5a40ceb6a67%7C0%7C1%7C637291386156387875&sdata=JhZs8n2u95%2BIYXBm4ieGe3vNQH0pSrMcZMbjTfJx8xA%3D&reserved=0. U.S. Army Corps of Engineers. Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover, NH.

FIGURES



DOCUMENT PREPARED BY:

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4250 Crums Mill Road
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TITLE:	----: 220054701-EN-FL-WL01 - LAYOUT1		
PROJECT NAME:	VAL025		
LOCATION:	ISLE OF WIGHT COUNTY, VIRGINIA		
MAP REFERENCE:	USGS QUADRANGLE: BACONS CASTLE, VA		
PROJECT NUMBER:	2200547.01		
DRAWN BY:	JWY	APPROVED BY:	KRR

N

2000 0 2000

SCALE: 1" = 2000'

O:\2022\JOBS\2200547-01\EN\DRAWINGS\220054701-EN-FL-WL01
October 3, 2023 2:21 PM

Aerial Photography Source: Virginia Geographic Information Network (VGIN; http://vgin.vdem.virginia.gov)
NWI Data Source: USFWS, US Fish & Wildlife Service (http://fws.gov/wetlands)

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PROJECT NUMBER:	2200547.01
DRAWN BY:	JWY
APPROVED BY:	KRR

N

400 0 400

SCALE: 1" = 400'

O:\2022JOBS\2200547-01\EN\DRAWINGS\220054701-EN-FL-WN01
October/3/2023 2:21 PM

Aerial Photography Source: Virginia Geographic Information Network (VGIN; http://vgin.vdem.virginia.gov)
Soil Survey Data Source: NRCS, USDA Soil Survey for Isle of Wight County, Virginia (http://soildatamart.nrcs.usda.gov/)

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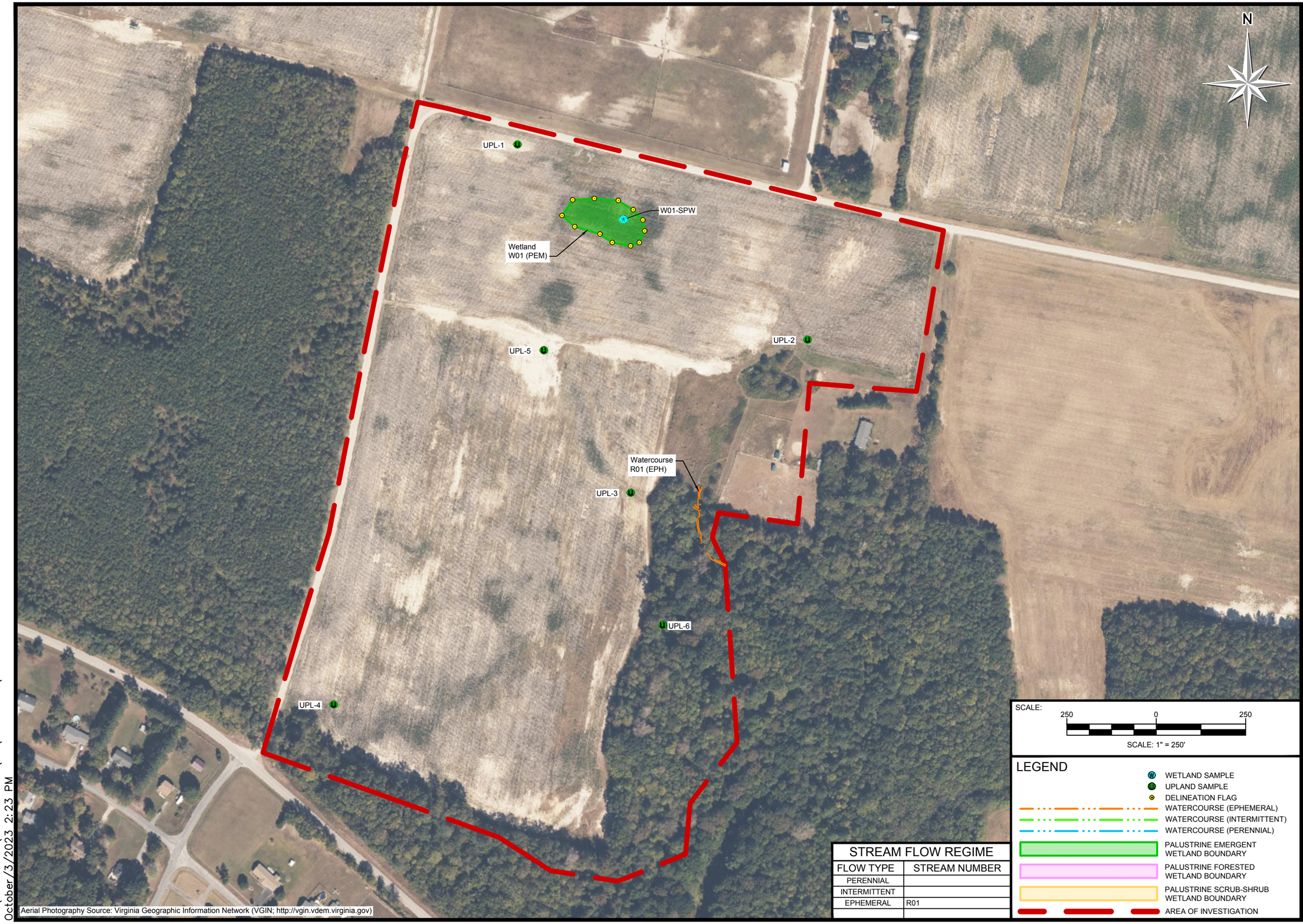
TITLE:	----: 220054701-EN-FL-WS01 - LAYOUT1		
PROJECT NAME:	VAL025		
LOCATION:	ISLE OF WIGHT COUNTY, VIRGINIA		
MAP REFERENCE:	USGS QUADRANGLE: BACONS CASTLE, VA		
PROJECT NUMBER:	2200547.01		
DRAWN BY:	JWY	APPROVED BY:	KRR

N

400 0 400

SCALE: 1" = 400'

O:\2022\OBS\2200547-01\EN\DRAWNGS\220054701-EN-FL-WS01
October 3, 2023 2:22 PM



STREAM FLOW REGIME	
FLOW TYPE	STREAM NUMBER
PERENNIAL	
INTERMITTENT	
EPHEMERAL	R01

SCALE:

250 0 250

SCALE: 1" = 250'

LEGEND

- WETLAND SAMPLE
- UPLAND SAMPLE
- DELINEATION FLAG
- WATERCOURSE (EPHEMERAL)
- WATERCOURSE (INTERMITTENT)
- WATERCOURSE (PERENNIAL)
- PALUSTRINE EMERGENT WETLAND BOUNDARY
- PALUSTRINE FORESTED WETLAND BOUNDARY
- PALUSTRINE SCRUB-SHRUB WETLAND BOUNDARY
- AREA OF INVESTIGATION

REVISIONS

NO.	DATE	DESCRIPTION

DOCUMENT PREPARED FOR:

DOCUMENT PREPARED BY:

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FIGURE 4:

WETLAND AND WATERCOURSE DELINEATION MAP

DATE	OCTOBER 03, 2023
JOB NO.	2200547.01
FILE NAME	EN-FL-WD01
DRAWN BY	JWY
CHECKED BY	KRR

PROJECT NAME

VAL025

O:\2022JOBS\2200547-01\EN\DRAWINGS\2200547.01-EN-FL-WD01
October 3, 2023 2:23 PM

APPENDIX A

DATA SHEETS

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: VAL025 City/County: Isle of Wight County Sampling Date: 10/20/2022

Applicant/Owner: Pivot Energy State: VA Sampling Point: UPL-1

Investigator(s): K. Rucker & J. Yealy Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale/lowland Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR T Lat: 37.029863 Long: 37.029863 Datum: NAD83

Soil Map Unit Name: Slagle fine sandy loam, 0 to 2 percent slopes (18A) NWI classification: UPL

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

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

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

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

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

Remarks:
The sample plot is located within an active agricultural field; therefore, vegetation is considered significantly disturbed.

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 ✓

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

Remarks:
No primary hydrology indicators were observed.

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

Sampling Point: UPL-1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5')			
1. Gossypium hirsutum	20	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20.0 = Total Cover		
50% of total cover: 10.0	20% of total cover: 4.0		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	20 (A)		80 (B)

Prevalence Index = B/A = 4.00

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No ✔

Remarks: (If observed, list morphological adaptations below). A dominant hydrophytic vegetative community was not observed

SOIL

Sampling Point: UPL-1

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
0-20	10YR 6/3	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** _____ **No** ✔

Remarks: No hydric soil indicators were observed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: VAL025 City/County: Isle of Wight County Sampling Date: 10/20/2022

Applicant/Owner: Pivot Energy State: VA Sampling Point: UPL-2

Investigator(s): K. Rucker & J. Yealy Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR T Lat: 37.028389 Long: -76.644147 Datum: NAD83

Soil Map Unit Name: Peawick-Slagle complex, 2 to 6 percent slopes (14B) NWI classification: UPL

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

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

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

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

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

Remarks:
The sample plot is located within an active agricultural field; therefore, vegetation is considered significantly disturbed. The sample plot was documented due to evidence of lack of growth of cotton individuals.

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 ✓

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

Remarks:
No primary hydrology indicators were observed.

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

Sampling Point: UPL-2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5')			
1. Gossypium hirsutum	30	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30.0 = Total Cover		
50% of total cover: 15.0	20% of total cover: 6.0		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	30 (A)		120 (B)

Prevalence Index = B/A = 4.00

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No ✔

Remarks: (If observed, list morphological adaptations below). A dominant hydrophytic vegetative community was not observed. Cotton was observed not growing within portions of the sample plot. Due to a lack of hydrology and hydric soil indicators, the sample plot area was not considered naturally problematic in qualifying for the presence of hydrophytic vegetation.

SOIL

Sampling Point: UPL-2

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 5/3	100					Sand	
2-20	10YR 5/6	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** _____ **No** ✔

Remarks: No hydric soil indicators were observed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: VAL025 City/County: Isle of Wight County Sampling Date: 10/20/2022

Applicant/Owner: Pivot Energy State: VA Sampling Point: UPL-3

Investigator(s): K. Rucker & J. Yealy Section, Township, Range: _____

Landform (hillslope, terrace, etc.): swale/lowland Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR T Lat: 37.027170 Long: -76.645861 Datum: NAD83

Soil Map Unit Name: Peawick-Slagle complex, 2 to 6 percent slopes (14B) NWI classification: UPL

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

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

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

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

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

Remarks:
The sample plot is located within an active agricultural field; therefore, vegetation is considered significantly disturbed.

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 ✓

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

Remarks:
No primary hydrology indicators were observed.

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

Sampling Point: UPL-3

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5')			
1. Gossypium hirsutum	30	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30.0 = Total Cover		
50% of total cover: 15.0	20% of total cover: 6.0		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	30 (A)		120 (B)

Prevalence Index = B/A = 4.00

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No ✔

Remarks: (If observed, list morphological adaptations below). A dominant hydrophytic vegetative community was not observed

SOIL

Sampling Point: UPL-3

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
0-12	10YR 4/3	100					Loamy Sand	
12-20	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** _____ **No** ✔

Remarks: No hydric soil indicators were observed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: VAL025 City/County: Isle of Wight County Sampling Date: 10/20/2022

Applicant/Owner: Pivot Energy State: VA Sampling Point: UPL-4

Investigator(s): K. Rucker & J. Yealy Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Undulating Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR T Lat: 37.025393 Long: -76.648930 Datum: NAD83

Soil Map Unit Name: Slagle fine sandy loam, 2 to 6 percent slopes (18B) NWI classification: UPL

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

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

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

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

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

Remarks:
The sample plot is located within an active agricultural field; therefore, vegetation is considered significantly disturbed.

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 ✓

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

Remarks:
No hydrology indicators were observed.

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

Sampling Point: UPL-4

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5')			
1. Gossypium hirsutum	40	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40.0 = Total Cover		
50% of total cover: 20.0	20% of total cover: 8.0		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

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: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	40 (A)		160 (B)

Prevalence Index = B/A = 4.00

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No ✔

Remarks: (If observed, list morphological adaptations below). A dominant hydrophytic vegetative community was not observed

SOIL

Sampling Point: UPL-4

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 5/4	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** _____ **No** ✔

Remarks: No hydric soil indicators were observed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: VAL025 City/County: Isle of Wight County Sampling Date: 10/20/2022

Applicant/Owner: Pivot Energy State: VA Sampling Point: UPL-5

Investigator(s): K. Rucker & J. Yealy Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): Level Slope (%): 1

Subregion (LRR or MLRA): LRR T Lat: 37.028277 Long: -76.646666 Datum: NAD83

Soil Map Unit Name: Uchee loamy sand, 0 to 2 percent slopes (19A) NWI classification: UPL

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

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

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

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

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

Remarks:
The sample plot is located within an active agricultural field; therefore, vegetation is considered significantly disturbed.

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 ✓

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

Remarks:
No hydrology indicators were observed.

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

Sampling Point: UPL-5

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5')			
1. Gossypium hirsutum	20	Y	FACU
2. Digitaria sanguinalis	15	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35.0 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7.0		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

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: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	35 (A)		140 (B)

Prevalence Index = B/A = 4.00

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No ✔

Remarks: (If observed, list morphological adaptations below). A dominant hydrophytic vegetative community was not observed

SOIL

Sampling Point: UPL-5

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	100					Sand	
4-16	10YR 5/3	100					Sand	
16-24	2.5Y 6/3	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** _____ **No** ✔

Remarks: No hydric soil indicators were observed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: VAL025 City/County: Isle of Wight County Sampling Date: 10/02/2023

Applicant/Owner: Pivot Energy State: VA Sampling Point: UPL-6

Investigator(s): K. Rucker Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Hillside Local relief (concave, convex, none): Undulating Slope (%): 2

Subregion (LRR or MLRA): LRR T Lat: _____ Long: _____ Datum: NAD83

Soil Map Unit Name: Uchee loamy sand, 2 to 6 percent slopes (19B) NWI classification: UPL

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

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

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

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

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

Remarks:
The sample plot is located within a previously logged area (likely <3 years). Though woody vegetation was observed regrowing, vegetation is considered significantly disturbed.

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 ✓

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

Remarks:
No hydrology indicators were observed.

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

Sampling Point: UPL-6

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5')			
1. Eupatorium capillifolium	45	Y	FACU
2. Erigeron canadensis	20	Y	FACU
3. Phytolacca americana	15	N	FACU
4. Albizia lebbeck	15	N	UPL
5. Senecio hieracilfolius	15	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	110.0 = Total Cover		
50% of total cover: 55.0	20% of total cover: 22.0		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

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: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	15	x 3 =	45
FACU species	80	x 4 =	320
UPL species	15	x 5 =	75
Column Totals:	110 (A)		440 (B)

Prevalence Index = B/A = 4.00

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No ✔

Remarks: (If observed, list morphological adaptations below). A dominant hydrophytic vegetative community was not observed

SOIL

Sampling Point: UPL-6

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	7.5yr 3/2	100					Sand	
4-18	10YR 4/4	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** _____ **No** ✔

Remarks: No hydric soil indicators were observed.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: VAL025 City/County: Isle of Wight County Sampling Date: 10/20/2022

Applicant/Owner: Pivot Energy State: VA Sampling Point: W01-SPW

Investigator(s): K. Rucker & J. Yealy Section, Township, Range: _____

Landform (hillslope, terrace, etc.): Lowland Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR T Lat: 37.029272 Long: -76.645878 Datum: NAD83

Soil Map Unit Name: Slagle fine sandy loam, 0 to 2 percent slopes (18A) NWI classification: UPL

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

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

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

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

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

Remarks:
The sample plot is located within an active agricultural field; therefore, vegetation is considered significantly disturbed.

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 _____

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

Remarks:

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

Sampling Point: W01-SPW

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5')			
1. Cyperus odoratus	50	Y	FACW
2. Rorippa sylvestris	15	Y	OBL
3. Cyperus iria	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70.0 = Total Cover		
50% of total cover: 35.0	20% of total cover: 14.0		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
5.			
	0.0 = Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

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: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	55	x 2 =	110
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		125 (B)

Prevalence Index = B/A = 1.79

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 Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ✔ No

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

SOIL

Sampling Point: W01-SPW

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 5/2	97	2.5YR 5/8	3	C	PL	Loam	
3-18	10YR 5/2	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: _____

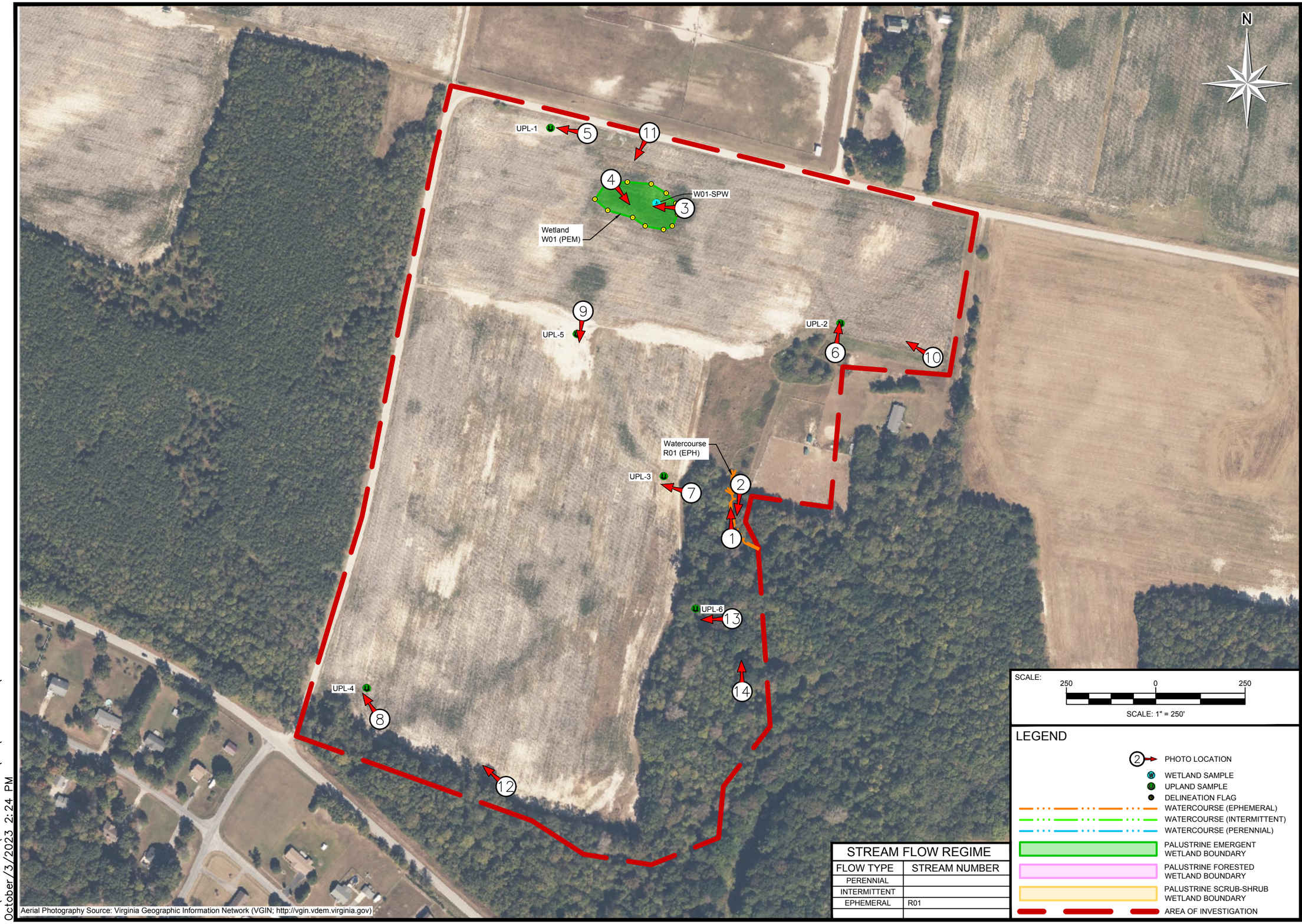
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** ___

Remarks:

APPENDIX B

SITE PHOTOGRAPHS



STREAM FLOW REGIME	
FLOW TYPE	STREAM NUMBER
PERENNIAL	
INTERMITTENT	
EPHEMERAL	R01

SCALE:

250 0 250

SCALE: 1" = 250'

LEGEND

- PHOTO LOCATION
- WETLAND SAMPLE
- UPLAND SAMPLE
- DELINEATION FLAG
- WATERCOURSE (EPHEMERAL)
- WATERCOURSE (INTERMITTENT)
- WATERCOURSE (PERENNIAL)
- PALUSTRINE EMERGENT WETLAND BOUNDARY
- PALUSTRINE FORESTED WETLAND BOUNDARY
- PALUSTRINE SCRUB-SHRUB WETLAND BOUNDARY
- AREA OF INVESTIGATION

REVISIONS

NO.	DATE	DESCRIPTION

DOCUMENT PREPARED FOR:

DOCUMENT PREPARED BY:

DAWOOD
4250 Crums Mill Road
Suite 301
Harrisburg, PA 17112
t: 855.432.9663
f: 717.732.8596

DRAWING TITLE:

PHOTO LOCATION MAP

DATE	OCTOBER 03, 2023
JOB NO.	2200547.01
FILE NAME	EN-FL-WP01
DRAWN BY	JWY
CHECKED BY	KRR

PROJECT NAME

VAL025

O:\2022JOBS\2200547-01\EN\DRAWINGS\220054701-EN-FL-WP01
October 3, 2023 2:24 PM

1. VIEW OF WATERCOURSE R01 LOOKING UPSTREAM

2. VIEW OF WATERCOURSE R01 LOOKING DOWNSTREAM

DAWOOD
ENGINEERS • PLANNERS • SURVEYORS

Job Nos. 2200547.01

SITE PHOTOGRAPHS
VAL025
ISLE OF WIGHT COUNTY, VIRGINIA

3. VIEW OF WETLAND W01 LOOKING WEST

4. VIEW OF WETLAND W01 LOOKING SOUTHEAST

DAWOOD
ENGINEERS • PLANNERS • SURVEYORS

Job Nos. 2200547.01

SITE PHOTOGRAPHS
VAL025
ISLE OF WIGHT COUNTY, VIRGINIA

5. VIEW OF UPL-1 LOOKING WEST

6. VIEW OF UPL-2 LOOKING NORTH

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Job Nos. 2200547.01

SITE PHOTOGRAPHS
VAL025
ISLE OF WIGHT COUNTY, VIRGINIA

7. VIEW OF UPL-3 LOOKING WEST

8. VIEW OF UPL-4 LOOKING NORTHWEST

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Job Nos. 2200547.01

SITE PHOTOGRAPHS
VAL025
ISLE OF WIGHT COUNTY, VIRGINIA

9. VIEW OF UPL-5 LOOKING SOUTH

10. GENERAL VIEW OF AOI

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SITE PHOTOGRAPHS
VAL025
ISLE OF WIGHT COUNTY, VIRGINIA

11. GENERAL VIEW OF AOI

12. GENERAL VIEW OF AOI

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Job Nos. 2200547.01

SITE PHOTOGRAPHS
VAL025
ISLE OF WIGHT COUNTY, VIRGINIA

13. VIEW OF UPL-6 LOOKING WEST

14. GENERAL VIEW OF FORMER WOODED AREA LOOKING NORTH

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Job Nos. 2200547.01

SITE PHOTOGRAPHS
VAL025
ISLE OF WIGHT COUNTY, VIRGINIA

VAL025: THREATENED AND ENDANGERED SPECIES ASSESSMENT

Isle of Wight County, Virginia

Prepared by:

DAWOOD
ENGINEERS ▸ PLANNERS ▸ SURVEYORS

4250 Crums Mill Road, Suite 301
Harrisburg, PA 17112

Prepared For:

Elk Development, LLC
6865 Deerpath Road, Suite 330
Elkridge, MD 21075

Summary

Dawood has performed desktop surveys, reviewed publicly available maps and information, and coordinated with state and federal agencies to determine if the proposed VAL025 Solar Facility Project has the potential to impact threatened or endangered species. A review for threatened and endangered species within or potentially impacted by the project area was coordinated with United States Fish and Wildlife Service (USFWS) via the IPaC system, with Virginia Department of Conservation and Recreation (DCR) via an Information Services Order Form, with Virginia Department of Wildlife Resources (DWR) via a VaFWIS system review and email coordination, and with the National Oceanic and Atmospheric Administration (NOAA) via email. No impacts to threatened and/or endangered species are proposed or anticipated as a result of the project. A summary of identified threatened and endangered species within the proposed project area and agency coordination is below.

USFWS

The USFWS species list generated by the IPaC system noted one endangered species (Northern Long-eared Bat) and one candidate species (Monarch Butterfly) potentially within the proposed project area. No response from the Service was received in the 30-day period determined by USFWS; therefore, the conclusions of the Consistency Letter are deemed appropriate.

Northern Long-eared Bat

A "may affect" determination was issued by USFWS for the Northern Long-eared Bat; however, the USFWS Consistency Letter states that any take that would occur is not prohibited under ESA Section 4(d). Neither tree-clearing or disturbance of caves is proposed by the project. Therefore, no take of this species is proposed nor anticipated as a result of the project. Additionally, a review of the NLEB Winter Habitat and Roost Trees mapper maintained by VA Department of Game and Inland Fisheries does not denote any hibernaculum or known maternity roost trees within or in proximity to the proposed project area.

Monarch Butterfly

The proposed project area is an actively managed agricultural field and lacks potential habitat (e.g., milkweed and flowering plants) for the species. Therefore, no impacts to this species are proposed or anticipated. Additionally, enhancement of the proposed project area with native pollinator plant species will improve the potential to support this species.

Migratory Birds

Migratory birds are not anticipated to be impacted by the proposed project. General measures and habitat protection will be implemented by the proposed project in accordance with USFWS Nationwide Standard Conservation Measures to reduce impacts to migratory bird species. Such measures include but are not limited to: no proposed tree-clearing, proper management of waste, limiting project impacts to already disturbed lands, implementing an Erosion and Sedimentation Control Plan, and restoration with native plant species.

Virginia Department of Wildlife Resources

A 2-mile radius search via the VaFWIS system was used to develop an Initial Project Assessment (IPA) Report. One confirmed federally listed endangered species, the Atlantic Sturgeon, and two Anadromous Fish Use Areas were confirmed to be within the 2-mile radius of the proposed project area. One Tier IIa species, the Barking Treefrog was also confirmed within the 2-mile radius. The IPA identified one Colonial Water Bird Colony within the 2-mile radius. One Bald Eagle nest and

two Bald Eagle Concentration Areas and Roosts were identified within the 2-mile radius. Coordination with Virginia DWR was performed to ensure no potential impacts to threatened and endangered species were anticipated as a result of the proposed project. The response email from DWR, dated March 17, 2023, indicates there are no anticipated adverse impacts to species under their jurisdiction from the proposed work.

Virginia Department of Conservation and Recreation

Consultation with the Virginia Department of Conservation and Recreation (DCR) was performed via their Information Services Order Form to determine if the proposed project had the potential to impact species under their jurisdiction. Per the DCR response letter, dated 03/10/2023, no impacts to species under their jurisdiction are anticipated as a result of the proposed project. DCR does recommend the development of an invasive species management plan for the project and planting of native species following construction activities. Such activities will be included for the proposed project to maximize benefits to native pollinators. The DCR response letter is included in Enclosure C.

NOAA

Project details were provided to NOAA via email. NOAA stated that although four species of sea turtles, shortnose sturgeon, and Atlantic sturgeon originating from five Distinct Population Segments (DPS) are known to occur in the Chesapeake Bay and its rivers and tributaries, direct and/or indirect impacts to these species are not anticipated. The email response from NOAA's Brian D Hopper is included as Enclosure D.

Coastal Avian Protection Zone (CAPZ)

The proposed VAL025 project is located within Coastal Avian Protection Zone 12. The Virginia DEQ's Solar Permit by Rule Guidance for CAPZ areas defines Zone 12 as:

> "Zone 12: Outer fringes of the lower, middle and northern peninsulas. In this zone, the relevant avian species and other avian mitigation factors are: T&E species (breeding Bald Eagles)."

As discussed above, coordination with the Virginia Department of Game and Inland Fisheries has determined that the proposed project is not anticipated to have the potential to impact Bald Eagles. Therefore, no impacts to protected species within Zone 12 are anticipated.

Enclosure A: USFWS - IPaC Species List & Consistency Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project code: 2023-0040990
Project Name: Pivot_VAL025

February 02, 2023

Subject: Consistency letter for the 'Pivot_VAL025' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Jacob Yealy:

The U.S. Fish and Wildlife Service (Service) received on February 02, 2023 your effects determination for the 'Pivot_VAL025' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Additionally, please note that on March 23, 2022, the Service published a proposal to reclassify the northern long-eared bat (NLEB) as endangered under the Endangered Species Act. The U.S. District Court for the District of Columbia has ordered the Service to complete a new final listing determination for the NLEB by November 2022 (Case 1:15-cv-00477, March 1, 2021). The bat, currently listed as threatened, faces extinction due to the range-wide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across the continent. The proposed reclassification, if finalized, would remove the current 4(d) rule for the NLEB, as these rules may be applied only to threatened species. Depending on the type of effects a project has on NLEB, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective (anticipated to occur by December 30, 2022). If your project may result in incidental take of NLEB after the new listing goes into effect this will

first need to be addressed in an updated consultation that includes an Incidental Take Statement. If your project may require re-initiation of consultation, please contact our office for additional guidance.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

The IPaC-assisted determination for the northern long-eared bat **does not** apply to the following ESA-protected species that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Pivot_VAL025

2. Description

The following description was provided for the project 'Pivot_VAL025':

> Construction of a solar photovoltaic energy system and associated site improvements including solar panels, equipment, cables, interconnection to the existing power lines, and access road.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.0266467,-76.64739632449405,14z

Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/media/nleb-roost-tree-and-hibernacula-state-specific-data-links-0.

   Yes

4. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

5. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type ‘0’ in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type ‘0’ in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type ‘0’ in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type ‘0’ in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

IPaC User Contact Information

Agency:	Dawood Engineering, Inc.
Name:	Jacob Yealy
Address:	4250 Crums Mill Road
Address Line 2:	Suite 301
City:	Harrisburg
State:	PA
Zip:	17112
Email	jacob.yealy@dawood.net
Phone:	7179651521

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
Phone: (804) 693-6694 Fax: (804) 693-9032

In Reply Refer To:
Project Code: 2023-0040990
Project Name: Pivot_VAL025

February 02, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Project Code in the header of this

letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Virginia Ecological Services Field Office
6669 Short Lane
Gloucester, VA 23061-4410
(804) 693-6694

Project Summary

Project Code: 2023-0040990
Project Name: Pivot_VAL025
Project Type: Power Gen - Solar
Project Description: Construction of a solar photovoltaic energy system and associated site improvements including solar panels, equipment, cables, interconnection to the existing power lines, and access road.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.0266467,-76.64739632449405,14z

Counties: Isle of Wight County, Virginia

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. 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.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

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 OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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 should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15

NAME	BREEDING SEASON
Blue-winged Warbler *Vermivora pinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
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
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
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
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 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
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere

NAME	BREEDING SEASON
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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 and understand the FAQ "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.

Breeding Season (■)

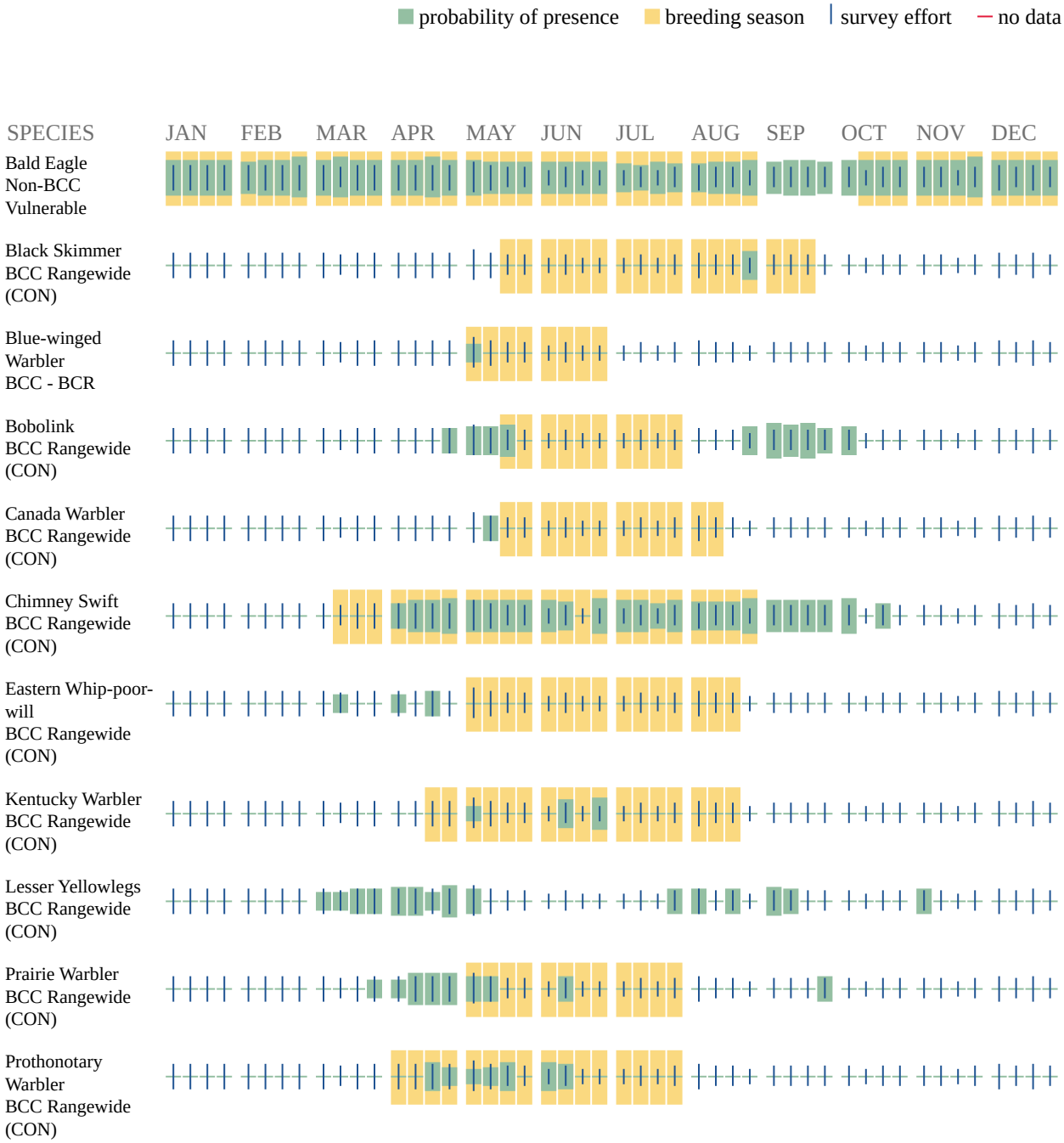
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

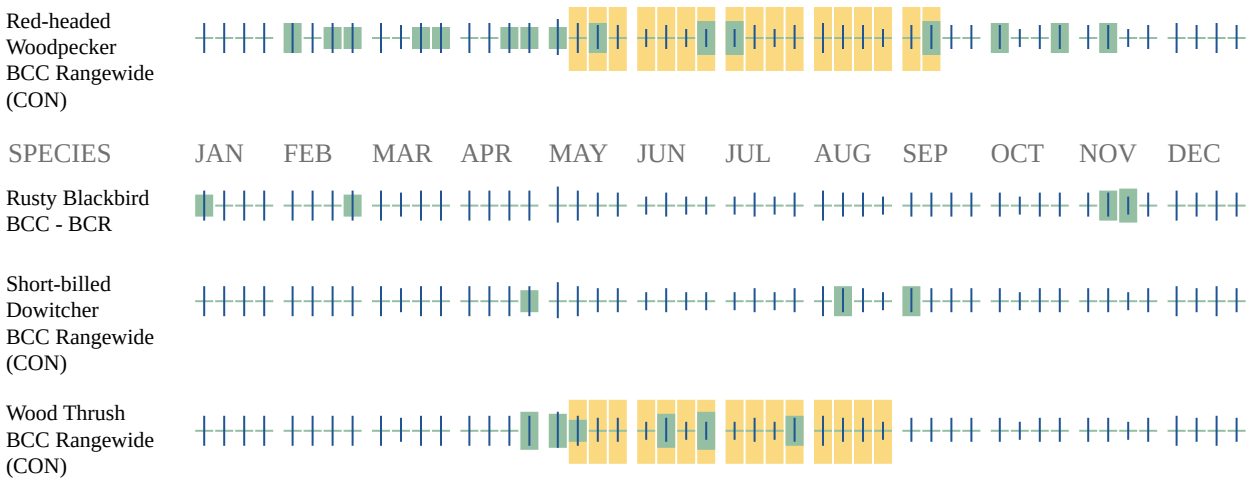
Survey Effort (|)

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.

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.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- 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

Migratory Birds FAQ

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.

IPaC User Contact Information

Agency:	Dawood Engineering, Inc.
Name:	Jacob Yealy
Address:	4250 Crums Mill Road
Address Line 2:	Suite 301
City:	Harrisburg
State:	PA
Zip:	17112
Email	jacob.yealy@dawood.net
Phone:	7179651521

Enclosure B: VaFWIS Initial Project Assessment, CCB Maps & VA DWR Response

VaFWIS Initial Project Assessment Report Compiled on 3/15/2023, 7:53:46 AM

Help

Known or likely to occur within a **2 mile radius around point 37.0268690 -76.6473158** in **093 Isle of Wight County, VA**

View Map of Site Location

480 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 30) (30 species with Status* or Tier I** or Tier II**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name	Confirmed	Database(s)
010032	FESE	Ib	Sturgeon, Atlantic	Acipenser oxyrinchus	Yes	BOVA,SppObs
030071	FTST	Ia	Turtle, loggerhead sea	Caretta caretta		BOVA
040144	FTST	Ia	Knot, red	Calidris canutus rufa		BOVA
040110	FTSE	Ia	Rail, eastern black	Laterallus jamaicensis jamaicensis		BOVA,Habitat
050022	FTST	Ia	Bat, northern long-eared	Myotis septentrionalis		BOVA
030064	SE	Ia	Turtle, eastern chicken	Deirochelys reticularia reticularia		BOVA
050020	SE	Ia	Bat, little brown	Myotis lucifugus		BOVA
050034	SE	Ia	Bat, Rafinesque's eastern big-eared	Corynorhinus rafinesquii macrotis		BOVA
050027	FPSE	Ia	Bat, tri-colored	Perimyotis subflavus		BOVA
020052	SE	IIa	Salamander, eastern tiger	Ambystoma tigrinum		BOVA
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus		Habitat
040096	ST	Ia	Falcon, peregrine	Falco peregrinus		BOVA
040293	ST	Ia	Shrike, loggerhead	Lanius ludovicianus		BOVA
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii		Habitat
020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei		BOVA,Habitat
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans		BOVA
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin		BOVA,Habitat
030063	CC	IIIa	Turtle, spotted	Clemmys guttata		BOVA
070131		Ic	Isopod, Phreatic	Caecidotea phreatica		BOVA
020063		IIa	Toad, oak	Anaxyrus quercicus		BOVA,Habitat
020002		IIa	Treefrog, barking	Hyla gratiosa	Yes	BOVA,SppObs
040052		IIa	Duck, American black	Anas rubripes		BOVA
040033		IIa	Egret, snowy	Egretta thula		BOVA
040029		IIa	Heron, little blue	Egretta caerulea caerulea		BOVA
040036		IIa	Night-heron, yellow-crowned	Nyctanassa violacea violacea		BOVA
040181		IIa	Tern, common	Sterna hirundo		BOVA
040320		IIa	Warbler, cerulean	Setophaga cerulea		BOVA
040140		IIa	Woodcock, American	Scolopax minor		BOVA
040105		IIb	Rail, king	Rallus elegans		BOVA
040304		IIc	Warbler, Swainson's	Limnothlypis swainsonii		BOVA

To view **All 480 species** View 480

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; CC=Collection Concern

**I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need
Virginia Widlife Action Plan Conservation Opportunity Ranking:
a - On the ground management strategies/actions exist and can be feasibly implemented.; b - On the ground actions or research needs have been identified but cannot feasibly be implemented at this time.; c - No on the ground actions or research needs have been identified or all identified conservation opportunities have been exhausted.

View Map of All Query Results from All Observation Tables

Bat Colonies or Hibernacula: **Not Known**

Anadromous Fish Use Streams (2 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C92	James River 1	Confirmed	6		IV	Yes
P127	Pagan river	Potential	0			Yes

Impediments to Fish Passage (1 records)

View Map of All Fish Impediments

ID	Name	River	View Map
396	WRENNS DAM	PAGAN RIVER	Yes

Colonial Water Bird Survey (1 records)

View Map of All Query Results Colonial Water Bird Survey

Colony_Name	N Obs	Latest Date	N Species			View Map
			Different Species	Highest TE*	Highest Tier**	
Warren Creek	1	Jun 1 1993	1			Yes

Displayed 1 Colonial Water Bird Survey

Threatened and Endangered Waters

N/A

Managed Trout Streams

N/A

Bald Eagle Concentration Areas and Roosts

are present. View Map of Bald Eagle Concentration Areas and Roosts

(2 records)

BECAR ID	Observation Year	Authority	Type	Comments	View Map
48	2006 - 2007	Center for Conservation Biology at the College of William and Mary/Virginia Commonwealth University	Summer Concentration Area	Eagle_use Low	Yes
51	2006 - 2007	Center for Conservation Biology at the College of William and Mary/Virginia Commonwealth University	Winter Concentration Area	Eagle_use Low	Yes

Bald Eagle Nests (1 records)

View Map of All Query Results
Bald Eagle Nests

Nest	N Obs	Latest Date	DGIF Nest Status	View Map
IW0702	4	Apr 23 2008	Unknown	Yes

Displayed 1 Bald Eagle Nests

Habitat Predicted for Aquatic WAP Tier I & II Species

N/A

Habitat Predicted for Terrestrial WAP Tier I & II Species (6 Species)

View Map of Combined Terrestrial Habitat Predicted for 6 WAP Tier I & II Species Listed Below

ordered by Status Concern for Conservation

BOVA Code	Status*	Tier**	Common Name	Scientific Name	View Map
040110	FTSE	Ia	Rail, eastern black	Laterallus jamaicensis jamaicensis	Yes
030013	SE	IIa	Rattlesnake, canebrake	Crotalus horridus	Yes
040379	ST	Ia	Sparrow, Henslow's	Centronyx henslowii	Yes
020044	ST	IIa	Salamander, Mabee's	Ambystoma mabeei	Yes
030067	CC	IIa	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin	Yes
020063		IIa	Toad, oak	Anaxyrus quercicus	Yes

Public Holdings:

N/A

Compiled on 3/15/2023, 7:53:46 AM I1466865.0 report=IPA searchType= R dist= 3218 poi= 37.0268690 -76.6473158

PixelSize=64; Anadromous=0.021199; BECAR=0.026016; Bats=0.018249; Buffer=0.059286; County=0.065083; Impediments=0.020612; Init=0.096113; PublicLands=0.022049; SppObs=0.305503; TEWaters=0.026976; TierReaches=0.03766; TierTerrestrial=0.095867; Total=0.951569; Tracking_BOVA=0.191886; Trout=0.020844

Anadromous James River 1

37,01,36.7 -76,38,50.3
is **the Search Point**

Display at center	**Item Location** is not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

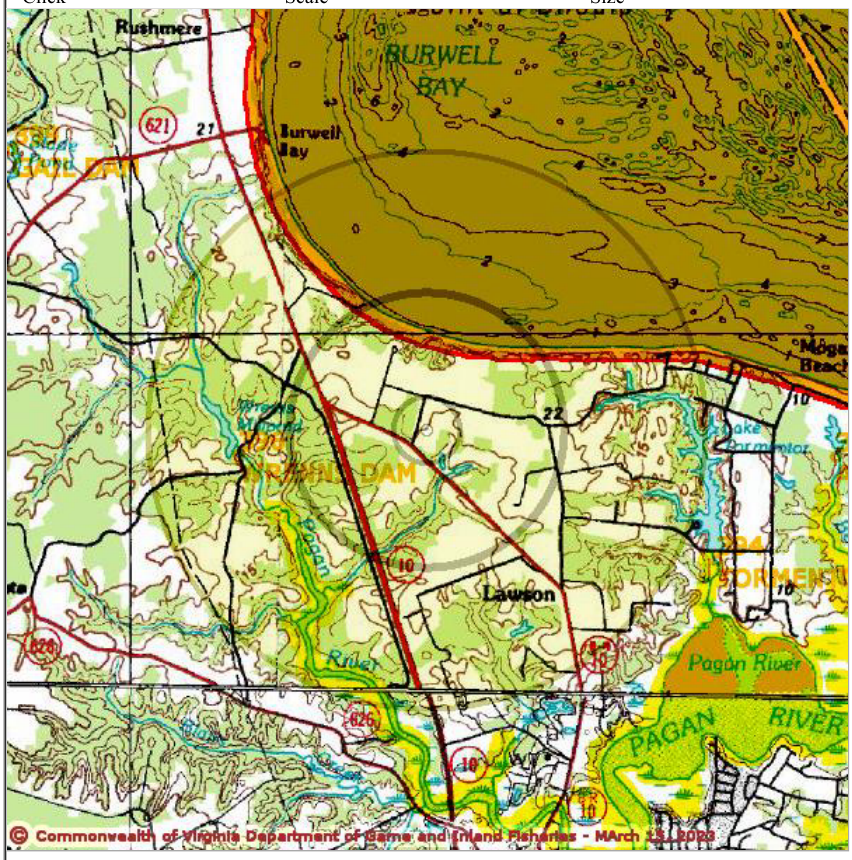
Map Overlay Choices
Current List: Position, Search, Observation

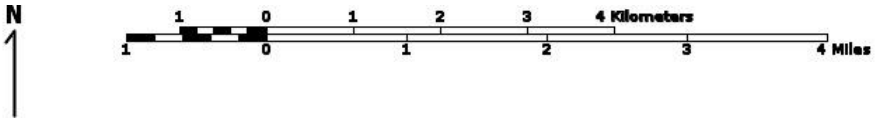
Map Overlay Legend

Anadromous Fish Reach
Confirmed
Selected Confirmed
Potential
Selected Potential
Impediment
Position Rings 1 mile and 1/4 mile at the Search Point
2 mile radius Search Area
Data Observation Site

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help





Point of Search 37,01,36.7 -76,38,50.3
Map Location 37,01,36.7 -76,38,50.3

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 348676 and top 4103922. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
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map assembled 2023-03-15 07:48:36 (qa/qc March 21, 2016 12:20 - tn=1466865.0 dist=3218 I)
$poi=37.0268690 -76.6473158$query=select min(b.minx),min(b.miny),max(b.maxx),max(b.maxy) from vafwis_tables.dbo.cvAnadromous a join vafwis_tables.dbo.cvAnadromous_XY b on b.anadromous = a.anadromous where a.anadromous = 'C92'

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Anadromous Pagan river

37,01,36.7 -76,38,50.3
is **the Search Point**

Display at center	**Item Location** is not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

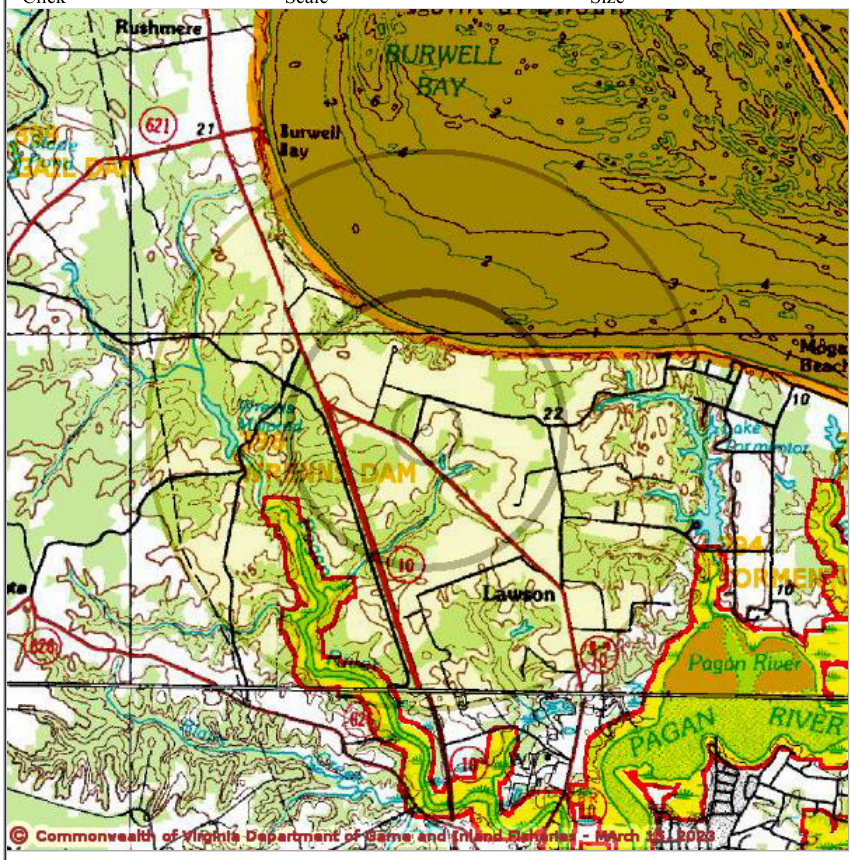
Map Overlay Choices
Current List: Position, Search, Observation

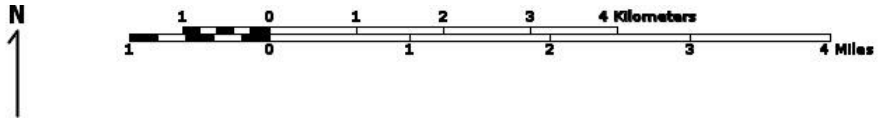
Map Overlay Legend

Anadromous Fish Reach
Confirmed
Selected Confirmed
Potential
Selected Potential
Impediment
Position Rings 1 mile and 1/4 mile at the Search Point
2 mile radius Search Area
Data Observation Site

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help





Point of Search 37,01,36.7 -76,38,50.3
Map Location 37,01,36.7 -76,38,50.3

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 348676 and top 4103922. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
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map assembled 2023-03-15 07:50:06 (qa/qc March 21, 2016 12:20 - tn=1466865.0 dist=3218 I)
$poi=37.0268690 -76.6473158$query=select min(b.minx),min(b.miny),max(b.maxx),max(b.maxy) from vafwis_tables.dbo.cvAnadromous a join vafwis_tables.dbo.cvAnadromous_XY b on b.anadromous = a.anadromous where a.anadromous = 'P127'

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Bald Eagle Concentration Areas and Roosts 48

37,01,36.7 -76,38,50.3 is **the Search Point**

Display at center	**Item Location** is not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, Observation

Map Overlay Legend

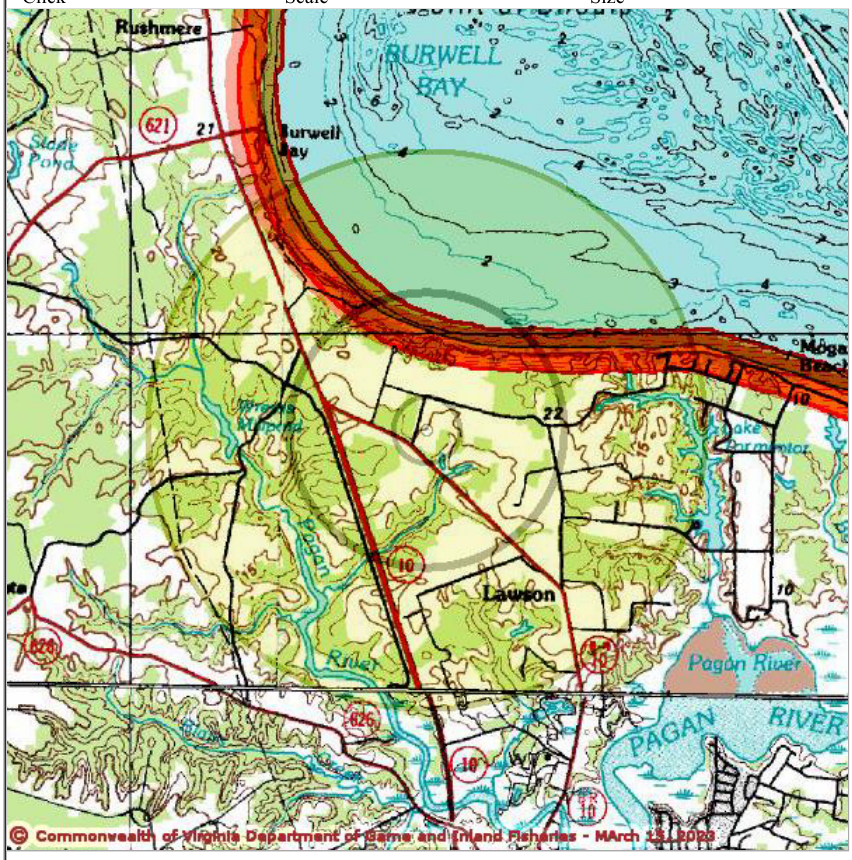
Position Rings 1 mile and 1/4 mile at the Search Point

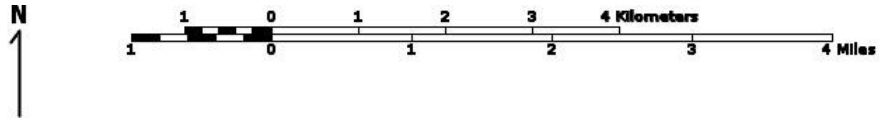
2 mile radius Search Area

Data Observation Site

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help





Point of Search 37,01,36.7 -76,38,50.3
Map Location 37,01,36.7 -76,38,50.3

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 348676 and top 4103922. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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map assembled 2023-03-15 07:54:25 (qa/qc March 21, 2016 12:20 - tn=1466865.0 dist=3218 I)
$poi=37.0268690 -76.6473158$query=select BECAR_ID from vafwis_tables.dbo.cvBECAR where BECAR_ID in ('48')

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Bald Eagle Concentration Areas and Roosts 51

37,01,36.7 -76,38,50.3
is **the Search Point**

Display at center	**Item Location** is not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, Observation

Map Overlay Legend

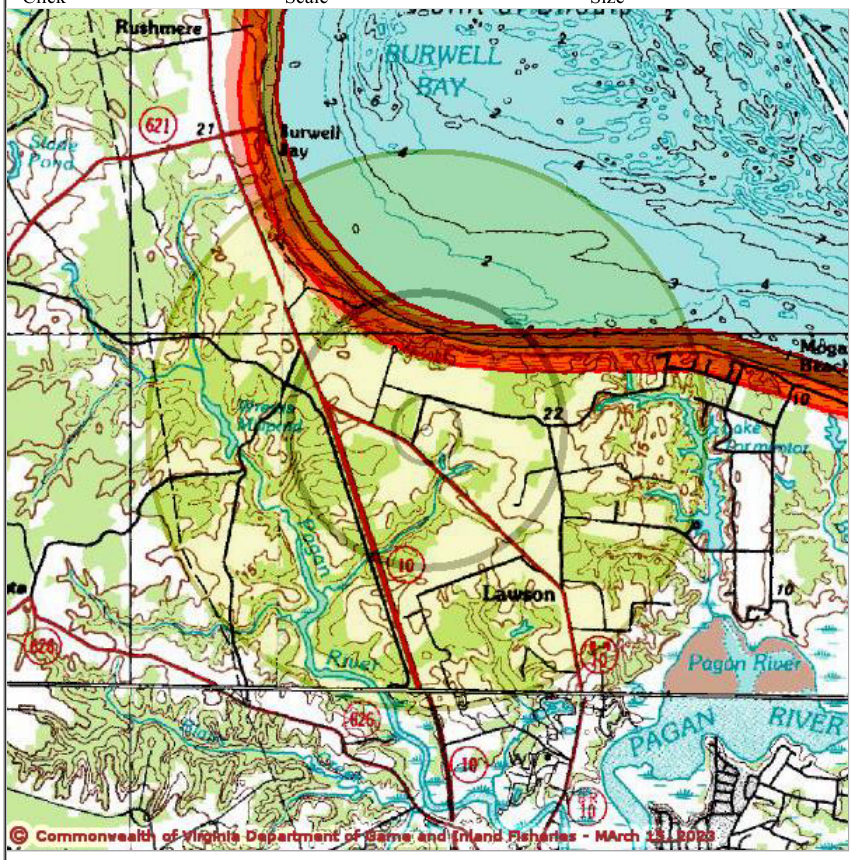
Position Rings 1 mile and 1/4 mile at the Search Point

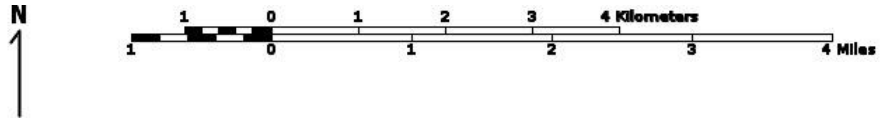
2 mile radius Search Area

Data Observation Site

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help





Point of Search 37,01,36.7 -76,38,50.3
Map Location 37,01,36.7 -76,38,50.3

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 348676 and top 4103922. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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map assembled 2023-03-15 07:55:00 (qa/qc March 21, 2016 12:20 - tn=1466865.0 dist=3218 I)
$poi=37.0268690 -76.6473158$query=select BECAR_ID from vafwis_tables.dbo.cvBECAR where BECAR_ID in ('51')

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Bald agle Nest IW0702

37,01,36.7 -76,38,50.3
is **the Search Point**

Display at center	**Item Location** is not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

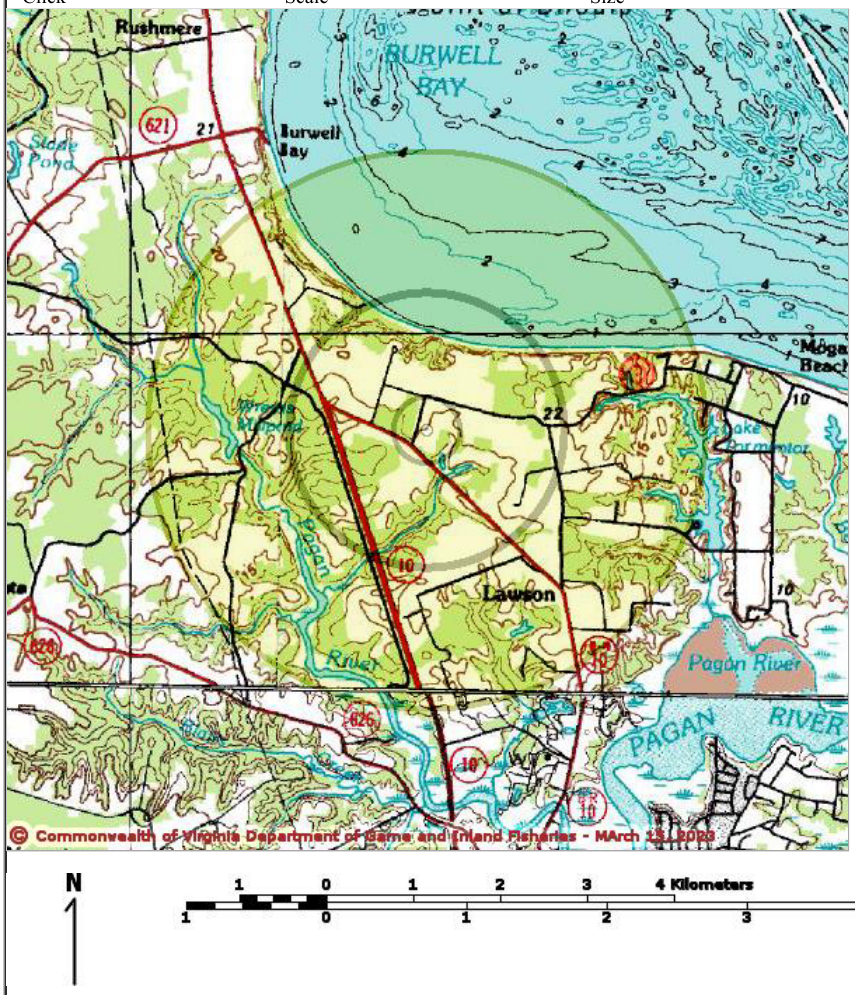
Map Overlay Choices
Current List: Position, Search, Observation

Map Overlay Legend

- **Position Rings** 1 mile and 1/4 mile at the Search Point
- **2 mile radius Search Area**
- **Bald Eagle nests** 660 and 330 foot management zones
- **Data Observation Site**

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help



Point of Search 37,01,36.7 -76,38,50.3
Map Location 37,01,36.7 -76,38,50.3

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 348676 and top 4103922. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
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map assembled 2023-03-15 07:55:19 (qa/qc March 21, 2016 12:20 - tn=1466865.0 dist=3218 I)
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CCB Mapping Portal

Layers: VA Eagle Nest Locator

Map Center [longitude, latitude]: [-76.64131164550781, 37.03041116282044]

Map Link:
https://www.ccbbirds.org/maps/#layer=VA+Eagle+Nest+Locator&zoom=15&lat=37.03041116282044&lng=-76.64131164550781&legend=legend_tab_7c321b7e-e523-11e4-aaa0-0e0c41326911&base=World+Imagery+%28ESRI%29

Report Generated On: 03/15/2023

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Colonial Water Bird Survey Warren Creek

37,01,36.7 -76,38,50.3
is **the Search Point**

Display at center	**Item Location** is not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

Map Overlay Choices
Current List: Position, Search, Observation

Map Overlay Legend

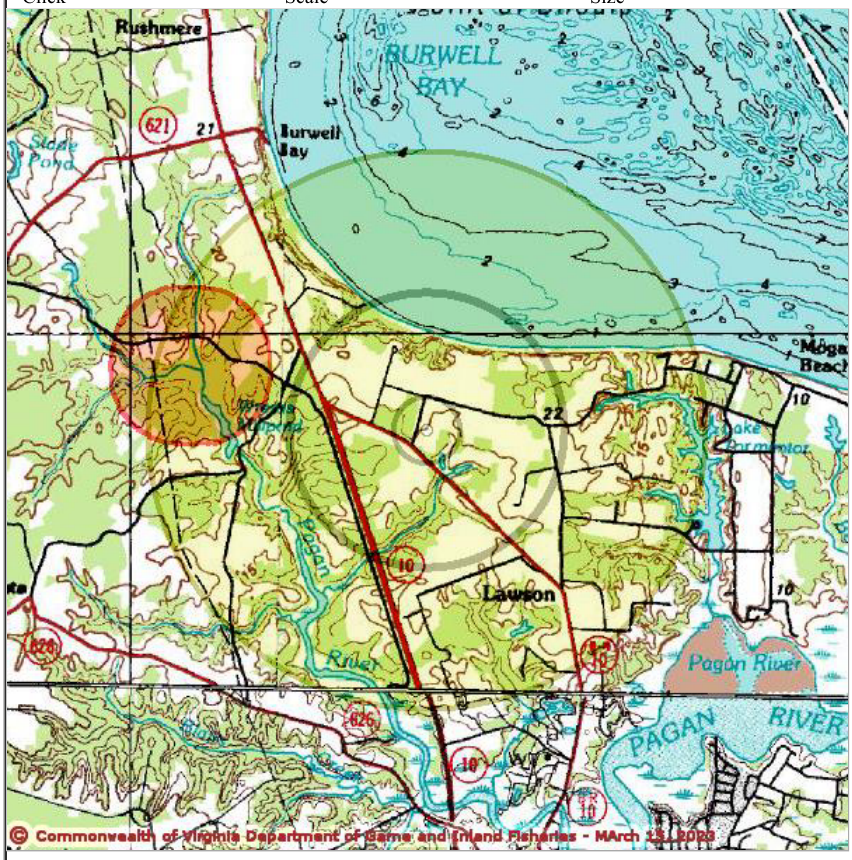
Position Rings 1 mile and 1/4 mile at the Search Point

2 mile radius Search Area

Data Observation Site

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help



N

1 0 1 2 3 4 Kilometers
1 0 1 2 3 4 Miles

Point of Search 37,01,36.7 -76,38,50.3
Map Location 37,01,36.7 -76,38,50.3

Select **Coordinate System:**
(•) Degrees,Minutes,Seconds Latitude - Longitude
( ) Decimal Degrees Latitude - Longitude
( ) Meters UTM NAD83 East North Zone
( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 348676 and top 4103922. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

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are from the United States Department of the Interior, United States Geological Survey.
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map assembled 2023-03-15 07:51:21 (qa/qc March 21, 2016 12:20 - tn=1466865.0 dist=3218 I)
$poi=37.0268690 -76.6473158$query=select xy.x,xy.y,xy.offset_x,xy.offset_y, cc.High_TE from vafwis_tables.dbo.vcvSppObs_XY xy join vafwis_tables.dbo.cvSppObs a on a.obsID = xy.obsID and case when CHARINDEX('Colony_Name=',a.Comments)>0 then SUBSTRING(a.Comments,CHARINDEX('Colony_Name=',a.Comments)+12, case when CHARINDEX(';',a.Comments,CHARINDEX('Colony_Name=',a.Comments)) > 12 then CHARINDEX(';',a.Comments,CHARINDEX('Colony_Name=',a.Comments)) -

CCB Mapping Portal

Layers: Colonial Waterbirds 2013

Map Center [longitude, latitude]: [-76.64388656616211, 37.02595723163245]

Map Link:
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Report Generated On: 03/15/2023

The Center for Conservation Biology (CCB) provides certain data online as a free service to the public and the regulatory sector. CCB encourages the use of its data sets in wildlife conservation and management applications. These data are protected by intellectual property laws. All users are reminded to view the Data Use Agreement to ensure compliance with our data use policies. For additional data access questions, view our Data Distribution Policy, or contact our Data Manager, Marie Pitts, at mlpitts@wm.edu or 757-221-7503.

Fish Impediment
WRENNS DAM

37,01,36.7 -76,38,50.3
is **the Search Point**

Display at center	**Item Location** is not at map center

Show Position Rings
(•) Yes ( ) No
1 mile and 1/4 mile at the **Search Point**

Show Search Area
(•) Yes ( ) No
2 Search distance miles radius

Search Point is at map center

Base Map Choices
Topography

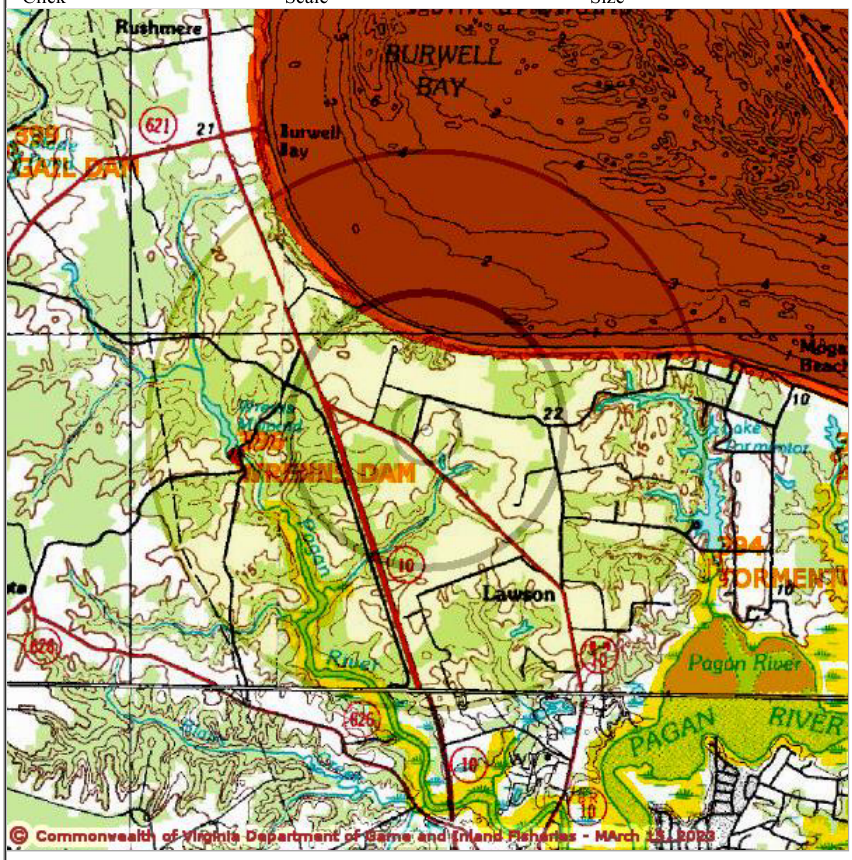
Map Overlay Choices
Current List: Position, Search, Observation

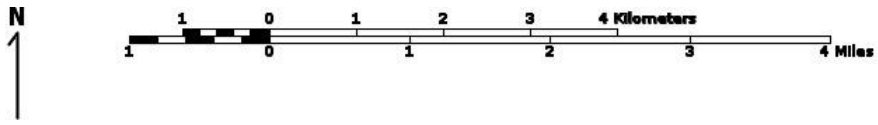
Map Overlay Legend

Anadromous Fish Reach
Confirmed
Potential
123 Impediment
Position Rings 1 mile and 1/4 mile at the Search Point
2 mile radius Search Area
Data Observation Site

Refresh Browser Page

Map Click Pan Id M Map Scale In Zoom Out Screen Size Small Size Big Help





Point of Search 37,01,36.7 -76,38,50.3
Map Location 37,01,36.7 -76,38,50.3

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( ) Meters UTM NAD27 East North Zone

Base Map source: USGS 1:100,000 topographic maps (see Microsoft terraserver-usa.com for details)

Map projection is UTM Zone 18 NAD 1983 with left 348676 and top 4103922. Pixel size is 16 meters . Coordinates displayed are Degrees, Minutes, Seconds North and West. Map is currently displayed as 600 columns by 600 rows for a total of 360000 pixles. The map display represents 9600 meters east to west by 9600 meters north to south for a total of 92.1 square kilometers. The map display represents 31501 feet east to west by 31501 feet north to south for a total of 35.5 square miles.

Topographic maps and Black and white aerial photography for year 1990+-
are from the United States Department of the Interior, United States Geological Survey.
Color aerial photography aquired 2002 is from Virginia Base Mapping Program, Virginia Geographic Information Network.
Shaded topographic maps are from TOPO! ©2006 National Geographic
http://www.national.geographic.com/topo
All other map products are from the Commonwealth of Virginia Department of Game and Inland Fisheries.

map assembled 2023-03-15 07:50:46 (qa/qc March 21, 2016 12:20 - tn=1466865.0 dist=3218 I)
$poi=37.0268690 -76.6473158$query=select UTM17NAD83East,UTM17NAD83North from vafwis_tables.dbo.cvImpediments_xy where Impediments = 396

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Jacob Yealy

From: Martin, Amy (DWR) <Amy.Martin@dwr.virginia.gov>
Sent: Friday, March 17, 2023 2:26 PM
To: Jacob Yealy
Subject: ESSLog# 42853_VAL025 Solar_DWR_AEM20230317

Categories: Filed by Newforma

ATTENTION: This e-mail is from outside the organization. DO NOT click links or open attachments unless you confirm the incoming address of the sender.

Mr. Yealy,
We have reviewed the subject project that proposes to construct a solar facility in Isle of Wight County. We do not currently document any listed wildlife or designated resources under our jurisdiction from the project area. Therefore, we do not anticipate adverse impacts upon such species or resources to result from the proposed work.

To minimize impacts upon wildlife, we recommend review of and adherence to the solar facility development, operation, and fencing recommendations included within the document found here: https://dwr.virginia.gov/wp-content/uploads/media/Solar-Energy-Facility-Guidance.pdf

Thank you, Amy

Amy Martin
(she/her/hers)
Manager, Wildlife Information and Environmental Services
P 804.481.5296
Virginia Department of Wildlife Resources
CONSERVE. CONNECT. PROTECT.
A 7870 Villa Park Drive, P.O. Box 90778, Henrico, VA 23228-0778
www.dwr.virginia.gov

_*

Enclosure C: VA DCR Coordination Letter

Travis A. Voyles
Secretary of Natural and Historic Resources

Matthew S. Wells
Director

Andrew W. Smith
Chief Deputy Director

COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Frank N. Stovall
Deputy Director for Operations

Darryl Glover
Deputy Director for Dam Safety, Floodplain Management and Soil and Water Conservation

Laura Ellis
Deputy Director for Administration and Finance

March 10, 2023

Jacob Yealy
Dawood Engineering
4250 Crums Mill Road, Suite 301
Harrisburg, PA 17112

Re: VAL025 Solar

Dear Mr. Yealy:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Biotics documents the presence of natural heritage resources within the project boundary including a 100ft buffer. However, due to the scope of the activity we do not anticipate that this project will adversely impact these natural heritage resources. Please note, a predictive model identifying potential habitat for Barking treefrog (*Hyla gratiosa*, G5/S2S3/NL/NL) intersects the project boundary. However, based on DCR biologist's review of the proposed project a survey is not recommended for the resource.

DCR recommends the development of an invasive species management plan for the project and the planting of Virginia native pollinator plant species that bloom throughout the spring and summer, to maximize benefits to native pollinators. DCR recommends planting these species in at least the buffer areas of the planned facility, and optimally including other areas within the project site. For screening zones outside the perimeter fencing, DCR recommends native species appropriate for the region be used. Guidance on plant species can be found here: http://www.dcr.virginia.gov/natural-heritage/solar-site-native-plants-finder. In addition, Virginia native species alternatives to the non-native species listed in the Virginia Erosion and Sediment Control Handbook (Third Edition 1992), can be found in the 2017 addendum titled "Native versus Invasive Plant Species", here: https://www.deq.virginia.gov/home/showpublisheddocument?id=2466. Page 3 of the addendum provides a list of native alternatives for non-natives commonly used for site stabilization including native cover crop species (i.e. Virginia wildrye).

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months (September 10, 2023) has passed before it is utilized.

A fee of $90.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from http://vafwis.org/fwis/ or contact Amy Martin at (804-367-2211) or amy.martin@dwr.virginia.gov.

Should you have any questions or concerns, please contact me at 804-225-2429. Thank you for the opportunity to comment on this project.

Sincerely,

Tyler Meader

Tyler Meader
Natural Heritage Locality Liaison

CC: Susan Tripp, DEQ
Randy R. Keaton, Isle of Wight County Administrator

Enclosure D: NOAA ESA Section 7 Map & Coordination Email

Drawn Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 2,583.06 acres

Feb 9 2023 13:27:44 Eastern Standard Time

Atlantic Sturgeon
Shortnose Sturgeon
Sea Turtles
In or Near Critical Habitat

1:18,056

0 0.13 0.25 0.5 mi

0 0.17 0.35 0.7 km

Esri Community Maps Contributors, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	4	1,322.92	N/A
Shortnose Sturgeon	1	330.73	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	1,322.94	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	330.73	N/A

Atlantic Sturgeon

#	Feature ID	Species	Lifestage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	ANS_JAM_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	James River	03/15	11/30	N/A	N/A	330.73
2	ANS_JAM_JUV_MAF	Atlantic sturgeon	Juvenile	Migrating & Foraging	James River	01/01	12/31	N/A	N/A	330.73
3	ANS_JAM_ADU_STG	Atlantic sturgeon	Adult	Staging	James River	05/01	11/30	N/A	N/A	330.73
4	ANS_JAM_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	James River	03/15	11/30	N/A	N/A	330.73

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	SNS_JAM_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	James River	03/01	11/30	N/A	N/A	330.73

Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	GRN_STS_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	330.74
2	KMP_STS_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	330.74
3	LTR_STS_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	330.74
4	LOG_STS_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Massachusetts (S of Cape Cod) through Virginia	5/1	11/30	*No Data*	*No Data*	330.74

In or Near Critical Habitat

#	Species	In or Near Critical Habitat	Area(acres)
1	Atlantic Sturgeon	Chesapeake Bay Unit 5: James River	330.73

Jacob Yealy

From: Brian D Hopper - NOAA Federal <brian.d.hopper@noaa.gov>
Sent: Friday, February 24, 2023 7:07 AM
To: Jacob Yealy
Subject: Re: ESA Section 7 Coordination

Categories: Filed by Newforma

ATTENTION: This e-mail is from outside the organization. DO NOT click links or open attachments unless you confirm the incoming address of the sender.

On Thu, Feb 16, 2023 at 7:43 AM Brian D Hopper - NOAA Federal <brian.d.hopper@noaa.gov> wrote:

Hi Jacob,

I apologize for the late response. Your email and attachments dated February 9, 2023, regarding three solar facility development projects in Virginia, requested information on the presence of ESA-listed species under our jurisdiction.

Although four species of sea turtles, shortnose sturgeon, and Atlantic sturgeon originating from five Distinct Population Segments (DPS) are known to occur in the Chesapeake Bay and its rivers and tributaries, based on the location the project and information you provided in your email and attachments, we believe that these species will not be exposed to any direct or indirect effects of the action. Therefore, we do not believe a consultation in accordance with section 7 of the Endangered Species Act (ESA) is necessary. As such, no further coordination on this activity with the NMFS Protected Resources Division is necessary at this time. Should there be additional changes to the project plans or new information becomes available that changes the basis for this determination, further coordination should be pursued. Please contact me (brian.d.hopper@noaa.gov), should you have any questions regarding these comments. If you have any questions regarding essential fish habitat, please contact Dave O'Brien (david.l.obrien@noaa.gov, 804-684-7828).

.

Regards,
-Brian

On Mon, Feb 13, 2023 at 10:17 AM NMFS.GAR ESA.Section7 - NOAA Service Account <nmfs.gar.esa.section7@noaa.gov> wrote:

Incoming tech assistance request

---------- Forwarded message ---------
From: **Jacob Yealy** <Jacob.Yealy@dawood.net>
Date: Thu, Feb 9, 2023 at 2:06 PM
Subject: ESA Section 7 Coordination
To: NMFS.GAR.ESA.Section7@noaa.gov <NMFS.GAR.ESA.Section7@noaa.gov>

Hello,

I am working on the T&E coordination for 3 solar facility development projects in Virginia. We're looking to verify that our projects have no potential to impact threatened or endangered species. A review of the Section 7 ESA Mapper was performed for each of the projects (attached). One of these (VAL025) has listed species and critical habitat near the project area. Another (VAL032) shows that the Section 7 Consultation Area is just outside of that 1-mile buffer, while the last (VAL035) has no Section 7 areas nearby.

Can you please confirm what materials are needed to perform a project review to ensure no potential impacts for the VAL025 project & that neither the VAL032 or VAL035 projects require further coordination with NOAA?

Thanks,

Jacob Yealy

Ecologist

Dawood Engineering, Inc.

Jacob.Yealy@dawood.net

Office: 717-732-8576

Mobile: 717-965-1521

--

Brian D. Hopper
Protected Resources Division
NOAA Fisheries
Greater Atlantic Regional Fisheries Office
200 Harry S Truman Parkway
Suite 460
Annapolis, MD 21401
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Brian.D.Hopper@noaa.gov
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--

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http://www.greateratlantic.fisheries.noaa.gov/

*

Stantec

A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia

April 6, 2023

Prepared for:

Dawood Engineering, Inc.
Attn: Mr. Kevin Rucker
4250 Crums Mill Road, Suite 301
Harrisburg, PA 17112

Prepared by:

Donald Sadler, Project Archaeologist

Sandra DeChard, Senior Architectural Historian

and

Brynn Stewart, Senior Principal Investigator

Stantec Consulting Services Inc.
5209 Center Street
Williamsburg VA 23188
(757) 220-6869

The conclusions in the Report are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The Report relates solely to the specific project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from the Client and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

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Prepared by _____
(signature)

Donald Sadler, MA, Project Archaeologist

Prepared by _____

Sandra DeChard, Senior Architectural Historian

Reviewed by _____
(signature)

Brynn Stewart, MA, Senior Principal Investigator

Approved by _____
(signature)

Seth Mitchell, MA, RPA, Principal Archaeologist

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Executive Summary

From February 13 to March 8, 2023, Stantec Consulting Services Inc. (Stantec) conducted a cultural resources survey of approximately 20 acres associated with the proposed 3-megawatt (MW) VAL-025 Solar Project (Project) in Isle of Wight County, Virginia. The Project is located north of Old Stage Highway (Route 10) and northeast from the junction with Morgarts Beach Road (Route 628). The Project is bounded by Morgarts Beach Road to the west, Old Stage Highway to the south, and private dirt farm roads to the north and east. The Project Area comprises a gently rolling harvested cotton field. The work was conducted on behalf of Dawood Engineering, Inc. (Dawood).

The Phase I cultural resources survey was designed to locate and identify cultural resources within the Project Area, defined as the entire approximately 20-acre Project parcel, and to obtain sufficient information to make recommendations regarding their potential eligibility for listing to the National Register of Historic Places (NRHP).

Archaeological Survey

During the archaeological survey, Stantec conducted pedestrian survey of the entire Project Area concurrently with systematic subsurface testing. A total of 403 shovel tests were excavated at 50-foot intervals along 17 transects (Transects A–Q) spaced 50 feet apart throughout the Project Area. One shovel test was not excavated due to its location within standing water. One shovel test was positive for cultural material. Three radial shovel tests were excavated at 25-foot intervals to determine the bounds of the newly identified cultural resource, with no radial shovel tests positive for additional cultural material. One new isolated archaeological site find (2607-IF1) was identified during this investigation. ***By definition, Isolated Archaeological Find 2607-IF1 is not eligible for listing to the NRHP. No further archaeological work is recommended within the Project Area.***

Recommendations for Archaeological Resources within the Project Area

Resource	Resource Type	Association	Stantec Recommendation
2607-IF1	1 Whiteware Body Sherd	1820+	Not Eligible; No Further Work

Architecture Survey

A total of 10 individual resources were located within the architectural Study Area, defined as the Project Area and a 0.5-mile radius around the Project Area, and included four previously recorded and six newly recorded resources. The Keystone Segment Historic District of the Captain John Smith National Historic Trail (DHR #500-0006) had a Federal Determination of Eligibility prior to the survey and was therefore not resurveyed. One resource was determined to be potentially eligible for listing and one resource was determined to be not eligible prior to the survey but was surveyed more than five years ago and therefore was redocumented during the current Project. One resource had not been evaluated for eligibility by the Virginia Department of Historic Resources (DHR). Resources which had been determined NRHP eligible as well as one previously unevaluated, but not visible resource, were evaluated for visual effects. The

surveyed resources consisted of farms and single dwellings with associated outbuildings as well as one late eighteenth to mid-nineteenth century cemetery.

The Bourne-Turner House (DHR #046-0031) had been determined as potentially eligible for listing in the NRHP by DHR in 2015. Based on the current survey, it is recommended that the resource maintain its NRHP eligibility status as the house and secondary resources retain integrity and appear to have not been significantly altered since the previous survey.

One resource, the Old State Highway Cemetery (DHR #046-5636), was not visible from the public right-of-way (ROW) and was therefore not able to be resurveyed. Based on the circumstances, the resource was considered eligible for the purposes of environmental review.

The remaining seven resources surveyed during the current project are generally reflective of the late nineteenth to mid-twentieth century development of Isle of Wight County and lack direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing in the NRHP. As such, it is recommended that the resources are not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.

No further work is recommended for resources within the Architectural Study Area as part of the VAL025 Solar project.

Visual Effects

An effects evaluation, in addition to the Phase I architectural survey, was conducted for NRHP-listed, eligible, and potentially eligible properties which may be affected by the proposed Project. Two resources were assessed for effects and included the potentially eligible Bourne-Turner House (DHR #046-0031) and the portion of the NRHP-eligible Keystone Segment Historic District of the Captain John Smith National Historic Trail (DHR #500-0006) within the current architectural Study Area. One resource, the Old Stage Highway Cemetery (DHR #046-5636), had not been evaluated for NRHP eligibility but was not visible from the public ROW. Therefore, for the purposes of environmental review, this resource is being considered eligible for listing. Based on the current proposed Project Area and the existing landscape it is recommended that the proposed Project would have an **Adverse Effect** on the Bourne-Turner House (DHR #046-0031) and the portion of the Keystone Segment of the Captain John Smith National Historic Trail Historic District (DHR #500-0006) located within the current architectural Study Area. The proposed Project would have **No Effect** on the Old Stage Highway Cemetery (DHR #046-5636). ***Based on the effects evaluation, it is likely DHR will require mitigation for Adverse Effect of the proposed Project. It is suggested that vegetative screening be installed on the north side of the solar parcel to lessen the Adverse Effect.***

Effects Evaluation of NRHP Eligible and Potentially Eligible Properties

DHR #	Resource Name	Date	NRHP Status/ DHR Recommendation Prior to Survey	Effects Assessment
046-0031	Bourne-Turner House, 16303 Morgarts Beach Road	c. 1790	Determined Potentially Eligible in 2015 under Criterion C	Adverse Effect

DHR #	Resource Name	Date	NRHP Status/ DHR Recommendation Prior to Survey	Effects Assessment
046-5636	Old Stage Highway Cemetery, Old Stage Highway	c. 1798	Not Evaluated	No Effect
500-0006	Captain John Smith National Historic Trail, Keystone Segment, Historic District	c. 1550	Federal Determination of Eligibility in 2015	Adverse Effect*

***Only for Portion of the Resource within the Study Area**

Abbreviations

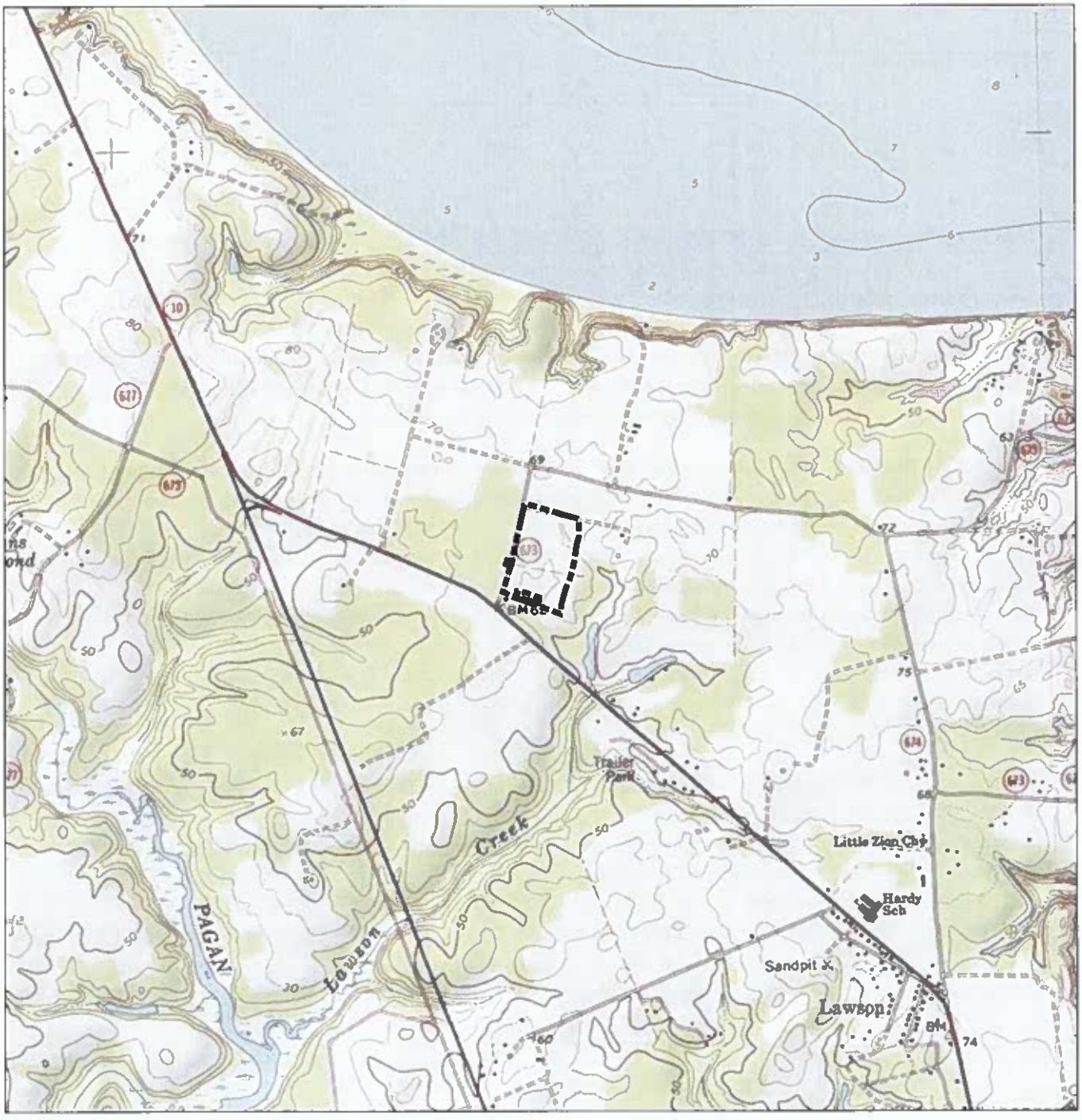
ACC	Archaeological Consultants of the Carolinas, Inc.
amsl	above mean sea level
D+A	Dutton & Associates, LLC
DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
DHR	Virginia Department of Historic Resources
GPS	Global Positioning System
JRIA	James River Institute for Archaeology, Inc.
MW	megawatt
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
ROW	Right-of-Way
Stantec	Stantec Consulting Services Inc.
STP	shovel test pit
USDI	United States Department of the Interior
V-CRIS	Virginia Cultural Resource Information System
VHLC	Virginia Historic Landmarks Commission
VLR	Virginia Landmarks Register
WMCAR	William and Mary Center for Archaeological Research

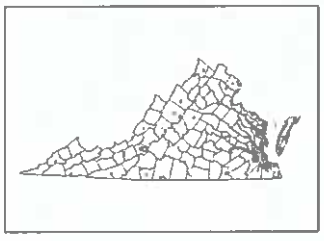
1.0 INTRODUCTION

From February 13 to March 8, 2023, Stantec Consulting Services Inc. (Stantec) conducted a cultural resources survey of approximately 20 acres associated with the proposed 3-megawatt (MW) VAL-025 Solar Project (Project) in Isle of Wight County, Virginia. The Project is located north of Old Stage Highway (Route 10) and northeast from the junction with Morgarts Beach Road (Route 628). The Project is bounded by Morgarts Beach Road to the west, Old Stage Highway to the south, and private dirt farm roads to the north and east. The Project Area comprises a gently rolling harvested cotton field (Figure 1). The work was conducted on behalf of Dawood Engineering, Inc. (Dawood).

The cultural resources investigations described herein were conducted as part of the State Corporation Commission (SCC) application process. Additionally, all cultural resources services detailed herein were conducted pursuant to the National Historic Preservation Act of 1966, as amended, the Archeological and Historic Preservation Act of 1974, Executive Order 11593, and relevant sections of 36 CFR 60 and 36 CFR 800. The Stantec Project Managers directing this survey meet the professional qualification standards of the Department of the Interior (48 FR 44738-9). The cultural resources fieldwork component of these investigations will conform to the qualifications specified in the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (Federal Register 48:44716-44742, September 29, 1983) and the DHR's *Guidelines for Conducting Historic Resources Survey in Virginia* (2017).

Senior Principal Investigator Brynn Stewart oversaw the project. Project Archaeologist Donald Sadler and Senior Architectural Historian Sandra DeChard co-authored the resulting technical report. Project Archaeologist Donald Sadler directed the fieldwork and was assisted in the field by Archaeological Technicians Mark Jacobs and Noelle Thompson-Worthington. Senior Architectural Historian Sandra DeChard oversaw the architectural fieldwork conducted by Architectural Historian Technician Olivia McCarty. All artifact processing and analysis was completed by Laboratory Manager Emily Curme. GIS Analyst Elise Ljiko prepared the report graphics and project maps. Copies of all field notes, maps, correspondence, and historical research materials are on file at Stantec's office in Richmond, Virginia.





Project Area

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Stantec

Project Location	Prepared by ECL on 2023-03-02
	TR by JMH on 2023-03-29
Isle of Wight County, Virginia	IR by BSS on 2023-03-29
Client/Project	195602607
Dawood Engineering, Inc.	
VAL025 Solar Project	
Figure No	
1	
Title	
Project Location Map	

Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dawood Engineering, Inc., U.S. Census Bureau
3. Topographic map © USGS 7.5 Minute Series Topographic Map, Bacons Castle, VA Quadrangle 1992

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2.0 PHYSICAL AND ENVIRONMENTAL CONTEXT

2.1 INTRODUCTION

The Project Area is located north of Old Stage Highway (Route 10) and northeast from the junction with Morgarts Beach Road (Route 628). The Project is bounded by Morgarts Beach Road to the west, Old Stage Highway to the south, and private dirt farm roads to the north and east. The Project Area comprises a gently rolling recently harvested cotton field.

2.2 GEOLOGY AND TOPOGRAPHY

The Project Area is located within the Coastal Plain physiographic province in the James River drainage basin. The Coastal Plain province is generally characterized by lowlands, with some elevated areas present, which are deeply dissected by drainages that trend mostly to the southeast, towards the Atlantic Ocean (Teifke 1973). Elevations within the Project Area range from approximately 55 to 66 feet above mean sea level (amsl).

The pre-Holocene geology of the Virginia Coastal Plain consists of igneous and metamorphic rocks of Precambrian and Paleozoic age overlain by a series of sedimentary deposits dating to the Cretaceous period. Geologists have divided the Cretaceous through Quaternary sedimentary deposits into five categories: Lower Cretaceous, Upper Cretaceous, Paleocene, Eocene, and Miocene (Teifke 1973). Beginning as early as the Late Cretaceous, a cycle of transgression and regression related to glacial activities and consequent sea level fluctuation is responsible for the formation of these sedimentary layers in the Coastal Plain. These layers have been named the Mattaponi (Upper Cretaceous/Paleocene), Nanjemoy (Eocene), Calvert (Eocene/Miocene), and Yorktown (Miocene) formations (Teifke 1973:10-11).

The Quaternary has been characterized by the continued deposition of clays, silts, sands, gravels and peat bogs. The Late Pleistocene-Holocene geology of the Virginia Coastal Plain has mostly been characterized by marine transgression onto the land, filling what is today known as the Chesapeake Bay. Sedimentary systems affecting the area include fluvial and marine-estuarine depositional systems. Fluvial forces included overbank flow and stream meander resulting in alluvial deposition. Marine-estuarine soil deposition occurs during hurricanes, tidal floods, and longshore currents (Onuschak 1973:111-124).

The Project Area is situated on the Bacons Castle Formation, comprised of gray, yellowish-orange, and reddish-brown sand, gravel, silt, and clay that constitutes surficial deposits of high plains extending from Richmond eastward to the Surry Scarp. Within the Project Area, the unit consists of massive to thick-bedded pebble and cobble gravel, grading upward into cross-bedded, pebble sand and sandy, clayey silt (Rader and Evans 1993).

2.3 HYDROLOGY

The Project Area is drained by Lawson Creek, a tributary of the Pagan River, which flows into the James River. The James River flows into the Chesapeake Bay and thence to the Atlantic Ocean.

2.4 SOIL MORPHOLOGY

Soils within the Project Area ranged from moderately well to well drained, with moderately well drained soils dominating. Table 1 presents the soil types found within the Project Area and serves as a key to Figure 2.

Table 1 Key to the Soils Map

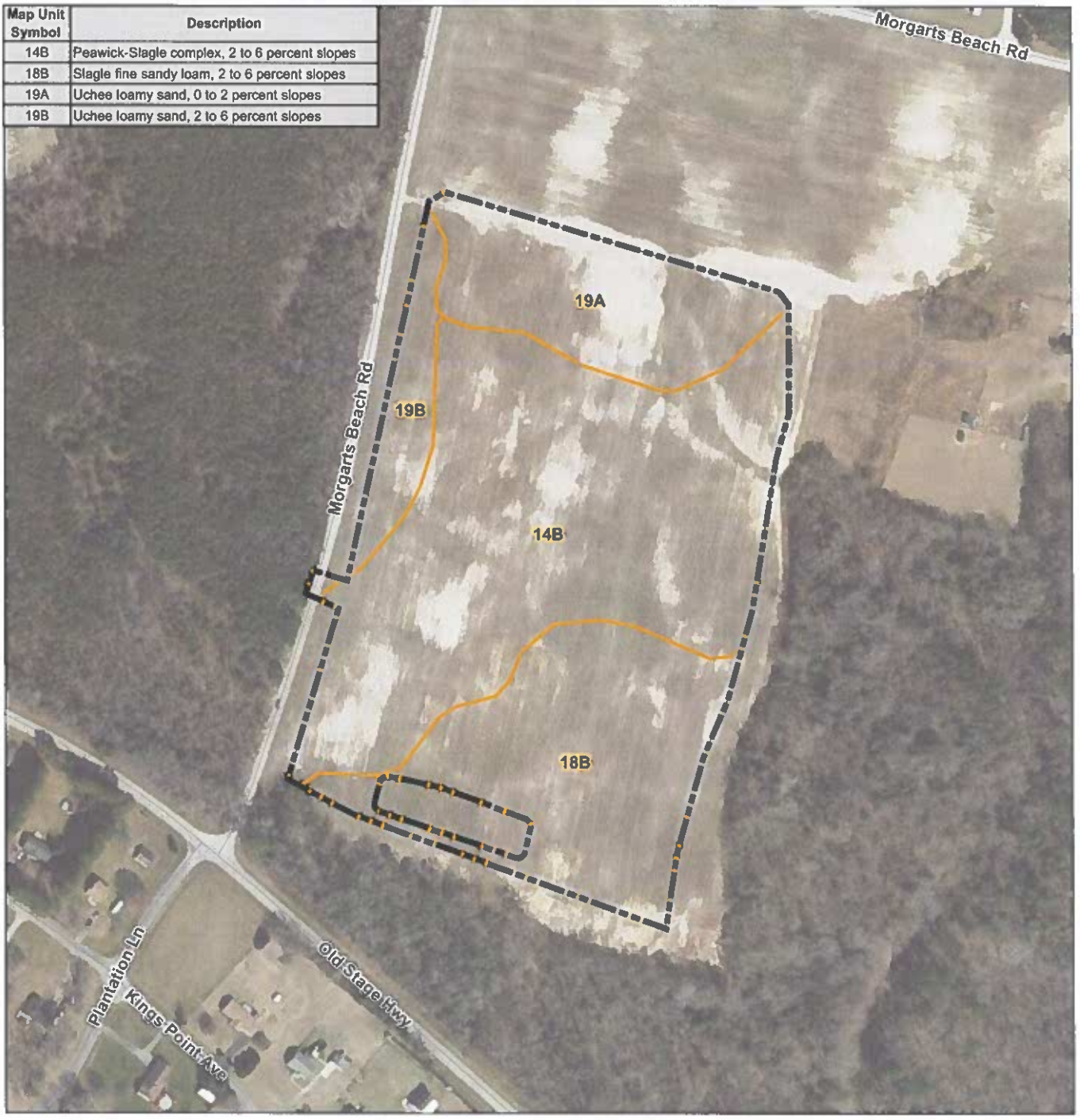
Symbol	Map Unit Name	Percent Slope	Drainage Description
14B	Peawick-Slagle complex	2–6	Moderately Well Drained
18B	Slagle fine sandy loam	2–6	Moderately Well Drained
19A	Uchee loamy sand	0–2	Well Drained
19B	Uchee loamy sand	2–6	Well Drained

2.5 NATURAL RESOURCES

Floral and faunal communities in southeastern Virginia have changed considerably over the past 10,000 years. This environmental change was linked to the warming trend that caused glaciers to melt and sea levels to rise. By the Early Holocene, beech, hemlock, and birch were the dominant species, and the former pine spruce forests of the Late Pleistocene became less common. In general, a mixed hardwood forest dominated the Mid-Holocene and included hazelnut, alder, maple, black gum, beech, ash, and walnut (Dent 1995:86). Stands of oak and hickory were also common during this period, and hickory nuts appear to have been a significant element of the diet of Mid-Holocene occupants of the Coastal Plain (Whyte 1990:126).

After 5,000 years ago, the climate of the Chesapeake Bay region became increasingly drier, and white oak continued to be the dominate forest species, with pine becoming increasingly more common. Additionally, legumes and arrowwood joined elderberry and blueberry as significant understory species. By approximately 1,700 years ago, the region became wetter and cooler, and mixed hardwood vegetation combined with an increase in pine, particularly in the lower Tidewater area, dominated the regional flora (Dent 1995:86-88).

Map Unit Symbol	Description
14B	Peawick-Slagle complex, 2 to 6 percent slopes
18B	Slagle fine sandy loam, 2 to 6 percent slopes
19A	Uchee loamy sand, 0 to 2 percent slopes
19B	Uchee loamy sand, 2 to 6 percent slopes



Project Area
Soils

0 150 300 Feet
(At original document size of 8.5x11)
1:3,600

N

Stantec

Project Location
Isle of Wight County, Virginia

Prepared by ECL on 2023-03-03
TR by JMH on 2023-03-29
tR by BSS on 2023-03-29

Client/Project
195602607
Dawood Engineering, Inc.
VAL025 Solar Project

Figure No.
2

Title
Soils Map

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dawood Engineering, Inc., U.S Census Bureau, USDA NRCS SSURGO Soil Survey, VDOT
3. Orthoimagery © Virginia Geographic Information Network (VGIN)

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Wetland environs have also undergone considerable change over time as sea level fluctuations have created, destroyed, and recreated new estuaries and tidal flats. Cypress and white cedar were the most common trees in the wetland areas of the region during the prehistoric period, a trend that has continued into the present. While cordgrasses were prominent in estuarine areas, sedges and other grasses dominated freshwater wetlands. These grasses would have played an essential role in the lives of the region's indigenous population (Dent 1995:91-92).

The unique freshwater/saltwater environment found in the local estuary system has served to create a wide degree of faunal diversity in the region. By approximately 2,000 to 3,000 years ago, human populations would have enjoyed an ecosystem similar to that of today. A wide variety of fish and shellfish species coupled with numerous avian species would have allowed prehistoric inhabitants of the area to exploit an abundant food base. Likewise, the cultivation of plants such as corn, beans, and squash, and the hunting of mammalian species would have completed a tremendously diverse diet. Oysters, crabs, fresh and saltwater clams, shrimp, mussels, bass, flounder, shad, herring, snapper, sturgeon, and bluefish were among the important riverine and estuary fauna of the tidewater area that native inhabitants of the region would have exploited (Dent 1995; Stevens 1991).

3.0 CULTURAL CONTEXT

Virginia's Native American prehistory is typically divided into three main periods: Paleoindian; Archaic; and Woodland. These divisions are based on changes in material culture and settlement systems. In more recent decades, the possibility of human presence in the region that predates the Paleoindian period has moved from remote to probable. For this reason, a Pre-Clovis discussion precedes the traditional tripartite division of Virginia's Native American history. The seventeenth-through twentieth-century historical overview follows the DHR (2017) guidelines. The cultural context, as defined by the *Secretary of the Interior's Standards and Guidelines for Archaeology* and Chapter3 of the DHR's 2017 guidelines, provides the historic, social, and environmental information required for evaluation of any cultural resources present within the Project Area.

3.1 PRE-CLOVIS (? –13,000 BC)

The 1927 discovery of a fluted point in the ribs of an extinct species of bison at Folsom, New Mexico proved that ancient North Americans had immigrated during the Pleistocene. It did not, however, establish the precise timing of the arrival of humans in the Americas, nor did it adequately resolve questions about the lifestyle of those societies (Meltzer 1988:2-3). Both the stratigraphic record and the radiocarbon assays from several sites, including the Cactus Hill site in Sussex County, Virginia (44SX0202), suggest the possibility of human occupation of North America before the fluted point makers appeared on the scene (McAvoy and McAvoy 1997). Buried strata at the Cactus Hill Site have returned radiocarbon dates of 15,000 years ago from strata situated below levels containing fluted points (McAvoy and McAvoy 1997:165). To date only a handful of pre-Clovis sites have been identified in North America, including in Pennsylvania, Virginia, and New Mexico. Though the likelihood of identifying pre-Clovis sites within the Project Area is extremely low.

3.2 PALEOINDIAN PERIOD (PRIOR TO 8000 BC)

In the decades following the discovery at Folsom, New Mexico, the association of fluted points with the bones of large, extinct mammals, in particular mastodons, on the western plains coupled with the scarcity of other Paleoindian sites, led to the inference that the Paleoindian subsistence strategy centered on the pursuit of big game. This picture, however, exaggerates the reliance of western Paleoindian groups on large game, and appears to be of limited relevance to eastern Paleoindian life. The archaeological data from Virginia compiled by Dr. Ben McCary records numerous discoveries of fluted points, but no unambiguous association between extinct large game and fluted points (Boyd 1989:139). A similar situation occurs throughout the eastern United States. For this reason, many archaeologists now hold that eastern Paleoindians were generalized foragers (e.g., Grayson and Meltzer 2003; but see Fiedel and Haynes 2004).

Most large Paleoindian sites in the southeastern United States are quarry or quarry-related (Meltzer 1988:21), though multiple band aggregation sites also occur (McAvoy 1992:145). Recognizable sites most often result from long-term habitation or repeated use of the same location. It follows from the presence of primarily quarry or quarry-related sites that stone outcrops were regularly revisited. Though the full range of available lithic resources was used to manufacture fluted points (e.g., Phelps 1983), a number of studies have noted a focus on cryptocrystalline materials (e.g., chert, jasper, chalcedony) (Gardner 1974, 1989; Goodyear 1979). The recovery of cryptocrystalline materials at locations far removed from quarries indicates exchange, extensive group movement, or both characterized the Paleoindian era. In addition, the very limited differences between sites and within sites suggest that most people had access to all available resources, while the small size of most Paleoindian sites indicates group size generally was limited to extended families.

3.3 ARCHAIC PERIOD (8000–1200 BC)

The Archaic began with the northward retreat of periglacial environments and the appearance of archaeological assemblages lacking fluted points. In the Chesapeake Bay region, a shift from moist, cool conditions to a warmer, drier climate accompanied the glacial retreat. In response to changing climatic conditions, in particular the receding ice sheets, Chesapeake Bay sea levels rose continuously from roughly 15,000 years ago to the present. Simultaneously, local subsidence of the earth's crust also may have contributed to the formation of the Chesapeake Bay. Between 15,000 and 14,000 years ago, the waters of the Atlantic began to submerge portions of the continental shelf. For every 30 centimeters (approximately 1 foot) of sea level rise, approximately 510 meters (approximately 1,673 feet) of the shelf were inundated. Ten thousand years ago the sea began to flood the mouth of the ancestral Susquehanna River, located near the present-day mouth of the Chesapeake Bay. Sea level rose at 0.2 centimeters (approximately 0.1 inch) per year between 8000 and 3000 years ago. At 8000 years ago, the head of the ancestral bay was near Smith Island, at 5000, near Annapolis, and by 3000 years ago, it had reached the Sassafras River. Numerous archaeologists suggest that the stabilization of water levels in the bay at this time provided the necessary conditions for the development of extensive shellfish beds and habitats favorable for anadromous fish (e.g., Waselkov 1982). After approximately 1000 BC, sea level rise slowed to approximately 0.12 centimeters/year, and Chesapeake Bay approached its present contours (Dent 1995:69-95).

In addition, in contrast with the broad similarity among Paleoindian point forms, distinct style zones developed during the Early and Middle Archaic (8000–3500 BC). The Atlantic Coast/Southeastern stylistic sequence was not characteristic of the Midwest (Ford 1974:392). In addition, increased use of locally available lithics occurred between 8000 and 3500 BC (Custer 1990:36; Sassaman et al. 1988:85-88). The reduction of the size of style zones and the focus on local lithic materials implies contracting social networks and incipient territories, possibly a reaction to population growth (Anderson and Hanson 1988:271). Despite changes in patterns of mobility and point form, numerous archaeologists argue on environmental (Custer 1990:2-8) and subsistence (Smith 1986) grounds for continuity in social dynamics between 10,000 and 6,000 BC. From this point of view, Dalton through Lecroy populations exhibited "general similarities and regional habitat-related variation in settlement-subsistence patterns and material

culture assemblages" (Smith 1986:10). Band-level social organization involving seasonal movements corresponding to the seasonal availability of resources and, in some instances, shorter-interval movement characterized Archaic societies.

Reliance on ground-stone technology increased during the Archaic period. New tool categories associated with the Archaic include celts, net sinkers, pestles, pecked stones, and axes Archaic knappers also produced chipped-stone versions of celts and axes and, near the end of the Late Archaic, labor-intensive vessels carved from soapstone quarried in the Piedmont formed an important part of assemblages (Geier 1990; McLearen 1991).

3.3.1 Early Archaic (8000–6500 BC)

Corner- and side-notched points with serrated blades predominate at the beginning of the Early Archaic period, reflecting innovation in hafting technology and, possibly, the invention of the atlatl. Notched point forms include Palmer and Kirk Corner-Notched and, in localized areas, various side-notched types. Around 7000 BC, a variety of bifurcate base projectile point forms appeared in the Middle Atlantic region. In eastern Virginia, LeCroy points constitute the majority of bifurcate forms (Dent 1995; Justice 1995). Despite the shift in point form over time some researchers portray the Early Archaic as a continuation of the Paleoindian period, characterized by reliance on cryptocrystalline lithic material and similar settlement and subsistence patterns (Gardner 1989). Early Archaic sites are still locally uncommon at this time, and it is during the Middle Archaic period that a proliferation of sites occurs in the region (Gardner 1982, 1986).

3.3.2 Middle Archaic (6500–3000 BC)

The appearance of stemmed projectile points and a shift towards more expedient use of stone marks the beginning of the Middle Archaic across much of the Atlantic Slope and Southeast (Amick and Carr 1996:43-45; Justice 1995). In this area of Virginia, the most common Middle Archaic projectile point types are (from oldest to most recent) LeCroy, Stanly, Morrow Mountain, and Guilford, followed by the side-notched Halifax type sometime after 3500 BC. This latter type is generally one of the most abundant found in upland interior settings; however, it is possible that many riverine sites of the period are hidden under alluvial sediment. Informal modified flakes to some extent replaced formal unifacial tools, and local materials constitute a greater percentage of Middle Archaic assemblages than had been true of earlier time periods. Sites occur throughout the landscape, including beneath the now-inundated Chesapeake Bay (Blanton 1996; Dent 1995:173-178).

An analysis of components from the Piedmont (Klein and Klatka 1991) indicates only slightly higher use of interior uplands over riverine settings during the Middle Archaic period and, within the riverine settings such as the present Project Area, there is a fully equal use of both alluvial landforms (floodplains/low terraces) and upland landforms/bluffs adjacent to the rivers (Klein and Klatka 1991:155). However, a repetition of this pattern in the Project Area, located within the Valley and Ridge region, would be dependent on geomorphological conditions: i.e., artifacts indicating the entire span of the Middle Archaic could be present on all landforms, unless the alluvial bottoms are restricted to sediments of too recent an

age to contain deposits of such antiquity. Where sediments are too young, however, evidence of Middle Archaic presence should be concentrated on old, stable landforms lying as close as possible to the river and its small tributary streams.

3.3.3 Late Archaic (3000–1200 BC)

Stemmed and notched knife and spear point forms, including various large, broad-bladed stemmed knives and projectile points (e.g., Savannah River, Susquehanna, Perkiomen points), rank among the most distinctive and securely dated Late Archaic point forms (Coe 1964; Dent 1995; Justice 1995; Ritchie 1971). Marked increases in population, and, in some areas, decreased mobility appear to characterize the Late Archaic throughout eastern North America. Locally, the increase in the number of Halifax and Savannah River components and sites relative to the preceding periods suggests population rose in Virginia between about 3500 BC and ca. 1200 BC.

Mouer (1991a:262) believes it likely that "at least intensive harvesting of wild seeds," if not the beginnings of domestication, characterized Transitional through Early Woodland times (ca. 2000–500 BC) in the Chesapeake Bay region, as it did in the Midwest. The process, however, did not proceed at an even rate across the Eastern Woodlands or the Middle Atlantic Region (Stewart 1995:184-5). Yarnell (1976:268), for example, states that sunflower, sump weed, and possibly goosefoot may have been cultivated as early as 2000 BC. In the lower Little Tennessee River valley, the remains of squash have been found in Late Archaic Savannah River contexts (ca. 2400 BC), with both squash and gourd recovered from Iddins period contexts of slightly more recent date (Chapman and Shea 1981:70). Experiments with domestication in the Mid-Continent indicate the possibility, even the likelihood, that the inhabitants of the Middle Atlantic cultivated small grains and other plants (Hodges 1991:228-230; Mouer 1991b:259-263). "Scant" evidence for early cultivation appears in the archaeological record from Virginia, however (Mouer 1991a:259; Gallivan and McKnight 2006).

Soapstone bowls are a well-known feature of Late Archaic exchange systems (McLearen 1991:107-8). In addition, Stewart (1989:52) argues for broad-based exchange of "artifacts made from jasper, argillite, rhyolite, ironstone, soapstone, Midwestern lithics, obsidian, marine shell and copper" throughout the Middle Atlantic region during the Late Archaic. Thus, Late Archaic society clearly differed from that of earlier times. The production and wide-spread exchange of utilitarian and ritually important, labor-intensive goods does not fit the expected archaeological signature of highly egalitarian foragers. Rather, a social order exhibiting some sort of status differences among individuals or groups (Mouer 1991a:265) and somewhat restricted group movement (Stewart 1989:57) likely existed. Still, sites dating to the Late Archaic occur frequently throughout Virginia and the Middle Atlantic region. Late Archaic sites occur in greater numbers and in a wider range of environments than sites associated with the Early and Middle Archaic periods (Klein and Klatka 1991).

3.4 WOODLAND PERIOD (1200 BC–AD 1600)

Increasing use of ceramic technology, a growing dependence upon horticulture, and a shift toward greater sedentism characterize the Woodland period. Most researchers divide the Woodland period into

three sub-periods (Early Woodland, Middle Woodland, and Late Woodland), based primarily on stylistic and technological changes observed in ceramic wares and projectile points, as well as shifts in settlement patterns (e.g., Gardner 1982). Not all researchers agree with this tripartite subdivision, however.

3.4.1 Early Woodland (1200–500 BC)

The onset of the Woodland period traditionally correlates with the appearance of ceramics (Willey and Phillips 1958:118). Early theorists linked ceramics with agriculture, though few continue to support this position (cf. reviews in Egloff 1991; Hodges 1991). Rather, the evolution of subsistence and technological systems (e.g., Gardner 1982) and various aspects of pan-Eastern interaction (e.g., Egloff 1991; Klein 1997) currently are believed to underlie the evolution of ceramic containers.

The steatite-tempered Marcey Creek type and variants containing other mineral inclusions appear to date between 1200 and 800 BC (Egloff 1991:244-5). Manson (1947) unearthed flat-bottomed, plain sherds and cord-marked sherds with conoidal bases, both of which included soapstone-temper, in the uppermost of two distinct strata at the Marcey Creek Site. The lowermost level contained narrow variants of Savannah River points, termed Holmes Points by Gardner (1986), and soapstone bowls, suggesting that soapstone-tempered sherds post-date bowls of soapstone (but see Sassaman 1999). Earlier Slattery (1946) had identified similar sherds at a site on Seldon Island, along the Potomac River to the northeast of Leesburg, along with sand-and-grit tempered sherds. Though friable sand-and-grit-tempered Accokeek Creek and Elk Island ceramics appear subsequent to Marcey Creek, associated C-14 on stratified sites, dates range from 1100 through 500 BC. Klein and Stevens (1996) cite regional data to support the proposition that, while the thickness, amount of temper, and size of temper in quartz/sand-tempered, cord-marked ceramics shifted over time, similar pots continued in use into Middle Woodland times.

Small bifaces and expedient tools such as drills, perforators, scrapers and utilized flakes regularly appear in Early Woodland assemblages. Other lithic artifacts reported on Early Woodland sites in the Chesapeake region include bipolar flakes, hammerstones, net sinkers, mortars, and pestles (McLearen 1991). Also noted on sites in the region are tools of bone, and projectile points manufactured from antler, bone, turkey spurs, and shark's teeth (Waselkov 1982). The increased number of sites dating to the Early Woodland, coupled with the recognition of structures, features, and activity areas at some sites, suggests rising population size in the Chesapeake region (e.g., Mouer 1991b:38-9; Stewart 1995:183). In contrast, noting that the addition of pottery to stone adds temporally diagnostic artifacts to the archaeological record, Fiedel (2001:106–7) observes that more sites are expected to appear in the archaeological record during Woodland times. Furthermore, the various Broadspears, dating to the Terminal Archaic (ca. 2000–1000 BC), may represent a curated technology (Barber and Tolley 1984), while replication experiments suggest stemmed bifaces similar to Early Woodland types rank among the easiest forms to produce using quartz (Bourdeau 1981). Therefore, a shift from a curated, less commonly discarded biface form, to points easily produced from a ubiquitous material accompanied the appearance of ceramics. Thus, the absence of a dramatic swell in the number of sites, coupled with decreased representation of diagnostic point forms, indicates a demographic trough or at best a flat demographic curve characterized the period.

In general, sparse concentrations of artifacts characterize Early Woodland sites (Mouer 1990:160-174; Stewart 1998:2). Regardless, the preservation of an extensive accumulation of Early Woodland artifacts suggests the existence of a unique geomorphological, and probably social, setting. Overall, the data appear to indicate a return to the mobile, egalitarian social organization characteristic of Early and Middle Archaic times (Klein 2003). Even at large Early Woodland sites post-dating AD 800, very limited evidence of long-distance exchange or the manufacture of labor-intensive artifacts comparable to the soapstone exchange of the Terminal Archaic appears.

3.4.2 Middle Woodland (500 BC–AD 900)

Popes Creek net-impressed ceramics appear after roughly 500 B.C., marking the beginning of the Middle Woodland I period (500 BC–AD 200) (Blanton 1992:72-3; Egloff and Potter 1982:99). Cord-marked ceramics and stemmed points, however, continued in use for some time after AD 500 (McLearen 1992:44-5), for example, lumps the period between 3000 BC and AD 1000 under the rubric Woodland I based on the similarity in adaptation and the presence of considerable variation in the form of contemporaneous stemmed and notched points.

Net-impressed surface treatments occur on a variety of ceramic types manufactured during Middle Woodland times. Pope's Creek ceramics first appear after 500 BC, with the start of the Middle Woodland (Blanton 1992:72-3; Egloff and Potter 1982:99). Early Woodland cord-marked ceramics and stemmed projectile points are found in Middle Woodland contexts, suggesting a continuation of Early Woodland technologies (McLearen 1992:44-5). The Prince George and Varina types appear to represent a continuum of development in the technology used to produced Popes Creek sherds, rather than dramatically different types (Mouer et al. 1986).

The appearance of assemblages containing significant amounts of durable ceramics after 500 BC indicates a shift in the organization of production occurred during the Middle Woodland periods (Brown 1986, 1989). In addition to the advantages of ceramic vessels as cooking pots, ceramic production contrasts with the manufacture of baskets and wooden bowls in its embrace of economies of scale. Rather than a start-and-stop process that fits well into odd bits of time, ceramic production required greater scheduling and continued attention over an extended period of time. Shifts in the scheduling of work, therefore, accompanied the transition from Early to Middle Woodland times.

Broad-spectrum hunting-fishing-gathering continued to characterize the region as a whole throughout the Middle Woodland period. Shellfish, anadromous and resident fishes, deer, waterfowl, and turkey ranked high among the important fauna in the Middle Woodland diet. Various nuts, amaranth, and chenopod seeds also appear to be important resources during this period. After 300 BC, large shell middens containing dense concentrations of artifacts become increasingly common, indicating repeated use of at least one type of site. Middens and the presence of houses at a number of sites indicate longer stays, though populations remained far from sedentary (Gallivan 2003). People continued to reside for much of the year in relatively small settlements, and interior storage features rarely occur on Middle Woodland sites (Gallivan 2003:75-98).

3.4.3 Late Woodland (AD 900–1600)

Intensified use of cultivated plants, particularly maize, beans, and squash, distinguished the Late Woodland adaptation from that of earlier periods. European accounts describe a heavy reliance on slash-and-burn agricultural methods. In addition to cultigens and shellfish, Late Woodland peoples throughout the region continued to rely on various mammals, fish, and birds for sustenance (Dent 1995:251). Perhaps as a consequence of the greater importance of cultigens in the diet, access to expanses of arable land ranks among the most important factors influencing site selection (Dent 1995; Potter 1993).

Small, triangular arrow points, generally believed to reflect the widespread use of the bow-and-arrow, form the overwhelming majority of Late Woodland projectile points. Triangular points include the Levanna, Madison, Roanoke, and Clarksville types, which vary in size and base form. Point size may also decrease over time (Coe 1964; Potter 1993; Ritchie 1971). Shell beads and copper beads became important ornaments and symbols during the Late Woodland period, primarily in the last few centuries prior to the arrival of European colonists. Powhatan's Mantle, a deerskin cloak decorated with thousands of small marginella beads sewn into various patterns, reflects the use of shell beads as symbols of identity and status. Pendants and gorgets made of shell were also common. Of note, five engraved shell masks, decorated with a traditional Southeastern "forked/weeping eye" motif were found in a seventeenth-century burial on the floodplain of the Potomac River in Stafford County. Three of the five masks exhibit similarities to masks recovered from sites in the Southeastern U.S. (Smith and Smith 1989), possibly an indication of long-distance trade. Bone also was used to manufacture beads, as well as utilitarian items such as pins, fishhooks, and points.

Late Woodland populations constructed palisaded villages. In addition, Native American settlements included nucleated villages lacking palisades, dispersed hamlets, and temporary camps. Work by Potter (1993), Hodges and Hodges (1994), and Mouer et al. (1992) suggest that dispersed villages were common throughout Virginia. Housing varied throughout this region: some sites show evidence of longhouses located adjacent to the palisade, while elsewhere, short, oval structures have been unearthed (Dent 1995; Gallivan 2003; Hodges and Hodges 1994; Mouer et al. 1992; Potter 1993; Stephenson 1963).

The large base camps, hamlets, and villages are typically located on bluffs, terraces, or high floodplains adjacent to rivers or major tributaries. Small seasonal camps and non-seasonally based satellite camps supporting nearby sedentary villages and hamlets are located along smaller streams in the interior. Limited concentrations and sparse scatters of lithics and ceramics typically characterized these campsites. The majority of the Late Woodland sites that had been recorded at the time of the Barber et al. (1992) study were located along the major high order streams and rivers, consistent with the ethnohistoric evidence (e.g., Rountree et al. 2007). By the end of the Late Woodland Period, Dent (1995) notes that a generally unoccupied buffer zone appears to have been maintained between the Powhatan on the inner Coastal Plain and the Monacan west of the fall line. According to Dent, this, and other similar buffer zones throughout the Chesapeake region, may have been game preserves or just "...the result the tendency of chiefdoms to nucleate populations for the purposes of control."

3.5 SETTLEMENT TO SOCIETY (1600–1750)

In May 1607, a small group of Englishmen under the authority of the Virginia Company of London arrived at Jamestown Island, where they established the first permanent English settlement in the New World. English contact with Native Americans living in what is now Isle of Wight County occurred in 1608 when Captain John Smith purchased 20 bushels of corn from the Warrosquoyacke people. Smith and other early settlers contacted the Warrosquoyacke on several occasions as their villages were located along the James River near Pagan Point (Boddie 1938).

The first English settlers in what is now Isle of Wight County included Captain Christopher Lawne, Sir Richard Worsley, Nathaniel Basse, and John Hobson. Soon after their arrival at Jamestown in April 1619, a settlement was established on the south shore of the James River at Lawne's Creek, near the current boundary between Isle of Wight and Surry counties (Morrison 1907). Lawne's plantation was known as Warrosquoyacke, after the local Indian group. Lawne represented his plantation at the first meeting of the House of Burgesses in 1619; however, Lawne and most of the settlers on his plantation died within the year. After Lawn's death, the plantation was renamed Isle of Wight Plantation for the English island where a number of the early settlers were from (Morrison 1907). Edward Bennett was granted a patent along the Pagan River in 1621, and was soon followed by Nathaniel Basse, who settled at Basse's Choice. These Southside settlements were devastated and suffered the loss of 53 colonists the following year during the Powhatan uprising and massacre of 1622. Sir George Yeardley led a punitive expedition later in the year against the Warrosquoyacke and Nansemond, which helped to open the south shore of the James to increasing settlement. When Virginia's first counties were created in 1634, Warrosquoyacke County encompassed the Isle of Wight (Hiden 1957). Warrosquoyacke was divided in 1647 between Isle of Wight to the west, and Upper and Lower Norfolk counties to the east. Early settlement of the county centered round the James River's south shore and both the east and west shores of Pagan Creek (King 1993). In the 1623-1624 census, only 53 people lived at Warrosquoyacke as settlers were hesitant to return after the 1622 massacre (Boddie 1938; Morrison 1907).

As early as 1632, The Old Brick Church, now known locally as Old Saint Lukes Church, was constructed. Though the exact date of construction is not known, a church was extant at least by 1638. A deed registering the conveyance of 100 acres to John Marshall references the church and that the parcel was bound by a deep swamp (Jones Creek) (King 1993). John Fulgham, also in 1638, deeded one acre of land to the Lower Parish vestry which was described as the land on which the church stood and that it was located near a deep swamp. This information further confirms the presence of the church in 1638 (King 1993). In addition to confirming the location of the Old Brick Church, these deeds also reference the "main road" which appears to generally follow the current course of Route 10 between Smithfield and Suffolk. The colonial settlement of Isle of Wight County focused on the major rivers and especially along the James and Pagan rivers near Smithfield.

3.6 COLONY TO NATION (1751–1789)

The latter half of the eighteenth century brought widespread changes to the American colonies. The French and Indian War, which began on the Virginia frontier in 1753, caused Britain to levy new taxes and to impose new restrictions upon settlement of new territories in 1763. Parliamentary Acts restricted free trade and navigation, imposed unpopular taxes on items such as molasses (1733) and sugar (1764), and the Stamp Act of 1765 coupled with the doubling of the Export Tax the year before put severe strains on Northern merchants. The trickle-down effect on Southern planters was apparent. Tobacco prices were persistently low, the economy sluggish, and the dependence and indebtedness to British merchants was growing. The complaints of these southern planters, their northern merchants, and the western land speculators helped to "unite" an otherwise diverse continent into what would become a country (Sadler 2006:24; Billings 1975).

Isle of Wight's economy in the second half of the eighteenth century still centered around tobacco cultivation, despite the fact that the Southside's sandy soils were never particularly conducive to growing it. By the later years of the eighteenth century, however, Isle of Wight's farmers were beginning to diversify their crops and explore alternative products. Touring the Smithfield area in 1783, German visitor Johann David Schoeff commented that:

> "...the coast is nearer here, one has passed the tobacco country proper, the plant not thriving on the poorer sandy soil of the region, but tobacco is brought hither from more distant parts; on the other hand, the extensive pine forests supply a different sort of produce, namely tar, pitch and turpentine, which with salted hog meat are the most important articles for export of this place" (King 1993:194).

Isle of Wight County was the scene of several military actions during the seventeenth and eighteenth centuries. In 1676, the county was the scene of Bacon's Rebellion and during the Revolutionary War, British troops passed through the county (Morrison 1907). As with most other parts of Virginia, Isle of Wight's citizens' loyalties were divided, as revolution grew imminent in the 1770s. A considerable number of English and Scots immigrants resided in Isle of Wight, and when they left the county—willingly or not—their lands were considered escheated and sold to their more "patriotic" neighbors. A number of local men joined the Princess Anne District Battalion in 1775 and fought at Kempsville and Portsmouth. Later in the war, Isle of Wight men served in the 7th, 8th, and 9th companies of the 4th Virginia Regiment of Foot. No major battles were fought in Isle of Wight during the War of Independence, though British Lt. Col. Banastre Tarleton led a raid against the Isle of Wight courthouse in Smithfield in 1781. Tarleton succeeded in damaging the building, however, the court records were not lost to the attack, as they had recently been removed and hidden (King 1993:60-65).

3.7 EARLY NATIONAL PERIOD (1790–1829)

At the close of the Revolutionary War, residents across the state of Virginia entered a long period of social, political, and economic change. The rural economy based primarily in tobacco prior to the war was changed radically as farmland had been exhausted and the Capital moved to Richmond. It was not long

before a small group of Virginians dedicated to "scientific agriculture" helped to usher in a new era of productive farming. In his series of essays entitled *Arator*, Caroline County's John Taylor demonstrated the benefits of four-field crop rotation, in which soils could be improved significantly by rotating corn, wheat, fertilizer, and clover. Similarly, in the early 1820s, Edmund Ruffin publicized the effectiveness of marl in reducing soil acidity, a technique that could triple the productivity of Tidewater soils. Other agricultural improvements included contour plowing to reduce erosion, cast iron plows, threshing machines, and corn shellers (Kaplan 1993:87-88).

Despite the obvious benefits of the transition from tobacco to grain crops, the farming methods of the late eighteenth and early nineteenth centuries continued to have a deleterious effect on exhausted soils. Under the traditional three-crop rotation system, a field first would be planted in corn, the following year in wheat, then left unplowed the third year to provide grazing for cattle and hogs. Recognizing the need for improved agricultural practices, Loudoun County farmer John A. Binns spearheaded the agricultural reform movement in Virginia. His 1803 Treatise on Practical Farming, which won the admiration of President Thomas Jefferson, outlined a formula for improving crop yields that would come to be known as the "Loudoun System." In his widely read book, Binns recommended deep plowing, the use of gypsum to restore soil productivity, and revising the old crop rotation pattern to include a third year of clover (Poland 1976:84-88).

The first federal census of 1790 recorded that Isle of Wight County had a total population of 9,028, including 4,786 (53 percent) whites, 3,867 (43 percent) black slaves, and 375 (4 percent) free blacks. The total population of Isle of Wight grew little between 1790 and 1830, when county residents numbered 10,517. The number of free blacks, however, increased more than 300 percent over this same period (King 1993:139). During this period, Isle of Wight made the transition from an economy predominantly reliant upon tobacco as the cash crop to one characterized by diversified farming and the exploitation of the county's timber resources. The most important local products now included wheat, corn, oats, Irish potatoes, sweet potatoes, peas, beans, hogs, and forest products. By the 1830s, Isle of Wight farmers were also growing enough cotton to support two local factories (King 1993:198).

3.8 ANTEBELLUM PERIOD (1830–1860)

From 1830 to 1860, the population of Isle of Wight County remained virtually constant at around 5,000 inhabitants. Slavery was not as important to the social and economic makeup as in other Tidewater counties in the antebellum period, and Isle of Wight was also home to a significant number of free slaves before Emancipation. By 1860, there were 1,370 free blacks residing in the county; together they held 2,965 acres of land, a modest average of 44.25 acres per adult male (King 1993:146). Nevertheless, the institution of slavery differentiated Virginia from points north. Wealthy Virginians renewed their commitment to slavery. Other Anglo-Americans, however, became less likely to own slaves than during the earlier years of the Republic.

An agricultural and economic depression characterized much of this era, at least until the 1840s and 1850s. Wheat prices declined sharply. In addition, the completion of the Erie Canal opened the market to mid-western grains. Though agitation for the construction of canals had begun at the end of the previous

century, it was not until 1833 that the Chesapeake and Ohio Canal opened from Harpers Ferry to Georgetown (Keller 2000:24).

In order to compete with and for western commerce, the State borrowed heavily to invest in railroad and road construction between 1840 and 1860 (Willis 1986:425). In general, farm economies prospered during the 1850s as wheat prices rose. This period also witnessed the introduction and general use of animal-powered agricultural machinery (Parker 1986:90).

3.9 CIVIL WAR (1861–1865)

Isle of Wight County's economy had never been heavily oriented toward slave labor, and many of its citizens questioned the wisdom of fighting a sectional conflict to protect what they perceived to be the interests of large slave owners. However, when war was finally declared, many Isle of Wight men willingly took up arms to defend the Confederacy, some joining the Surry Light Artillery Company, and others the Isle of Wight Grays, which became Company D of the 16th Virginia Infantry Regiment (King 1993:164-66).

When Federal Major General Benjamin Butler seized Newport News in May 1861, Confederate General Robert E. Lee quickly realized the threat posed to Suffolk, an important junction of the Southside railroad lines connecting the port of Norfolk with Petersburg and Richmond. Immediately Lee ordered local commander Brigadier General Benjamin Huger to strengthen the region's defenses, and to erect or expand a number of fortifications along the Nansemond River and the south side of the James River in Isle of Wight County. On May 14, 1862, several Federal gunboats came up the James, and fired on Fort Boykin, an important Southside fortification located on Burwell's Bay, several miles west of Smithfield. Overwhelmed by the longer range of the Union guns, the Confederate defenders of Fort Boykin abandoned the defenses, destroying their guns and the fort's buildings in the process. After this engagement, Huger withdrew his forces from the Southside forts, and it is likely that the battery near Ragged Island was abandoned by late May 1862 (Cormier 1989:22-23; King 1993:168- 174).

Isle of Wight County saw few direct military engagements during the course of the war, the most significant being the Battle of Smithfield of January 31–February 1, 1864, in which a minor Union assault against the town was repulsed by its Confederate defenders. Living in a sort of no-man's-land, Isle of Wight's citizens were harried by frequent Federal cavalry raids, which frequently resulted in the appropriation of supplies and the destruction of property. An 1864 resolution of the county's justices succinctly outlined the hardships faced by Isle of Wight citizens during the war years:

> Whereas on account of the exposed condition of the county, being beyond the lines of the Confederate Army and subject to frequent and destructive raids of the enemy and the difficult and embarrassed communication with other sections of the state, our people, in a great measure, are dependent upon their own resources for an adequate supply of the necessities of life. And whereas, on account of the loss of almost our entire slave population, and the loss of a number of our free labor, and the conscription of white men between the ages of eighteen and forty-five to recruit the ranks of our armies, there is a

> great scarcity of productive labor, and whereas any further extension of conscription within the limits of this county will but result in the paralyzing of production and great suffering and hardships upon those who will be left at home... all other business is suspended in the county and, our people with scarcely an exception, are engaged in the cultivation of the soil (King 1993:179-80).

3.10 RECONSTRUCTION AND GROWTH (1866–1916)

Four years of civil war also had a devastating effect on Isle of Wight County, though it certainly suffered less than other parts of the Commonwealth. The county was left poorer in the wake of the conflict: agricultural life was hampered by the lack of draft animals and the poor condition of long-neglected fields; and it was difficult for most former slave owners to come to terms, both emotionally and financially, with emancipation. The county's population also dropped considerably in the immediate postwar years. In 1860, Isle of Wight's residents numbered nearly 10,000; by 1870, the population had dropped by almost 20 percent, to 8,320. After the war, both black and white residents left Isle of Wight in large numbers, many seeking work in nearby cities. Physically, economically, socially, and politically, the landscape of the county had been irrevocably altered in a short period of time (King 1993:139, 146).

Agricultural changes in Isle of Wight County, including the remarkable growth of peanut and soybean production, spurred population growth in the county toward the end of the nineteenth century, and by 1890 the county's population had well exceeded its pre-war levels. In the early twentieth century, Isle of Wight farmers profited from an expanding truck-farming market, supplying the growing cities of Newport News and Norfolk with a variety of fresh fruits and vegetables. The meat packing industry also grew considerably during this period, introducing the famed "Smithfield ham" to a national market (King 1993).

3.11 WORLD WAR I TO WORLD WAR II (1917–1945)

This era also saw frequent and rapid change in Isle of Wight County. For example, electric power became available to the majority of rural residents after 1939, when the Community Electric Cooperative first began raising power lines. But, perhaps the most significant local development witnessed during this period was the construction of the James River Bridge, officially opened by President Calvin Coolidge on November 17, 1928. Virtually overnight, the bridge ended Isle of Wight's relative isolation from Hampton Roads' growing urban centers. County businessman and booster Albert Sidney Johnson was instrumental in getting the main north-south U.S. highway (Route 17) routed through Isle of Wight via the James River Bridge and across the new Crittenden and Nansemond River bridges to Portsmouth and Norfolk. Initially the bridge tolls were high enough to discourage daily commuting to the Peninsula, but ready access to the region's cities still proved a significant stimulus to the local economy, despite the onset of the Depression (King 1993:214 and 227-28).

3.12 THE NEW DOMINION (1946–PRESENT)

Isle of Wight grew at an unprecedented rate after the Second World War, and today the county has a total of 28,500 residents, more than double the population at the turn of the twentieth century. In 1975, the state took over the James River Bridge and removed the tolls; as a result, Isle of Wight County quickly developed into a bedroom community of Newport News, with residential developments springing up along the Route 17 corridor. Despite this increasing residential growth, the majority of Isle of Wight County remains predominantly rural in character (King 1993).

4.0 HISTORIC MAP REVIEW

Historic maps were reviewed as part of the background research conducted for the archaeological survey. Online map repositories, including the Library of Congress, the United States Geological Survey (USGS) Historical Topographic Map Explorer, the online David Rumsey Map Collection hosted by Cartography Associates, and state and county maps of Virginia compiled online at www.mapgeeks.org were examined to identify historic maps which depict the Project Area. The details and observations from this review are summarized in Tables 2 and 3.

Table 2 Summary of Observations for Historic Maps

Figure	Year	Observations, Property and Adjoining Sites
3	1624	John Smith's early map of Virginia depicts the general vicinity of the Project Area as being located within the territory of the Powhatan. While no detail is provided for the Project Area itself, it is shown as being in close proximity to the village of the Warraskerack. It is also between two tributaries of the James River that separate it from the villages of Mokete to the south and Mathomauk to the east.
4	1755	This map illustrates the general location of the Project but does not offer significant detail. The Project Area is located near the confluence of the Pagan River, noted as "Pagan Cr." and the James River. The wider region includes major waterways, roads, towns, and plantations, often located along the James River.
5	1781	This map illustrates the marches of Lord Cornwallis through the Project Area vicinity during the American Revolution. One marching route was located south of the Project Area; however, there are no details depicted for the Project Area itself. Major waterways, towns, and plantations are shown in the wider region. The Pagan River ("Pagan Cr.") is shown and the nearest town is Burwell.
6	1827	Major waterways, including nearby "Burrels Bay" and the Pagan River ("Pagan C."), and roadways are depicted on this map as well as Smithfield Courthouse to the south. No detail is provided for the Project Area.
7	1864	This map shows roads and waterways but offers little additional detail of the Project Area vicinity. Portions of the Project Area appear to have been lightly wooded, mainly along the edges.
8	1891	This map depicts major waterways and roadways as well as mills, churches, and farmsteads. Farmsteads often include landowner or resident names. While there is no detail provided for the Project Ara, Fort Boykin is depicted to the east and a battery is shown to the northwest..

Table 3 Summary of Observations for USGS Topographic Maps

Figure	Year/Quad	Scale	Observations, Property and Adjoining Sites
9	1907 Yorktown, Virginia	1:62,500	This map depicts the Project Area vicinity as primarily rural with sparse occupation. Structures are shown both on major roads as well as along driveways or access roads, including near the northeastern portion of the Project. The Project Area is shown as primarily open land; however, woodland is depicted in the southwest corner.
10	1948 Bacon's Castle, Virginia	1:24,000	This map continues to show the Project Area vicinity as predominately rural with sparse occupation. A dirt farm road which borders the Project to the north appears for the first time on this map. This road was not present on a prior map from 1943. The Project Area is shown as partially wooded in the southern half.

HISTORIC MAP REVIEW

Figure 3 Detail from *Virginia Discovered and Described* Depicting the Project Area Vicinity (Smith and Hole 1624; Library of Congress Geography and Maps Division).

HISTORIC MAP REVIEW

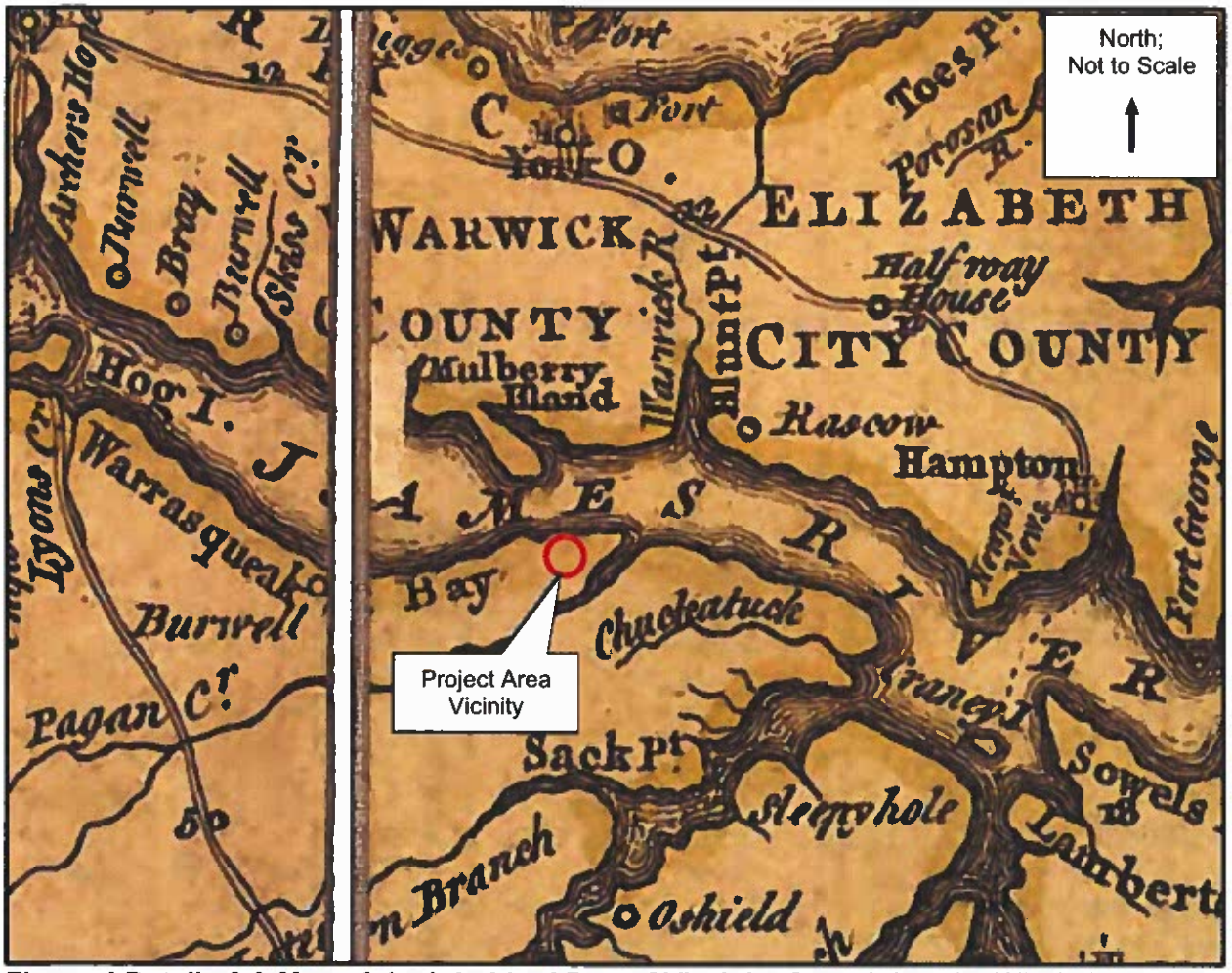


Figure 4 Detail of *A Map of the Inhabited Part of Virginia, Containing the Whole Province of Maryland with Part of Pensilvania, New Jersey and North Carolina* Depicting the Project Area Vicinity (Fry et al. 1755; Library of Congress Geography and Map Division).

HISTORIC MAP REVIEW

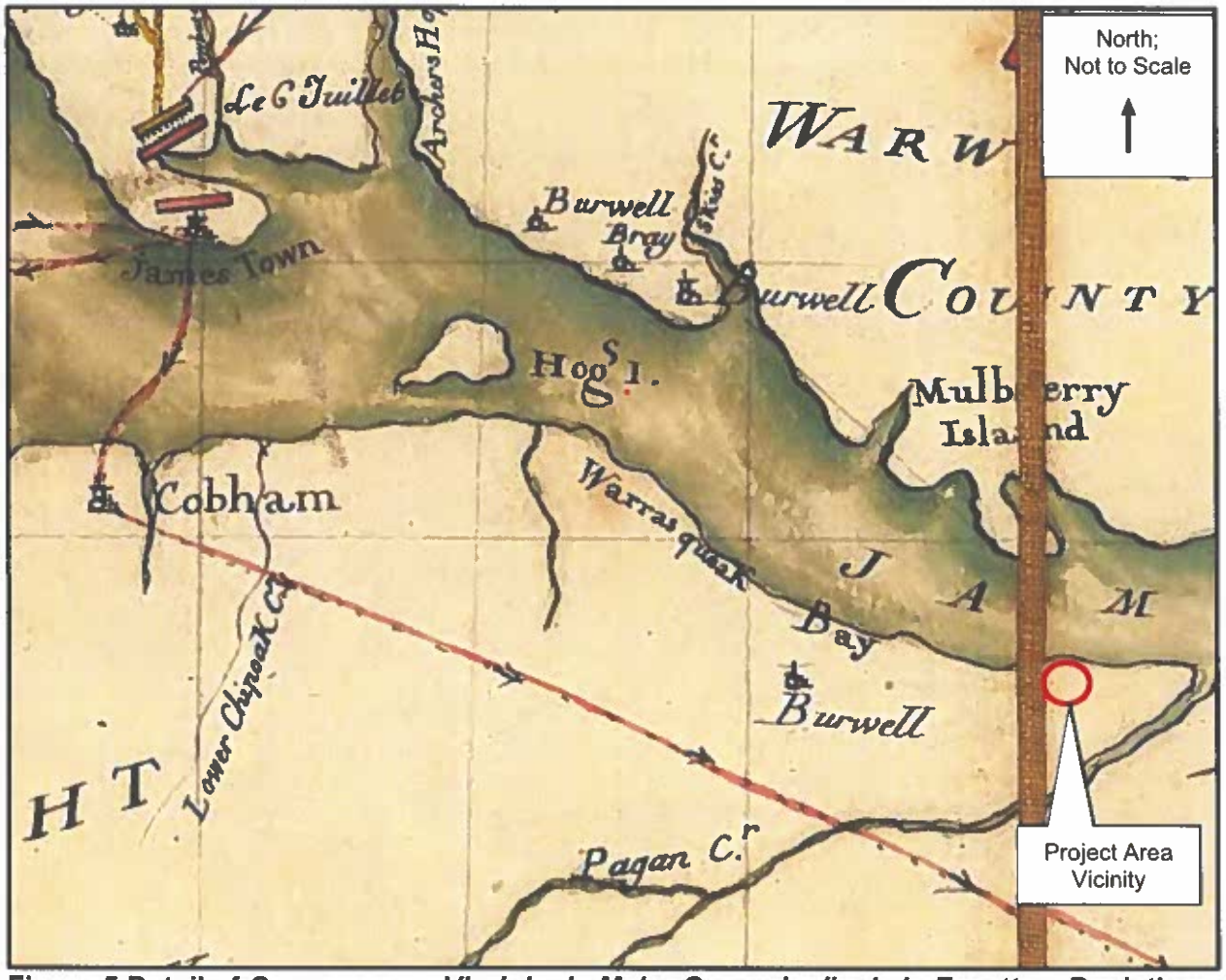


Figure 5 Detail of *Campagne en Virginie du Major General m'is de LaFayette*... Depicting the Project Area Vicinity (Chesnoy and Lafayette 1781; Library of Congress Geography and Map Division).

HISTORIC MAP REVIEW

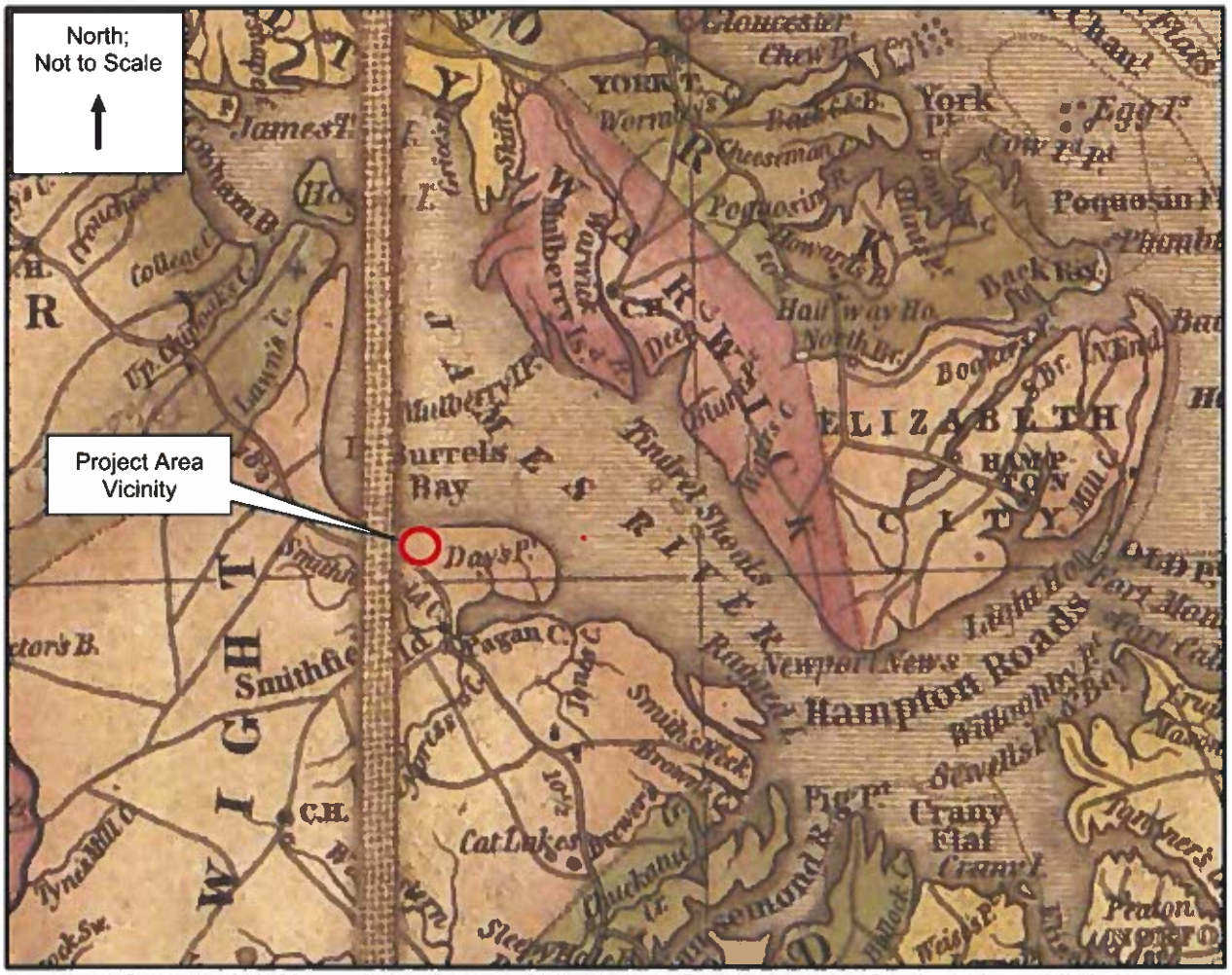


Figure 6 Detail of *A Map of the State of Virginia…* Depicting the Project Area Vicinity (Böÿe 1827; Library of Congress Geography and Map Division).

HISTORIC MAP REVIEW

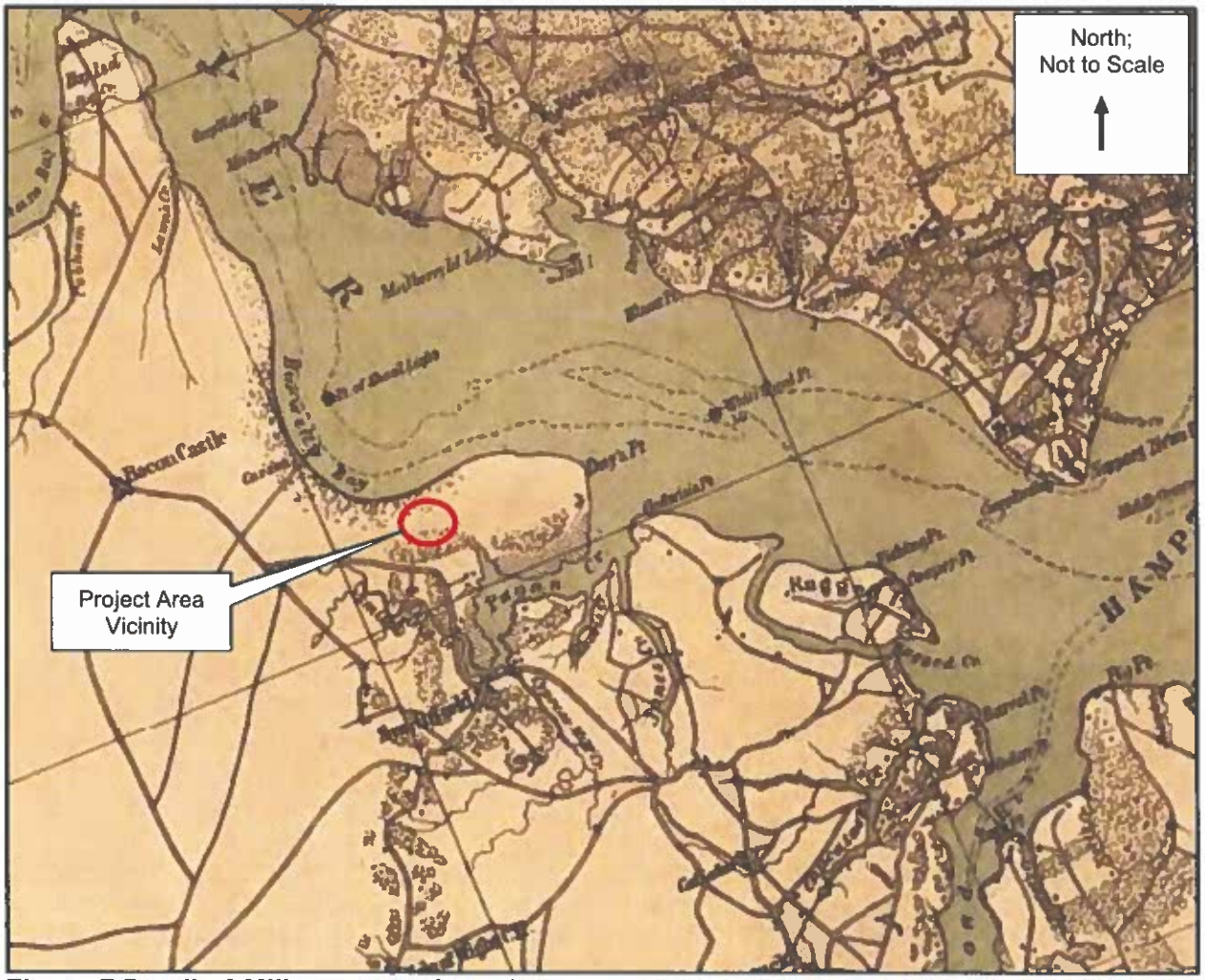


Figure 7 Detail of *Military map of south-eastern Virginia*, Depicting the Project Area Vicinity (Lindenkohl 1864; Library of Congress Geography and Map Division).

HISTORIC MAP REVIEW

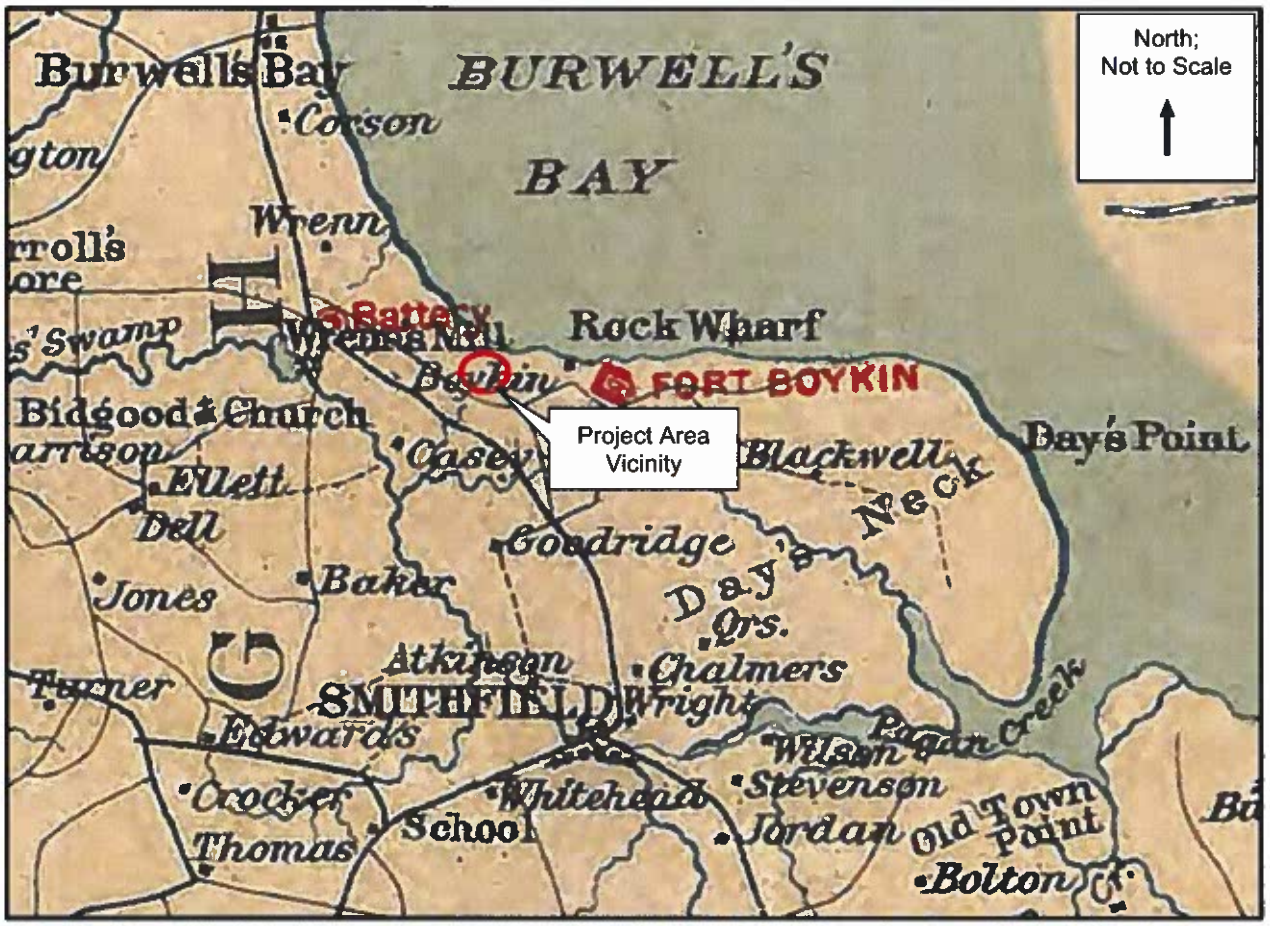


Figure 8 Detail of *Preliminary map of a part of the south side of James River, Va.: from surveys and reconnaissances* Depicting the Project Area Vicinity (Campbell et al. 1891; Library of Congress Geography and Map Division).

HISTORIC MAP REVIEW

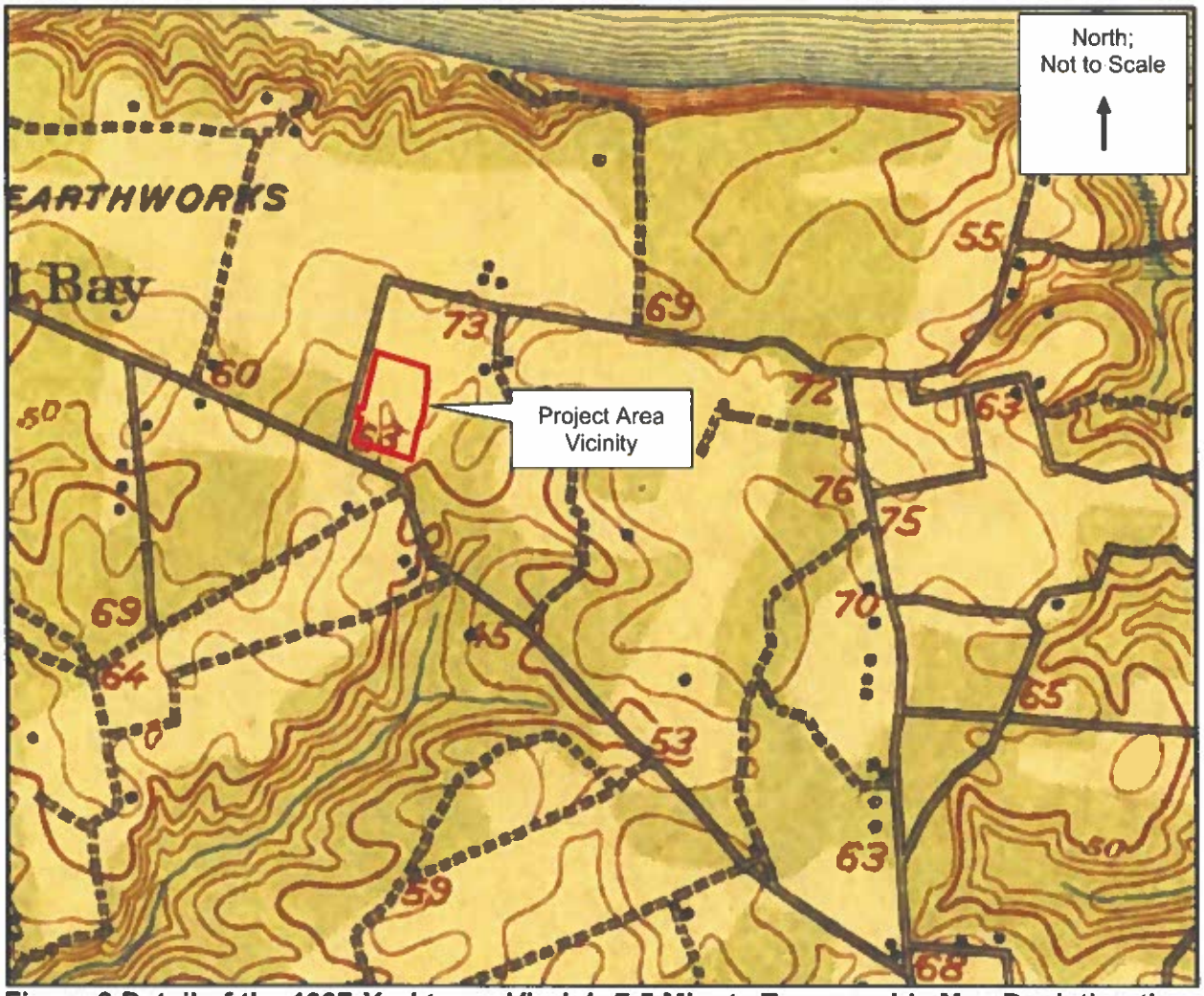


Figure 9 Detail of the 1907 *Yorktown, Virginia* 7.5 Minute Topographic Map Depicting the Project Area (USGS 1907; http://historicalmaps.arcgis.com/usgs/, Accessed 2023).

HISTORIC MAP REVIEW

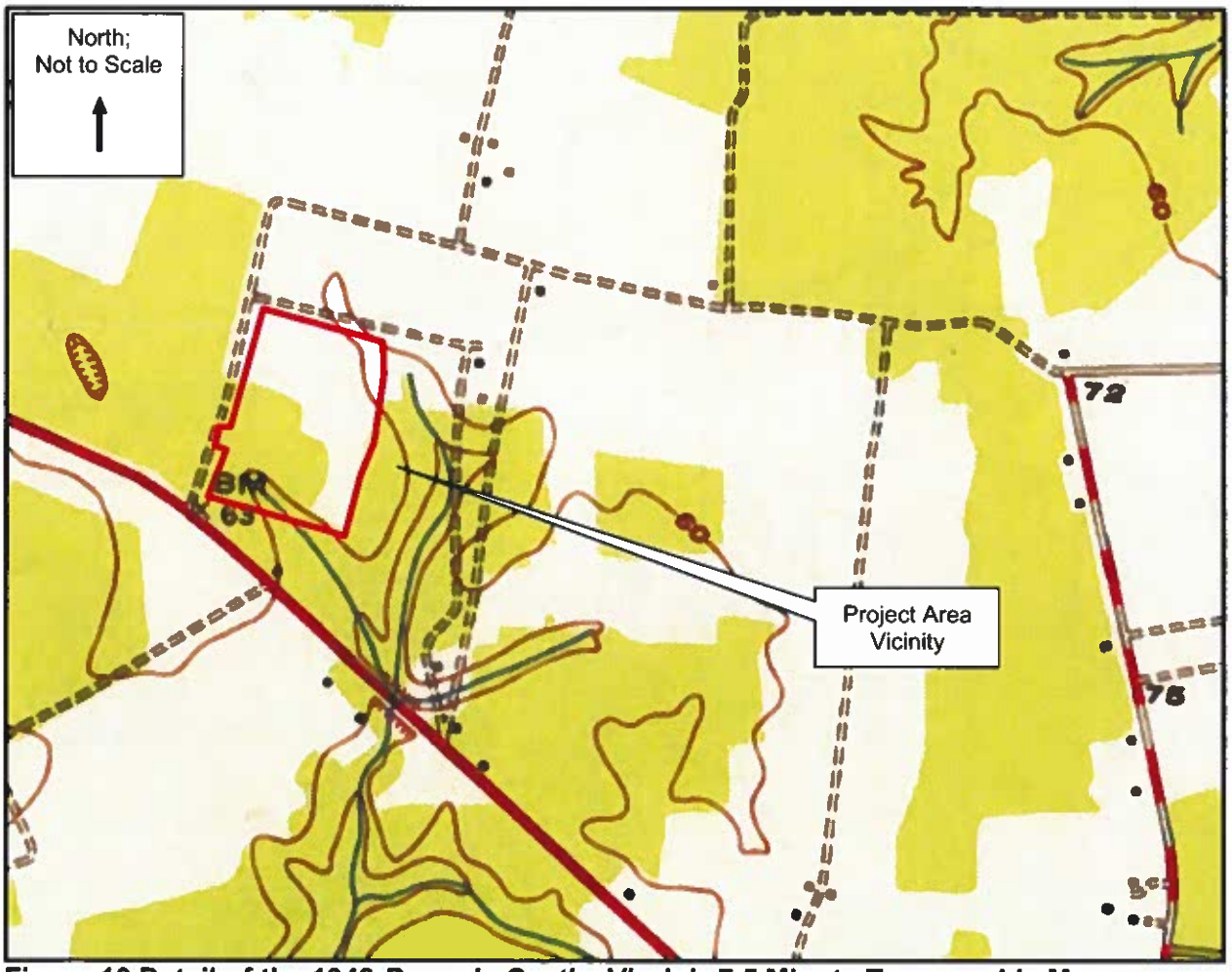


Figure 10 Detail of the 1948 *Bacon's Castle, Virginia* 7.5 Minute Topographic Map Depicting the Project Area (USGS 1948; http://historicalmaps.arcgis.com/usgs/, accessed 2023).

5.0 RESEARCH DESIGN

5.1 OBJECTIVES

The Phase I cultural resources survey was designed to locate and identify archaeological resources within the Project Area, as well as to document any standing structures 50 years of age or older located within the Project Area and within a 0.5-mile radius of the Project Area. Stantec designed the survey to obtain sufficient information to make recommendations about the research potential of identified cultural resources based on the resource's potential eligibility for listing on the NRHP. A cultural resource is gauged to be significant if it meets at least one of four NRHP criteria:

A. Associated with significant events in the broad patterns of national history.

B. Associated with the lives of persons significant in our past.

C. Representative of a type, period, or method of construction, or the work of a master.

D. Capable of yielding important information about the past.

Criterion D typically applies to archaeological sites. In order to be capable of yielding important information about the past, generally a site must possess artifacts, soil strata, structural remains, or other cultural features that make it possible to test historical hypotheses, corroborate and amplify currently available information, or reconstruct the sequence of the local archaeological record.

5.2 PREVIOUS INVESTIGATIONS

5.2.1 Previous Cultural Resources Surveys

No previously conducted cultural resource surveys have occurred within the Project Area.

5.2.2 Archaeological Sites

No previously recorded archaeological sites are located within the Project Area. Eleven previously recorded archaeological sites are located within a 1-mile radius of the Project Area (Table 4; Figure 11). Of these, three are Native American and eight are historic. None of the sites have been formally evaluated for potential NRHP eligibility.

Table 4 Previously Identified Archaeological Sites within a 1-Mile Radius of the Project Area

Resource	Resource Type	Association	Reference	NRHP Status
44IW0184	Dwelling, single	17th Century	JRIA 1999	Not Evaluated
44IW0356	Earthworks	Civil War	ACC 2022	Not Evaluated

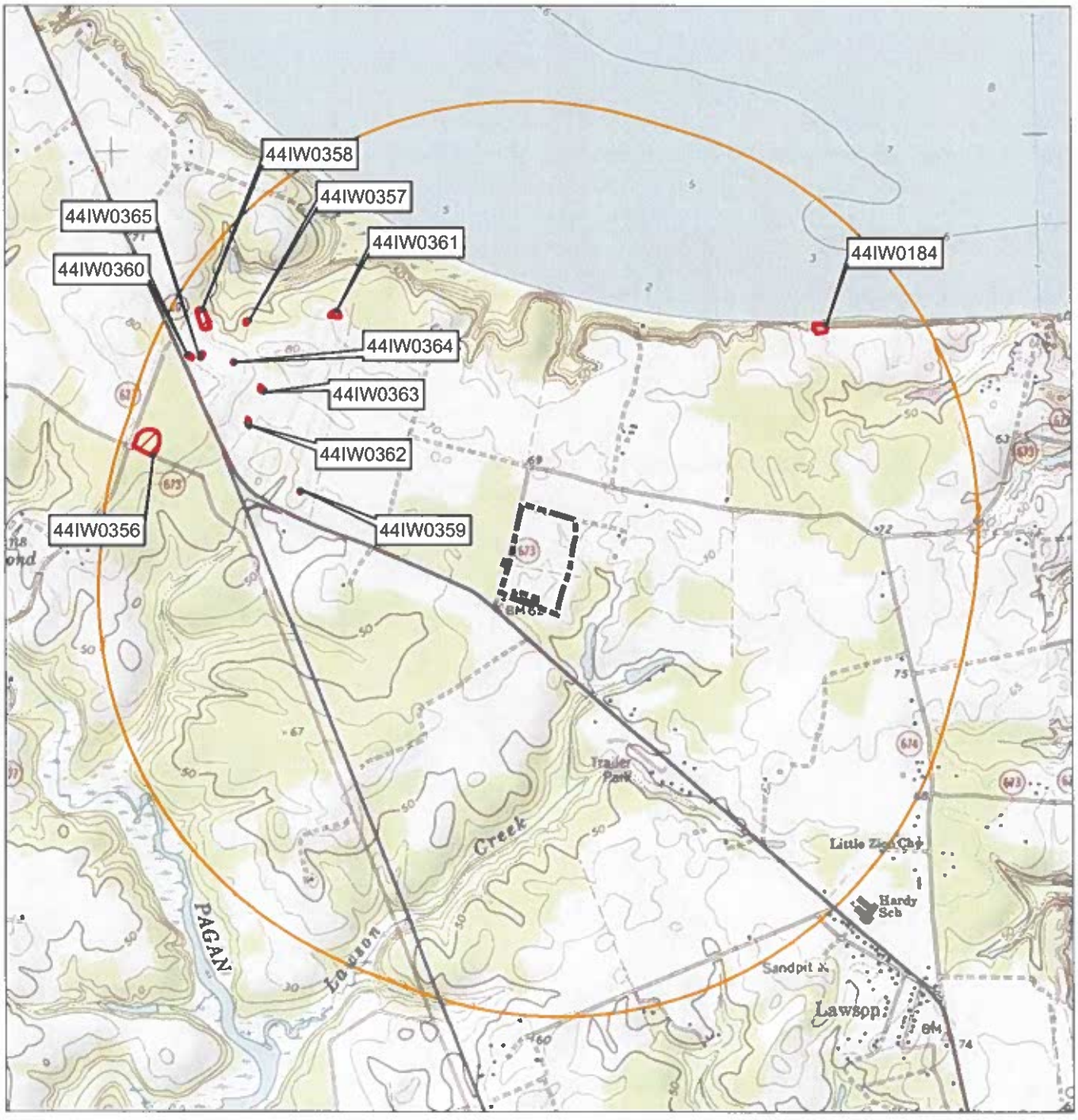
Resource	Resource Type	Association	Reference	NRHP Status
44IW0357	Artifact Scatter	Mid-18th to Early 19th c.	ACC 2022	Not Evaluated
44IW0358	Artifact Scatter	20th Century	ACC 2022	Not Evaluated
44IW0359	Artifact Scatter	Late 18th to Early 19th c.	ACC 2022	Not Evaluated
44IW0360	Lithic Scatter	Pre-Contact	ACC 2022	Not Evaluated
44IW0361	Artifact Scatter	Late 18th to Early 19th c.	ACC 2022	Not Evaluated
44IW0362	Artifact Scatter	18th Century	ACC 2022	Not Evaluated
44IW0363	Artifact Scatter	18th Century	ACC 2022	Not Evaluated
44IW0364	Isolated Find	Pre-Contact	ACC 2022	Not Evaluated
44IW0365	Isolated Find	Pre-Contact	ACC 2022	Not Evaluated

5.2.3 Architectural Resources

No previously identified architectural resources are located within the Project Area. Nine previously identified architectural resources are located within a 1-mile radius of the Project Area (Table 5; Figure 12). These resources include five houses ranging in date from circa 1775 to 1900, a cemetery, two farms, and the Captain John Smith Chesapeake National Historic Trail (DHR #500-0006). The latter resource has been determined to be eligible for NRHP listing, while the circa 1790 Bourne-Turner House (DHR #046-0031) has been determined to be potentially eligible for NRHP inclusion. Two resources have been determined to be not eligible for listing on the NRHP and the remaining five resources have not been evaluated for NRHP eligibility.

Table 5 Previously Recorded Architectural Resources within a 1-Mile Radius of the Project Area

DHR #	Resource	Date	Reference	NRHP Recommendation
046-0031	Bourne-Turner House	c. 1790	Stantec 2014; Loth 1969	Potentially Eligible (DHR 2015)
046-0043	Casey House	c. 1806	Unknown 1970	Not Evaluated
046-0045	The Rocks	c. 1775	Read 1971	Not Evaluated
046-5189	Farmhouse, 7428 Clifton Lane	c. 1905	Stantec 2014; Kimble 2005	Not Eligible (DHR 2015)
046-5205	Rowland Edwards House	1834	Kimble 2005	Not Evaluated
046-5461	Farm, 15138 Green Run Lane	c. 1900	Stantec 2014	Not Eligible (DHR 2015)
046-5636	Old Stage Highway Cemetery	c. 1798	Gordon 2020	Not Evaluated
046-5708	House, Green Run Lane	1900	ACC 2022	Not Evaluated
500-0006	Captain John Smith Chesapeake National Historic Trail, Keystone Segment, Historic District	c. 1550	D+A 2022; WMCAR 2015	Eligible (NPS 2015)



Project Area
1-Mile Buffer
Archaeological Site

0 1,000 2,000 Feet

(At original document size of 8.5x11)
1:24,000

N

Stantec

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dawood Engineering, Inc., U.S. Census Bureau, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Topographic map © USGS 7.5 Minute Series Topographic Map, Bacons Castle, VA Quadrangle 1992

Project Location
Isle of Wight County, Virginia

Prepared by ECL on 2023-03-03
TR by JMH on 2023-03-29
IR by BSS on 2023-03-29

Client/Project
195602607
Dawood Engineering, Inc.
VAL025 Solar Project

Figure No
11

Title
Previously Identified Archaeological Sites within a 1-Mile Radius of the Project Area

C:\Users\ejiko\Desktop\ethos_projects\val025\195602607_e_jpn_Revised_2023-04-04 By ejiko

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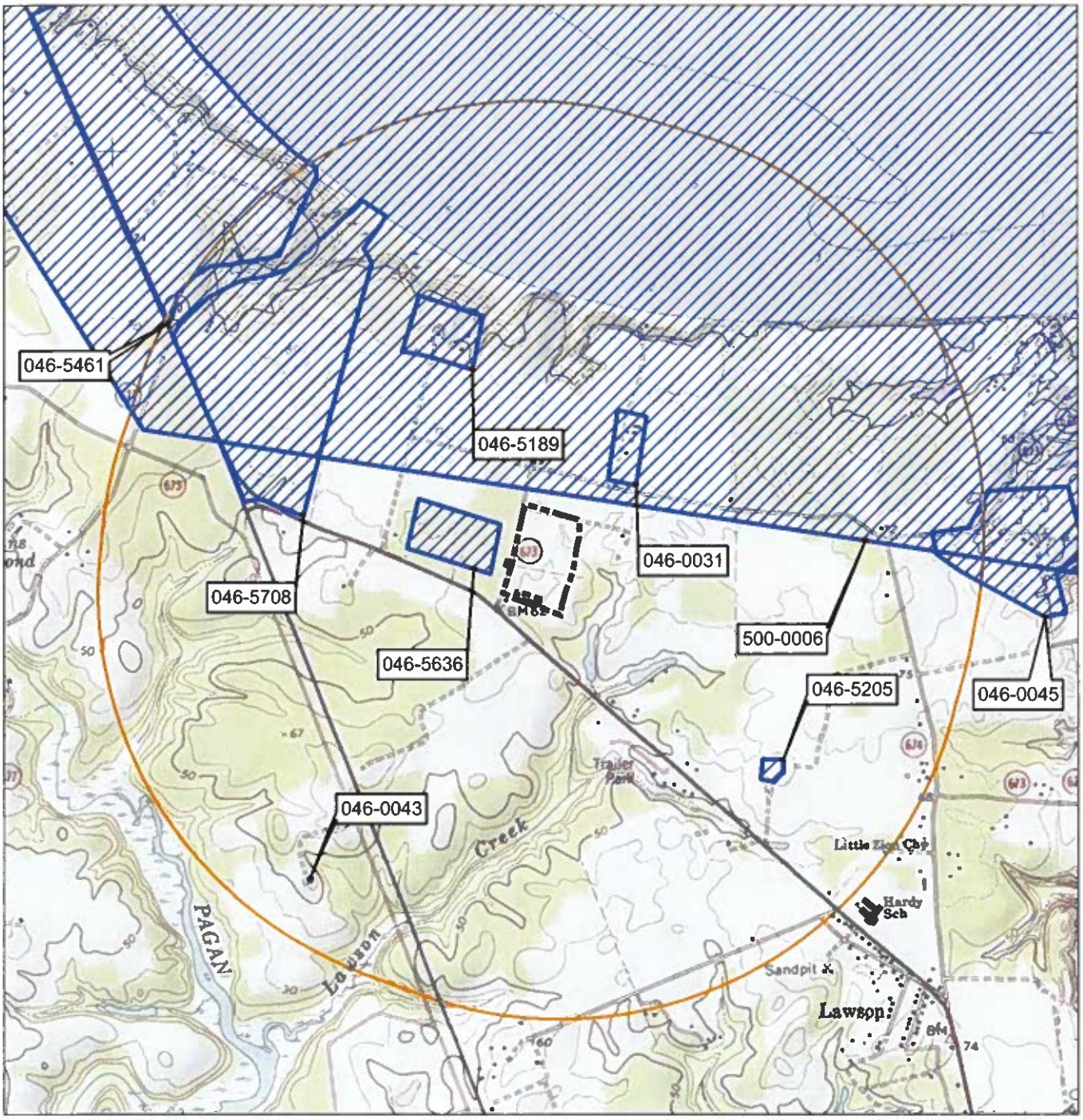

Notes
1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dawood Engineering, Inc., U.S. Census Bureau, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Topographic map © USGS 7.5 Minute Series Topographic Map, Bacons Castle, VA Quadrangle 1992

Stantec

Project Location
Isle of Wight County, Virginia

Prepared by ECL on 2023-03-02
TR by JMH on 2023-03-29
IR by BSS on 2023-03-29

Client/Project
Dawood Engineering, Inc.
VAL025 Solar Project

195602607

Figure No
12

Title
Previously Identified Architectural Resources within a 1-Mile Radius of the Project Area

Page 5.4

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6.0 SURVEY METHODOLOGY

6.1 ARCHAEOLOGICAL SURVEY

6.1.1 Shovel Testing

Stantec field archaeologists conducted systematic pedestrian survey across the entire Project Area in conjunction with systematic shovel testing. Shovel tests were excavated at 50-foot intervals along 17 transects (Transects A–Q) spaced 50 feet apart throughout the Project Area. Shovel testing was not conducted in areas exhibiting 15 percent or greater slope, that were wet or waterlogged, or exhibited obvious disturbances. Radial shovel tests were excavated at 25-foot intervals around each positive shovel test to determine the bounds of newly identified cultural resources.

All shovel tests measured approximately 1.25 feet (15 inches) in diameter and were excavated to sterile subsoil. Soil from all shovel tests was passed through 1/4-inch mesh screen. For each excavated shovel test, the stratigraphic profile was recorded with complete descriptions using Munsell color designators (Munsell Color 1994) and U. S. Department of Agriculture soil texture terminology (Soil Survey Staff 1999).

- A (Topsoil or surface vegetation) – Organic or humus layer consisting of grass, leaf litter, or other surface materials.
- Ap (Plow Zone) – A horizon soils that have been impacted by plowing and agricultural practice; usually an organic layer that has formed through decomposition of A horizon soils mixed with leftover organic matter from agricultural practices.
- E (eluviated) – Leached of clay, minerals, and organic matter, leaving a concentration of sand and silt particles of quartz or other resistant materials – missing in some soils but often found in older soils and forest soils. Often interpreted as a transition layer between A and B horizon soils; often present in intact archaeological site settings and is representative of a living surface.
- B (B Horizon [Subsoil]) – Rich in minerals that leached (moved down) from the A or E horizons and accumulated here. Typically denoted as the culturally sterile B Horizon (Subsoil) as deposits tend to predate human occupation.

All pertinent data including: the site location, the location of features, any permanent landmarks, the topography, the vegetation, any disturbed areas, and the location of surface survey and subsurface tests was digitally collected utilizing ESRI's Collector for ArcGIS installed on Apple iPads enabled with GPS location services and supplemented by a Trimble R1 GPS Receiver. Field survey notes were collected by Stantec's Project Archaeologists and Crew Chief documenting daily progress, conditions, and access issues.

6.1.2 Definitions

This field survey used two designations for archaeological resources: the *archaeological site* and the *isolated archaeological find*. An *archaeological site* is regarded as any apparent location of human activity not limited to simple loss, casual or single-episode discard, and having sufficient archaeological evidence to indicate that further testing would produce interpretable archaeological data. Three artifacts related temporally or functionally within a spatially restricted area constitute an archaeological site (DHR 2017: Chapter 6, page 1). In contrast, an *isolated archaeological find* is defined as an area marked by surface indications and little else; containing three or less artifacts of a similar period; and/or representing an area reflecting simple loss, casual, or single-episode discard, all of which retain a low potential for providing additional interpretable archaeological data. By definition, archaeological resources of this type are not eligible for listing in the NRHP because they lack the ability to provide significant information about the prehistoric or historic past.

6.1.3 Laboratory Methods

All archaeological data and specimens collected during the archaeological survey were transported to Stantec's laboratory in Richmond, Virginia, for processing and analysis. Prior to washing, artifacts from a given provenience were first emptied into a screened basket and sorted. Next, the provenience information from the field bags was confirmed with the bag catalog and transferred onto bag tags. Stable objects were washed with tap water using a soft brush, with careful attention paid to the edges of ceramics and glass to aid in the identification of body type and to assist in mending. Washed items were then placed by provenience on a drying rack.

Once dry, the artifacts were re-bagged by provenience and material type. Artifacts of a given provenience were placed in clean 2-millimeter-thick re-sealable polyethylene bags that were perforated to allow air exchange. Each grouped material type was placed in a separate plastic bag (i.e., all glass in one bag, all brick fragments in one bag, etc.) and each of these individual type bags were then placed in a larger bag with the bag tag noting the provenience.

After processing and re-bagging, the entire artifact assemblage was then cataloged for analysis. Stylistic attributes were described using current terminology and recorded by count into a database for analysis. Once all the artifacts were cataloged, the ceramics were then pulled from their bags and marked with correct provenience information. Diagnostic ceramics were sorted out and grouped together based on type or ware and/or vessel or function and checked for cross mends.

Analysis of historic artifacts was aided by reference works such as *The Parks Canada Glass Glossary* (Jones and Sullivan 1989), *Telling Time for Archaeologists* (Miller et al. 2000), the *Guide to Artifacts of Colonial America*, (Noel Hume 1969), and the *Colonial Williamsburg Foundation Laboratory Manual* (Pittman et al. 1987).

All materials generated by this project will be curated according to the standards outlined in 36 CFR Part 79 (*Curation of Federally-Owned and Administered Archaeological Collections*) and by DHR. All processed artifact bags were deposited in acid-free Hollinger boxes for permanent storage.

6.1.4 Expected Results – Archaeological Site Identification

Native American sites are generally found within 1,000 to 1,500 feet of a significant water source, on moderately well- to well-drained soils on low relief landforms. The Project Area is located across a gently rolling to relatively level landform. Three Native American archaeological sites have been previously identified within a 1-mile radius of the Project Area. One is a small lithic scatter and two are isolated finds. All three resources are of unknown temporal affiliation. The sites were identified west of the Project Area, on level landforms above the head of an unnamed small tributary of the James River. The lack of previously recorded Native American sites in the Project Area vicinity likely reflects the limited number of archaeological surveys that have occurred in the area rather than a lack of Native American activity. The Project Area is also situated near the head of a stream, though Lawson Creek is a tributary of the Pagan River, rather than the James River. There is a moderate probability for the Project Area to contain additional Native American resources.

The Project Area consists of a gently rolling harvested cotton field. As historic map review has shown the vicinity of the Project Area has largely reminded rural and undeveloped. While farmsteads were present in the surrounding area in the nineteenth and twentieth centuries, no maps have indicated that structures once stood in the Project Area. Much of the Project Area comprises relatively level, moderately well-drained land. Eight previously identified archaeological sites within 1 mile of the Project Area are historic. Those previously recorded historic sites with temporal affiliations date generally from the seventeenth to the twentieth century and include a single dwelling, Civil War earthworks, and artifact scatters. The seventeenth century single dwelling site (44IW0184) is located northeast of the Project Area, on the bank of the James River while the earthworks (44IW0356) are situated northwest of the Project Area at the intersection of Routes 677 and 673. Three of the five artifact scatters are situated along the southern edge of a small unnamed tributary of the James River while the remaining two are in a level inland setting between the same tributary and the head of an unnamed branch of the Pagan River. There is a low to moderate probability of identifying additional historic resources within the Project Area.

6.2 ARCHITECTURAL SURVEY

The Phase I field survey strategy consisted of systematic identification and recordation of historic architectural resources dating to 50 years or older located on the Project parcel or within a 0.5-mile radius of the Project Area. The documentation efforts consisted of resurveying and re-evaluating previously recorded resources for NRHP eligibility in order to update the DHR's V-CRIS database. Previously recorded resources were updated including revising sketch maps and photographing all visible resources present on the property. Newly recorded resources within the Project Area were also surveyed and the information recorded on a reconnaissance level survey form. Sketch plan maps were drawn for each resource and the buildings/structures photographed as visible. The Phase I architectural survey was

conducted from public right-of-way (ROW) only unless permission was specifically granted by the owner at the time of the field survey. In some cases, the resources were not visible from the public ROW, or the view was partially obscured due to vegetation and/or distance and therefore limited architectural survey was possible.

6.2.1 Definitions

Architectural resources include all standing structures or buildings that are 50 years or older. Potential eligibility of architectural resources requires that one or more of the National Register of Historic Places Criteria, such as association with significant events in the broad patterns of national history (Criterion A), association with the lives of persons significant in our past (Criterion B), and/or representative of a type, period, or method of construction, or the work of a master (Criterion C), be met. Where individual structures do not meet these National Register criteria, but constitute a cohesive group of related buildings, a potential NRHP district may be considered.

6.3 REPORT PREPARATION

The results of the archival research, fieldwork, and laboratory analysis were synthesized and summarized within this report. The report describes the results of each of these facets of the Phase I survey research and is illustrated by selected maps and drawings. Appendix A presents a descriptive catalog of all artifacts recovered from surface and excavated contexts. Appendix B presents architectural resource survey mapping. Appendix C presents architectural V-CRIS forms. Appendix D presents resumes for key personnel.

7.0 ARCHAEOLOGICAL SURVEY RESULTS

7.1 INTRODUCTION

The Project Area is located north of Old Stage Highway (Route 10) and northeast from the junction with Morgarts Beach Road (Route 628). The Project is bounded by Morgarts Beach Road to the west, Old Stage Highway to the south, and private dirt farm roads to the north and east. The Project Area comprises a gently rolling harvested cotton field. Light grass is present throughout much of the Project Area, which also exhibits large pockets of sand surface soils. Some of the sand appears to be redeposited fill utilized to level low areas in the field. A small area of standing water was present in the northwest corner of the Project Area (Figures 13–18).

Figure 13 View from the Southwestern Corner of the Project Area; View to the Northeast.

Figure 14 View from Northwestern Corner of the Project Area; View to the South.

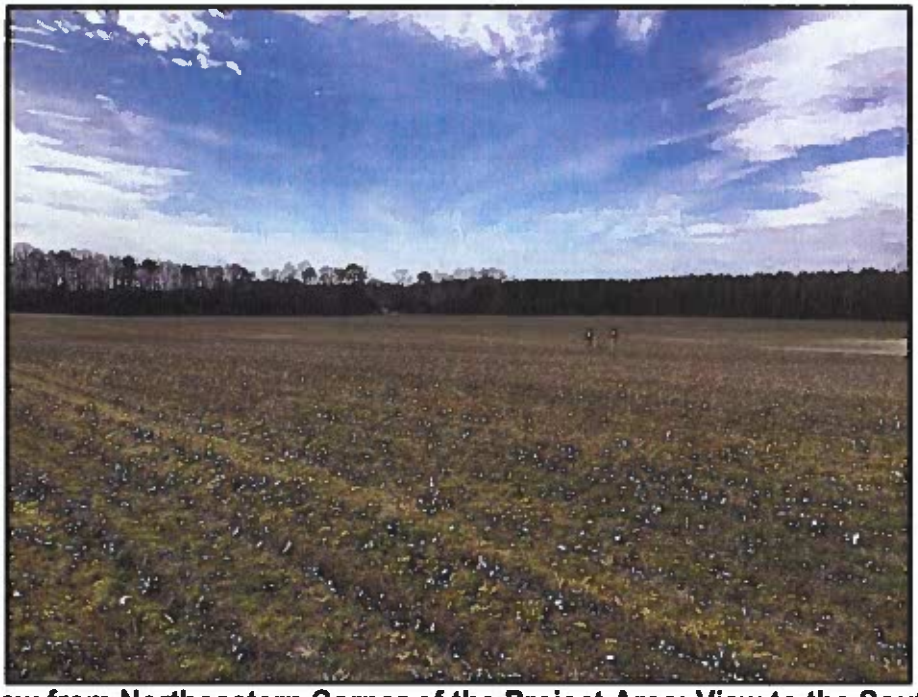


Figure 15 View from Northeastern Corner of the Project Area; View to the Southwest.

Figure 16 View from Central Portion of the Project Area; View to the South.

Figure 17 View from Southeastern Corner of the Project Area; View to the North.

Figure 18 View of Sand Fill in Northern Portion of the Project Area; View to the South.

Figure No.

19

Title

Archaeological Base Map

Client/Project 195602607

Dawood Engineering, Inc.
VAL025 Solar Project

Project Location

Isle of Wight County, Virginia

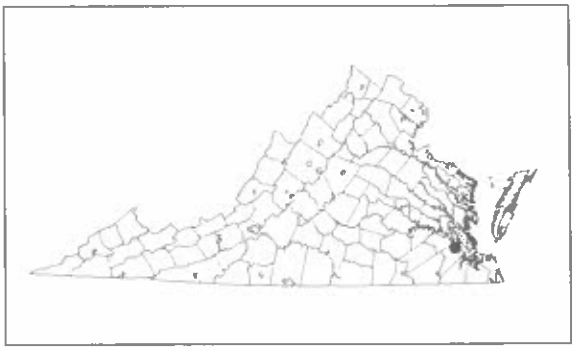
Prepared by ECL on 2023-03-02
TR by JMH on 2023-03-29
IR by BSS on 2023-03-29

N

0 200 400 Feet

(At original document size of 11x17)
1:2,400

- Primary Negative Shovel Test Pit
- Primary Positive Shovel Test Pit
- Radial Negative Shovel Test Pit
- Project Area
- 5-Foot Contour



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dawood Engineering, Inc.; Stantec; U.S. Census Bureau; VDOT
3. Orthoimagery © Virginia Geographic Information Network (VGIN)

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7.2 SHOVEL TESTING

A total of 403 shovel tests were excavated at 50-foot intervals along 17 transects (Transects A–Q) spaced 50 feet apart throughout the Project Area. One shovel test (shovel test pit [STP] A22) was not excavated due to its location within standing water. One shovel test was positive for cultural material. Three radial shovel tests were excavated at 25-foot intervals around the positive test to determine the bounds of the newly identified cultural resource. No radial shovel tests positive for additional cultural material. In addition to the positive shovel test, early twentieth-century artifacts, including small brick fragments, whiteware sherds, and bottle glass were observed within pockets of white sand fill in the northeastern portion of the Project Area. This redeposited soil (see Figure 18) appears to have been utilized to fill low spots in the field and the artifacts contained therein lacked provenience. This material was not collected. Shovel testing resulting in the identification of one new isolated archaeological find (2607-IF1) (see Figure 19).

A representative shovel test profile for the majority of the Project Area consisted of three strata (STP J12). Stratum I was characterized as a layer of 10YR4/2 dark grayish-brown sandy loam (Ap Horizon), which extended in depth from approximately 0 to 0.6 foot below ground surface. Stratum I was underlain by Stratum II, a layer of 10YR5/3 brown sand (Buried Ap Horizon) extending from approximately 0.6 to 1 foot below ground surface. Underlying Stratum II was Stratum III, a layer of 10YR5/4 yellowish-brown sandy clay (Subsoil). Stratum III was excavated from approximately 1 to 1.4 feet below ground surface (Table 6).

Table 6 STP J12 Soil Profile

Stratum	Depth (ft.)	Color	Soil Type/Texture	Interpretation
I	0–0.6	10YR4/2 Dark Grayish Brown	Sandy Loam	Ap Horizon
II	0.6–1	10YR5/3 Brown	Sand	Buried Ap Horizon
III	1–1.4	10YR5/4 Yellowish Brown	Sandy Clay	Subsoil

7.3 ARCHAEOLOGICAL RESULTS

One new Isolated Archaeological Find (2607-IF1) was identified during the Phase I survey. Isolated Archaeological Find 2607-IF1 was identified along the eastern edge of the Project Area. The 1944 *Yorktown, Virginia* USGS topographic map depicts structures to the east of this location (see Figure 9).

7.3.1 Isolated Archaeological Finds

Identified in STP Q12 in the eastern portion of the Project Area, Isolated Archaeological Find 2607-IF1 consisted of one whiteware body sherd (1820-) (Appendix A). STP Q12 contained of three strata in profile. Stratum I was characterized as a layer of 10YR4/2 dark grayish-brown sandy loam (Ap Horizon), which extended in depth from approximately 0 to 0.6 foot below ground surface. Stratum I was underlain by Stratum II, a layer of 10YR5/3 brown sand (Buried Ap Horizon) extending from approximately 0.6 to 1 foot below ground surface. Underlying Stratum II was Stratum III, a layer of 10YR5/4 yellowish-brown

sandy clay (Subsoil), which extended in depth from approximately 1 to 1.4 feet below ground surface (Table 7).

Table 7 STP Q12 Soil Profile

Stratum	Depth (ft.)	Color	Soil Type/Texture	Interpretation
I	0–0.6	10YR5/2 Dark Grayish Brown	Sandy Loam	Ap Horizon
II	0.6–1	10YR5/3 Brown	Sand	Buried Ap Horizon
III	1–1.4	10YR5/4 Yellowish Brown	Sandy Clay	Subsoil

Three radial shovel tests were excavated at 25-foot intervals around STP Q12. One radial shovel test was not excavated as it fell outside of the Project Area boundary. No radial shovel tests were positive for additional cultural material. ***By definition, Isolated Archaeological Find 2607-IF1 is not eligible for listing to the NRHP.***

8.0 ARCHITECTURE SURVEY RESULTS

The Phase I architectural survey was conducted by Stantec from March 8, 2023. The documentation of these historic resources was conducted pursuant to the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* [United States Department of the Interior {USDI} 1983]) and state (*Guidelines for Conducting Historic Resources Investigations in Virginia* [DHR 2011, revised 2017]) guidelines.

8.1 PHASE I ARCHITECTURAL SURVEY

Six newly recorded and four previously recorded individual resources were located within the architectural Study Area. One of the previously recorded resources has been determined eligible and one potentially eligible for listing in the NRHP. The NRHP-eligible resource was not resurveyed as part of the current project. One resource was determined not eligible prior to the current survey but was surveyed more than five years ago and therefore was resurveyed. One resource had not been evaluated for eligibility by DHR (Table 8). Resources which had been determined NRHP eligible as well as one previously unevaluated, but not visible resource were evaluated for visual effects in Section 8.2 below. The surveyed resources consisted of farms and single dwellings with associated outbuildings as well as one late eighteenth to mid-nineteenth century cemetery.

Table 8 Previously Recorded Architectural Resources within the Survey Area

DHR #	Resource Name	Date	NRHP Status/ DHR Recommendation Prior to Survey
046-0031	Bourne-Turner House, 16303 Morgarts Beach Road	c. 1790	Determined Potentially Eligible in 2015 under Criterion C
046-5189	Farmhouse, 7428 Clifton Lane	c. 1905	Determined Not Eligible
046-5636	Old Stage Highway Cemetery, Old Stage Highway	c. 1798	Not Evaluated
500-0006	Captain John Smith National Historic Trail, Keystone Segment, Historic District	c. 1550	Federal Determination of Eligibility

Table 9 Newly Recorded Architectural Resources within the Architectural Survey Area

DHR #	Resource Name	Date
046-5715	House, 8736 Old Stage Highway	1950
046-5716	House, 8837 Old Stage Highway	1958
046-5717	House, 8821 Old Stage Highway	1970
046-5718	House, 8785 Old Stage Highway	1956
046-5719	House, 8731 Old Stage Highway	1950
046-5720	House, 8699 Old Stage Highway	1930

The architectural style classifications used to categorize the resources surveyed conform to those accepted by the NRHP and in *A Field Guide to American Houses* (McAlester and McAlester 1998). The domestic resources surveyed were mainly vernacular dwellings and Craftsman Bungalow, Minimal Traditional, and Ranch styles.

8.1.1 Dwelling Types

8.1.1.1 Vernacular

Dwellings historically have been classified as Vernacular when the design of the building does not fit into any particular style category. The oldest, and one of the most architecturally intact dwellings documented during the current survey, is the late nineteenth century Bourne-Turner House (DHR #046-0031). The house is one-and-a-half-stories supported by a brick foundation laid in a three-course American bond pattern although some repairs appear to have been made which have interrupted the coursing. The exterior is sheathed in beaded weatherboard and the roof clad in asphalt shingles with the front slope clad in scalloped wood shingles. Two parged exterior end, presumable brick, chimneys with corbeled caps are located off the western gable end. A shed-roofed closet is located between the two chimneys and a small, brick wing with wood board door and gable roof provides access into the basement. Extending across the rear of the dwelling is a one-story, shed-roofed ell which appears originally to have been supported by brick piers. The dwelling also features a gable-roofed entry porch supported by square wood posts, and a one-story wing off the eastern end of the dwelling. Fenestration comprises three-over-three wood sash windows in the basement, six-over-nine wood sashes flanked by louvered wood shutters on the first floor, and six-over-six wood sashes in the narrow shed-roofed dormers (Figure 20).

Figure 20 Bourne-Turner House (DHR #046-0031), 16303 Morgarts Beach Road, View Looking Northeast.

8.1.1.2 Craftsman-Style Bungalows

The Craftsman-style, developed in California, is inspired by the designs stemming from the English Arts and Crafts movement of the early twentieth century. The intention of the style is to be in harmony with the natural environment. The characteristics of the style include one-and-a-half stories, horizontal lines, wide projecting eaves with brackets, exposed rafter ends, and tapered square columns on brick, or sometimes stone, bases. Front gable or shed-roofed dormers located on the front roof slope are also characteristic of this style. One of the most well-known architects designing is this style was the team of Charles Sumner Greene and his brother, Henry Mather Greene. The earliest of their designs, constructed c. 1903, is located in Pasadena, California. The style spread from west to east by the popular magazines of the time period including *House Beautiful*, among others. The small scale of the houses, as well as their availability, often through mail order, and affordability for the growing middle class made this style of architecture popular during the early twentieth century (Pennsylvania Historical and Museum Commission 2015). The type was also ideal as a style of architecture that could be sited on the narrow lots of the rapidly expanding planned suburban areas of the time period.

The single example of a Craftsman-style bungalow (DHR #046-5720) within the architecture Study Area was located at 8699 Old Stage Highway. The bungalow is architecturally intact but appears to have been abandoned. The one-and-a-half-story, three-bay dwelling is frame construction and is supported by a brick foundation. Projecting from the front roof slope of the side gable roof are two gable-roofed dormers and visible above the ridge line of the roof is a brick flue with corbelled cap. The exterior walls are clad in

weatherboards and a one-story, hipped-roof, once screened-in porch extends across the façade. The northwestern end of the porch has been incorporated into the narrow, hipped-roof wing off the dwelling's northwest gable end. Additional features include six-over-one wood sash windows and bracketed eaves (Figure 21).

Figure 21 Craftsman-Style Bungalow (DHR #046-5720), 8699 Old Stage Highway, View Looking North.

8.1.1.3 Minimal Traditional

Minimal Traditional dwellings, popular between c. 1935 and 1950, were a response to the Depression era. The houses were simplified from the early Craftsman style bungalows and mid-twentieth century Tudor Revival style. The dwellings featured no or extremely limited ornamentation. Other characteristics included narrow eaves. Less steep roof lines, as compared to the Tudor Revival style, were also common (McAlester and McAlester 1993:478).

The single example of a Minimal Traditional dwelling within the architecture Study Area was located at 8731 Old Stage Highway (DHR #046-5719). The dwelling, constructed in 1950, incorporates typical characteristics of the style including limited ornamentation and essentially no eaves. The cross-gable form of the dwelling is also common to this mid-twentieth century style. The dwelling has been altered with the replacement of its original siding and windows with vinyl. Additional features include a brick foundation, one-story, shed-roofed and hipped-roof wing, exterior end brick chimney, and shed-roofed hood over the front entry (Figure 22).

Figure 22 Minimal Traditional Dwelling (DHR #046-5719), 8731 Old Stage Highway, View Looking East.

8.1.1.4 Ranch-Style

The Ranch-style, the popularity of which is evident in the many planned developments of the 1950s and 1960s, originated in 1930s California. The style became dominant in the 1940s with the increased dependence on the automobile. Prior to the 1940s, many urban and suburban dwellers resided in compact houses on small lots and walked to the streetcar lines. The increasing popularity of the automobile allowed people to move further out from the city and indulge in more expansive lots. The Ranch house's design allowed a lateral expansion of dwellings, emphasizing the façade, and could fit on larger residential lots with more open space between houses (McAlester and McAlester 1993:479). Two examples were documented and are detailed below.

The first example is a one-story, L-shaped dwelling with rusticated brick exterior walls and a cross-gable roof clad in asphalt shingles. A one-story, shed-roofed porch with ornate cast metal supports extends along the western and southern elevations. The dwelling also features an exterior end rusticated brick chimney, Chicago-style window, triple single-light entry doors, and one-over-one wood sash windows (Figure 23).

The second example, which is partially obscured by trees, is a one-story, frame dwelling with one-story, gable-roofed wing. The exterior is clad in vinyl with a section of the facade in brick veneer. The cross - gable roof is sheathed in asphalt shingles and a large brick chimney projects through the front roof slope. Other visible features include a two-over-two horizontally divided wood sash window and a Chicago-style window (Figure 24).

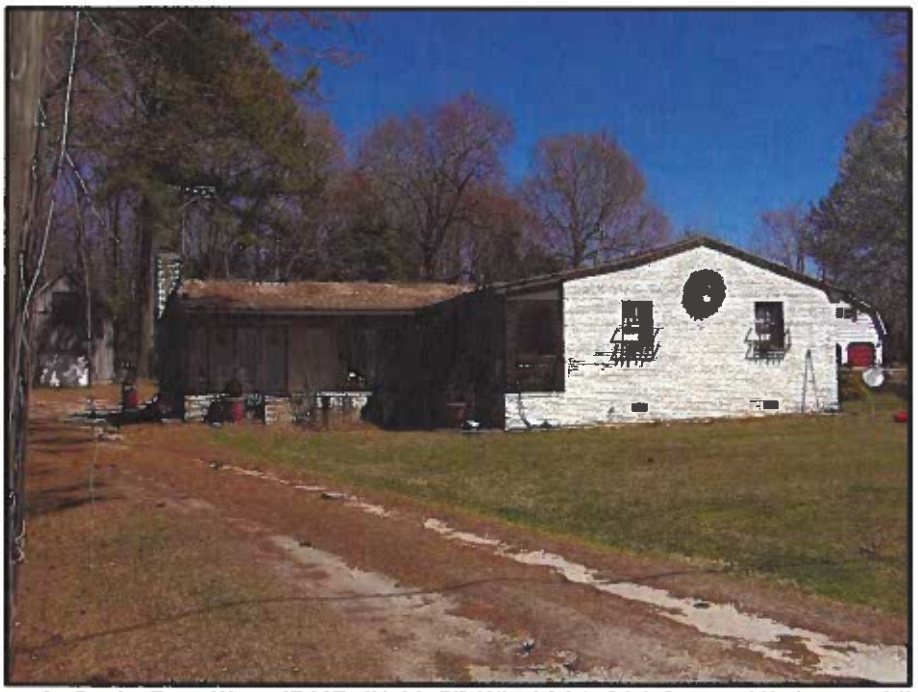


Figure 23 Ranch-Style Dwelling (DHR #046-5717), 8821 Old Stage Highway, View Looking East.

Figure 24 Ranch-Style Dwelling (DHR #046-5718), 8785 Old Stage Highway, View Looking East.

8.2 VISUAL EFFECTS EVALUATION

An effects evaluation, in addition to the Phase I architectural survey, was conducted for NRHP-listed, eligible, and potentially eligible properties which may be affected by the proposed Project. Three resources were assessed for effects and included the potentially eligible Bourne-Turner House (DHR #046-0031) and a portion of the NRHP-eligible Keystone Segment Historic District of the Captain John Smith National Historic Trail (DHR #500-0006). One resource, the Old Stage Cemetery (DHR #046-5636), had not been evaluated for NRHP eligibility prior to the survey but was not visible from the public ROW. Therefore, for the purposes of environmental review, the resource is being considered eligible for listing.

8.2.1 Bourne-Turner House (DHR #046-0031)

The c. 1790 Bourne-Turner House, which has been described in Section 8.1.1.1 (see Figure 21), has been determined potentially eligible for listing in the NRHP under Criterion C for its architectural merit. The property also contains a number of secondary resources associated with agriculture, which include several livestock barns and a c. 1790 smokehouse (DHR Site Files).

The dwelling and secondary resources on the property are located back from the road within an open, relatively level landscape (Appendix B; Figure 25). At its closest point, the proposed Project is approximately 620 feet from the southwestern corner of the property. While several large trees are located in the vicinity of the house, the main direction looking towards the proposed Project is relatively unobstructed and will have a direct view of the solar panels on the parcel (Figure 26). Based on the fieldwork, it is anticipated that the proposed Project will have an **Adverse Effect** on the NRHP potentially eligible Bourne-Turner House (DHR #046-0031).

Figure 25 View of the Bourne-Turner House Property (DHR #046-0031), 16303 Morgarts Beach Road, View Looking Northeast.

Figure 26 View from the Bourne-Turner House (DHR #046-0031), Looking Southwest towards Solar Parcel from Viewpoint (VP) 3.

8.2.2 The Captain John Smith Chesapeake National Historic Trail, Keystone Segment, Historic District (DHR #500-0006)

The Captain John Smith Chesapeake National Historic Trail (Trail) encompasses over 3,000 miles of waterway associated with the voyages of John Smith as well as early explorations of the Chesapeake Bay region. The resource was designated by Congress in 2006 through an amendment to Section 5(a) of the National Trails System Act (16 U.S.C. 1244(a)) and is the first nationally designated water trail under the Act. The Trail route extends throughout the Chesapeake Bay and includes tributaries explored by Smith. The Trail was further extended into four additional rivers considered as historic components of the Trail by the Secretary of the Interior in May 2012 (DHR Site Files). Per the National Park Service (NPS) documentation for the Trail: "The purpose of the Captain John Smith Chesapeake National Historic Trail is to commemorate the exploratory voyages of Captain Smith on the Chesapeake Bay and its tributaries in 1607-1609; to share knowledge about the American Indian societies and cultures of the seventeenth century; and to interpret the natural history of the Bay (both historic and contemporary)."

The entirety of the Trail within the Commonwealth of Virginia has not been evaluated for listing on the NRHP. However, in the vicinity of the current Project Area, a portion of the trail has been defined as the Captain John Smith Chesapeake National Historic Trail, Keystone Segment, Historic District comprising 148,426 acres along the shore and including the James River. The historic district extends south from the Jamestown-Scotland Wharf Ferry to the Pagan River and Burwell's Bay for a distance of approximately 13 miles. The land-based portion of the historic district encompasses an area measuring 0.5-mile in width from the east and west shorelines of the James River. The Keystone Segment historic district received a federal determination of eligibility, issued by the Keeper of the National Register under Criterion A for its significance in Exploration and Settlement as well as Ethnic Heritage, under Criterion B for its association with John Smith, under Criterion C for its architectural merit, and under Criterion D for its archaeological potential (DHR Site Files). Overall, the portion of the Trail associated with the eligible historic district and in proximity to the current Project remains mainly rural with intact cultural landscapes reflective of the indigenous and English settlement patterns in the region. According to the district nomination and site files, the historic district retains integrity of setting, association, feeling, and location.

A review of the Trail comprehensive plan indicates that there are no identified evocative landscapes or associated archaeological sites/places contributing to the district's eligibility in the vicinity of the Project or within the portion of the historic district that is within view of the proposed solar project. A high level marsh is noted on the Trail maps to the south of the Project area, but outside the boundaries of the defined Keystone Segment historic district, however, would not be considered when assessing the potential visual effects of the proposed Project to the historic district.

Only a small portion of the Keystone Segment Historic district, approximately 258 acres, is located within the architectural Study Area for the proposed Project. This portion comprises a relatively level, open landscape with agricultural fields and an area of woodlands between the fields and the James River which varies from approximately 252 feet to approximately 1,167 feet in depth (Appendix B). At its closest point, as mapped in VCRIS, the land-based portion of the Keystone Segment historic district is approximately 211 feet to the northwest of the proposed Project and will have a direct view of the solar

panels on the parcel (Figures 27 and 28). Due to the density of trees and vegetation paralleling the James River, it appears unlikely that the proposed Project would be visible from the portion of the historic district coterminous with the James River channel. Based on the fieldwork, it is anticipated that the proposed Project will have an **Adverse Effect** on the portion of the NRHP-eligible Captain John Smith Chesapeake National Historic Trail, Keystone Segment, Historic District (DHR #500-0006) located within the current architectural Study Area. The installation of the solar panels would significantly detract from the historic district's integrity of setting and feeling, two critical elements contributing to the overall significance of the Keystone Segment Historic District.

Figure 27 View from the Captain John Smith Chesapeake National Historic Trail, Keystone Segment, Historic District (DHR #500-0006), Looking Southeast from VP 1.

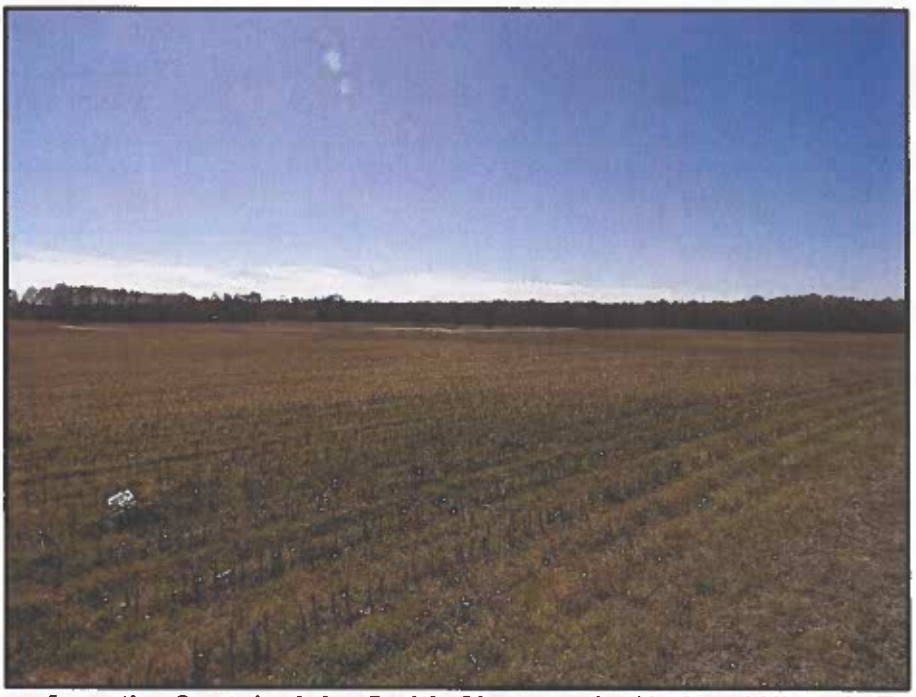


Figure 28 View from the Captain John Smith Chesapeake National Historic Trail, Keystone Segment, Historic District (DHR #500-0006), Looking Southwest from VP 2.

8.2.3 Old Stage Highway Cemetery (DHR #046-5636)

The Old Stage Highway Cemetery (DHR #046-5636) dates to around 1798. When the resource was first surveyed in 2000, the cemetery contained 15 visible graves with 13 of the 15 graves within a fence, which, according to the previous survey, utilized musket barrels as vertical slates with a wrought iron top and bottom rail. The fence has suffered from vandalism and the cemetery overall has suffered damage from various hurricanes. The cemetery was noted as containing African American graves, mainly with the surname of Wilson and range in date from 1796 to 1873 (DHR Site Files). The cemetery, although currently unevaluated by DHR, was not visible from the public ROW and numerous "No Trespassing" signs were present. It is therefore being considered eligible for the purposes of environmental review for the current proposed Project.

The cemetery is located within a dense area of trees and as currently mapped in VCRIS, is approximately 280 feet west of the proposed Project. All but the road surface between the resource and proposed Project parcel comprises dense tree cover (Figure 29; Appendix B). Based on the fieldwork, it is anticipated that the proposed Project will have **No Effect** on the Old Stage Highway Cemetery (DHR #046-5636).

Figure 29 Detail of VCRIS Database Map Depicting the Location of the Old Stage Highway Cemetery in Relation to the Proposed Solar Site Project (https://vcris.dhr.virginia.gov/VCRIS/Mapviewer/#GoToMap).

9.0 CONCLUSIONS AND RECOMMENDATIONS

From February 13 to March 8, 2023, Stantec conducted a cultural resources survey of approximately 20 acres associated with the proposed 3 MW VAL-025 Solar Project (Project) in Isle of Wight County, Virginia. The Project is located north of Old Stage Highway (Route 10) and northeast from the junction with Morgarts Beach Road (Route 628). The Project is bounded by Morgarts Beach Road to the west, Old Stage Highway to the south, and private dirt farm roads to the north and east. The Project Area comprises a gently rolling recently harvested cotton field.

The Phase I cultural resources survey was designed to locate and identify cultural resources within the Project Area, defined as the entire approximately 20-acre Project parcel, and to obtain sufficient information to make recommendations regarding their potential eligibility for listing to the NRHP.

9.1 ARCHAEOLOGICAL SURVEY RESULTS

During the archaeological survey, Stantec conducted pedestrian survey of the entire Project Area concurrently with systematic subsurface testing. A total of 403 shovel tests were excavated at 50-foot intervals along 17 transects (Transects A–Q) spaced 50 feet apart throughout the Project Area. One shovel test was not excavated due to its location in standing water. One shovel test was positive for cultural material. Three radial shovel tests were excavated at 25-foot intervals around the positive test to determine the bounds of this newly recorded cultural resource. No radial shovel tests positive for additional cultural material. In addition to the positive shovel test, early twentieth-century artifacts, including small brick fragments, whiteware sherds, and bottle glass were observed within pockets of white sand fill in the northeastern portion of the Project Area. This redeposited soil appears to have been utilized to fill low spots in the field and the artifacts contained therein lacked provenience. This material was not collected. One new isolated archaeological site find (2607-IF1) was identified during this investigation (Table 10). ***By definition, Isolated Archaeological Find 2607-IF1 is not eligible for listing to the NRHP. No further archaeological investigation is recommended for the proposed Project Area.***

Table 10 Recommendations for Archaeological Resources within the Project Area

Resource	Resource Type	Association	Stantec Recommendation
2607-IF1	Whiteware body sherd	1820-	Not Eligible; No Further Work

9.2 ARCHITECTURAL SURVEY RESULTS

A total of 10 individual resources were located within the architectural Study Area, defined as the Project Area and a 0.5-mile radius around the Project Area, and included four previously recorded and six newly recorded resources. The Captain John Smith National Historic Trail, Keystone Segment, Historic District

(DHR #500-0006) had a Federal Determination of Eligibility prior to the survey and was therefore not resurveyed. One resource was determined potentially eligible for listing and one resource was determined not eligible prior to the survey but was surveyed more than five years ago and therefore was redocumented during the current investigation. One resource had not been evaluated for eligibility by the DHR. Resources which had been determined NRHP eligible as well as one previously unevaluated, but not visible resource, were evaluated for visual effects.

The Bourne-Turner House (DHR #046-0031) had been determined as potentially eligible for listing in the NRHP by DHR in 2015. Based on the current survey, it is recommended that the resource maintain its NRHP eligibility status as the house and secondary resources retain integrity and appear to have not been significantly altered since the previous survey.

One resource, the Old State Highway Cemetery (DHR #046-5636) was not visible from the public ROW and was therefore not able to be resurveyed. Based on the circumstances, the resource was considered eligible for the purposes of environmental review.

The remaining seven resources surveyed during the current project are generally reflective of the late nineteenth to mid-twentieth century development of Isle of Wight County and lack direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing in the NRHP. As such, it is recommended that the resources are not individually eligible for listing on the NRHP (Table 11). Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.

The resources, under NRHP Criterion A do not individually express any distinctive themes relating to the development of Isle of Wight County and do not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.

The resources surveyed do not appear to be associated with any known individuals who made significant contributions to the historical development of Isle of Wight County. Although limited information about the owners of the properties is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resources do not meet the criteria necessary for listing on the NRHP under Criterion B.

The resources do not appear to have significant architectural integrity for listing on the NRHP under Criterion C and are of a common architectural style. In addition, the resources are utilitarian in design and do not embody distinctive characteristics of a type, period, or method of construction nor do the dwellings represent the work of a master. It is therefore recommended that the resources surveyed do not meet the criteria necessary for listing on the NRHP under Criterion C.

No further work is recommended for resources within the Architectural Study Area as part of the VAL025 Solar Project.

Table 11 NRHP Recommendations for Architectural Resources Surveyed within the Architecture Study Area

DHR #	Resource Name	Date	NRHP Recommendation as a Result of the Survey
046-0031	Bourne-Turner House, 16303 Morgarts Beach Road	c. 1790	Recommended to Retain its NRHP Potentially Eligible Status under Criterion C
046-5189	Farmhouse, 7428 Clifton Lane	c. 1905	Recommended not Eligible for Listing in the NRHP
046-5636	Old Stage Highway Cemetery, Old Stage Highway	c. 1798	Not Visible from Public ROW; Considered Eligible for Environmental Review Purposes
046-5715	House, 8736 Old Stage Highway	1950	Recommended not Eligible for Listing in the NRHP
046-5716	House, 8837 Old Stage Highway	1958	Recommended not Eligible for Listing in the NRHP
046-5717	House, 8821 Old Stage Highway	1970	Recommended not Eligible for Listing in the NRHP
046-5718	House, 8785 Old Stage Highway	1956	Recommended not Eligible for Listing in the NRHP
046-5719	House, 8731 Old Stage Highway	1950	Recommended not Eligible for Listing in the NRHP
046-5720	House, 8699 Old Stage Highway	1930	Recommended not Eligible for Listing in the NRHP

***Resources Highlighted in Gray were Previously Recorded.**

9.3 EFFECTS EVALUATION

An effects evaluation, in addition to the Phase I architectural survey, was conducted for NRHP-listed, eligible, and potentially eligible properties which may be affected by the proposed Project. Two resources were assessed for effects and included the potentially eligible Bourne-Turner House (DHR #046-0031) and the portion of the NRHP-eligible Keystone Segment Historic District of the Captain John Smith National Historic Trail (DHR #500-0006) within the current architectural Study Area. One resource, the Old Stage Highway Cemetery (DHR #046-5636), had not been evaluated for NRHP eligibility but was not visible from the public ROW. Therefore, for the purposes of environmental review, this resource is being considered eligible for listing. Based on the current proposed Project Area and the existing landscape it is recommended that the proposed Project would have an **Adverse Effect** on the Bourne-Turner House (DHR #046-0031) and the portion of the Keystone Segment of the Captain John Smith National Historic Trail Historic District (DHR #500-0006) located within the current architectural Study Area. The proposed Project would have **No Effect** on the Old Stage Highway Cemetery (DHR #046-5636). ***Based on the effects evaluation, it is likely DHR will require mitigation for Adverse Effect of the proposed Project. It is suggested that vegetative screening be installed on the north side of the solar parcel to lessen the Adverse Effect*** (Appendix B).

Table 12 Effects Evaluation of NRHP Eligible and Potentially Eligible Properties

DHR #	Resource Name	Date	NRHP Status/ DHR Recommendation Prior to Survey	Effects Assessment
046-0031	Bourne-Turner House, 16303 Morgarts Beach Road	c. 1790	Determined Potentially Eligible in 2015 under Criterion C	Adverse Effect
046-5636	Old Stage Highway Cemetery, Old Stage Highway	c. 1798	Not Evaluated	No Effect

DHR #	Resource Name	Date	NRHP Status/ DHR Recommendation Prior to Survey	Effects Assessment
500-0006	Captain John Smith National Historic Trail, Keystone Segment, Historic District	c. 1550	Federal Determination of Eligibility in 2015	Adverse Effect*

***Only for Portion of the Resource within the Study Area**

10.0 REFERENCES

Advisory Council for Historic Preservation (ACHP)
2000 *36 CFR 800: Part 800- Protection of Historic and Cultural Properties*. Federal Register, September 2, Washington, D.C.

Amick, Daniel S., and Phillip J. Carr
1996 Changing Strategies of Lithic Technological Organization. In *Archaeology of the Mid-Holocene Southeast*, edited by Kenneth E. Sassaman and David G. Anderson, pp. 41-56. The University Press of Florida, Gainesville, Florida.

Anderson, David G., and Glenn T. Hanson
1998 Early Archaic Settlement in the Southeastern United States: A Case Study from the Savannah River Valley. In *American Antiquity* 53:262-286.

Barber, Michael B., and George A. Tolley
1984 The Savannah River Broadspear: A View from the Blue Ridge. In *Upland Archaeology in the East: Symposium 2*, ed. C. R. Geier, M. B. Barber, and G. A. Tolley, pp. 25-43. USDA, Forest Service, Southern Region.

Barber, Michael B., J. Mark Wittkofski, and Michael F. Barber
1992 *An Archaeological Overview of Stafford County, Virginia*. Preservation Technologies, Roanoke, Virginia.

Billings, Warren M., (Editor)
1975 *The Old Dominion in the Seventeenth Century.* University of North Carolina Press, Chapel Hill.

Blanton, Dennis B.
1992 Middle Woodland Settlement Systems in Virginia. In *Middle and Late Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen. N Hodges, pp. 65-96. Special Publication No. 29 of the Archaeological Society of Virginia. The Dietz Press, Richmond.

1996 Accounting for Submerged Mid-Holocene Archaeological Sites in the Southeast: A Case from the Chesapeake Bay Estuary, Virginia. In *Archaeology of the Mid-Holocene Southeast*, edited by Kenneth E. Sassaman and David G. Anderson, pp. 200-217. University Press of Florida, Gainesville.

Boddie, John Bennett
2007 *Seventeenth Century Isle of Wight County, Virginia: A history of the County of Isle of Wight, Virginia, during the seventeenth century, including abstracts of the county records Volume 1* (Reprint from 1938). Heritage Books, Westminster, Maryland.

REFERENCES

Bourdeau, J.
1981 Replicating Quartz Squibnocket Small Stemmed and Triangular Projectile Points. *Quartz Technology in Prehistoric New England*, ed. R. Barber. Institute for Conservation Archaeology, Peabody Museum, Harvard University: Cambridge, Massachusetts.

Boyd, C. Clifford
1989 Paleoindian Paleoecology and Subsistence in Virginia. In *Paleoindian Research in Virginia: A Synthesis*, ed. J. M. Wittkofski and T. R. Reinhart, pp. 139-156. The Dietz Press: Richmond, Virginia.

Böyë, Herman
1827 *A Map of the State of Virginia, Reduced from the Nine Sheet Map of the State in Conformity to Law.* Library of Congress, Geography and Maps Division.

Brown, James A.
1986 Early Ceramics and Culture: A Review of Interpretations. In *Early Woodland Archaeology*, ed. K. B. Farnsworth and T. E. Emerson, pp. 598-608. Center for American Archaeology, Kampsville Seminars in Archaeology No. 2, Kampsville, IL.

1989 The Origins of Pottery as an Economic Process. In *What's New: A Closer Look at the Process of Innovation*, ed. S. E. van der Leeuw and R. Torrence, pp. 203-224. Unwin-Hyman: London, UK.

Campbell, Albert H., Julius Bien, J.H. Patton, and Confederate States of America Army of Northern Virginia Engineer Office
1891 *Preliminary map of a part of the south side of James River, Va.: from surveys and reconnaissances.* Library of Congress Geography and Map Division.

Capitaine Du Chesnoy, Michel, and Marie Joseph Paul Yves Roch Gilbert Du Motier Lafayette
1781 *Campagne en Virginie du Major General M'is de LaFayette: ou se trouvent les camps et marches, ainsy que ceux du Lieutenant General Lord Cornwallis en 1781/par le Major Capitaine, aide de camp du G'l LaFayette*. Library of Congress Geography and Map Division.

Chapman, Jefferson, and Andrea Brewer Shea
1981 The Archaeobotanical Record: Early Archaic Period to Contact in the Lower Little Tennessee River Valley. *Tennessee Anthropologist* VI (1):61-84.

Coe, Joffrey L.
1964 *The Formative Cultures of the Carolina Piedmont.* Transactions of the American Philosophical Society, N.S. 54(4), Philadelphia.

REFERENCES

Cormier, Steven A.
1989 *The Siege of Suffolk: The Forgotten Campaign, April 11-May 4, 1863*. H.E. Howard, Inc., Lynchburg, Virginia.

Custer, Jay F.
1989 *Prehistoric Cultures of the Delmarva Peninsula: An Archaeological Study*. University of Delaware Press: Newark, DE.

Dent, Richard J., Jr.
1995 *Chesapeake Prehistory: Old Traditions, New Directions*. Plenum Press, New York.

Egloff, Keith T.
1991 Development and Impact of Ceramics in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*. T. R. Reinhart and M. E. N. Hodges ed., pp. 243-253. The Dietz Press: Richmond, Virginia.

Egloff, Keith T., and Stephen R. Potter
1982 Indian Ceramics from Coastal Plan Virginia. In *Archaeology of Eastern North America* 10:95-117.

Fiedel, S. J.
2001 What Happened in the Early Woodland? In *Archaeology of Eastern North America* 29:101-142.

Fiedel, Stuart, and Gary Haynes
2004 A Premature Burial: Comments on Grayson and Meltzer's "Requiem for Overkill." *Journal of Archaeological Science* 31:121-131.

Ford, Richard I.
1974 Northeastern Archaeology: Past and Future Directions. In *Annual Reviews in Anthropology* 3:385–413.

Fry, Joshua, Peter Jefferson, and Thomas Jefferys
1755 *Map of the Inhabited part of Virginia, containing the whole province of Maryland with Part of Pensilvania, New Jersey and North Carolina.* Library of Congress Geography and Maps Division.

Gallivan, Martin D.
2003 *James River Chiefdoms: Thee Rise of Social Inequality in the Chesapeake*. University of Nebraska Press, Lincoln.

Gallivan, M. D., and J. McKnight
2006 *Archaeobotanical Assessment of Chesapeake Horticulture: The View from Werowocomoco.* Paper Presented at the Middle Atlantic Archaeological Conference, Virginia Beach, Virginia.

REFERENCES

Gardner, William M.

1974 The Flint Run Paleo-Indian Complex: Pattern and Process During the Paleo-Indian to Early Archaic. In *The Flint Run Paleo-Indian Complex: A Preliminary Report, 1971-1973 Seasons,* edited by W.M. Gardner, pp. 5-47. Occasional Paper 1, Archaeology Laboratory, Department of Anthropology, Catholic University of America, Washington, D.C.

1982 Early and Middle Woodland in the Middle Atlantic: An Overview. In *Practicing Environmental Archaeology: Methods and Interpretations*, edited by Roger W. Moeller, pp. 53-86. American Indian Archaeological Institute *Occasional Paper* No. 3.

1986 *Lost Arrowheads and Broken Pottery*. Thunderbird Publications, Manassas, Virginia.

1989 An Examination of Cultural Change in the Late Pleistocene and Early Holocene (Circa 9200 to 6800 B.C.). In *Paleoindian Research in Virginia: A Synthesis*, edited by J. Mark Wittkofski and Theodore R. Reinhart, pp. 5-51. Dietz Press, Richmond.

Geier, Clarence

1990 Early and Middle Archaic Periods; Material Culture and Technology. In *Early and Middle Archaic Research in Virginia: A Synthesis*. Theodore R. Reinhart and Mary Ellen Hodges, eds. Special Publication No. 22 of the Archaeological Society of Virginia. The Dietz Press, Richmond.

Goodyear, A. C.

1979 *A Hypothesis for the Use of Cryptocrystalline Raw Materials among Paleoindian Groups of North America*. Research Manuscript Series No. 156. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Grayson, Donald K., and David J. Meltzer

2003 A Requiem for North American Overkill. In *Journal of Archaeological Science* 30:585-593.

Hiden, M. W.

1957 *How Justice Grew. Virginia Counties: An Abstract of Their Formation.* Clearfield Company, Inc., Baltimore.

Hodges, Mary Ellen N

1991 The Late Archaic and Early Woodland Periods in Virginia: Interpretation and Explanation within an Eastern Context. In *Late Archaic and Early Woodland Research in Virginia*, ed. T. R. Reinhart and M. E. N. Hodges, pp. 221-242. The Dietz Press: Richmond, Virginia.

Hodges, Mary Ellen N., and Charles T. Hodges (editors)

1994 *Paspahegh Archaeology: Data Recovery Investigations of Site 44JC308 at The Governor's Land at Two Rivers, James City County, Virginia*. Report prepared by James River Institute for Archaeology, Inc., Williamsburg.

REFERENCES

Justice, Noel D.
1995 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States*. Indiana University Press, Bloomington.

Kaplan, Barbara Beigun
1993 *Land and Heritage in the Virginia Tidewater: A History of King and Queen County*. Cadmus Fine Books, Richmond, Virginia.

Keller, Kenneth W.
2000 The Wheat Trade on the Upper Potomac, 1800-1860. In *After the Backcountry: Rural Life in the Great Valley of Virginia, 1800-1900*, ed. K. E. Koons and W. R. Hofstra, pp. 21-33. The University of Tennessee Press: Knoxville, Tennessee.

King, Helen Haverty
1993 *Historical Notes on Isle of Wight County, Virginia*. Isle of Wight County Board of Supervisors, Isle of Wight, Virginia.

Klein, Michael J.
1997 *The Transition from Soapstone Bowls to Marcey Creek Ceramics in the Middle Atlantic Region: Vessel Technology, Ethnographic Data, and Regional Exchange*. Archaeology of Eastern North America 25: 143-158.

2003 Early Woodland Archaeology. *Quarterly Bulletin, Archeological Society of Virginia* 58(4):207-231.

Klein, Mike, and J. Sanderson Stevens
1996 Ceramic Attributes and Accokeek Creek Chronology: An Analysis of Sherds from the Falcon's Landing (18Pr131) and Accotink Meander (44FX1908) Sites. *North American Archaeologist* 17(2):113-142.

Klein, Michael J., and Thomas Klatka
1991 Late Archaic and Early Woodland Demography and Settlement Patterns. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 139-183. *Special Publication* No. 23 of the Archeological Society of Virginia.

Lindenkohl, A.
1864 *Military map of south-eastern Virginia*. Library of Congress Geography and Map Division.

McAlester, Virginia, and Lee McAlester
1993 *A Field Guide to American Houses*. Alfred A. Knopf, New York.

REFERENCES

McAvoy, Joseph M.

1992 *Nottaway River Survey, Part I. Clovis Settlement Patters: The 30-Year Study of a Late Ice Age Hunting Culture on the Southern Interior Coastal Plain of Virginia.* Special Publication No. 28 of the Archeological Society of Virginia. The Dietz Press, Richmond.

McAvoy, Joseph M., and Lynn D. McAvoy

1997 *Archaeological Investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*. Research Report Series No. 8. Virginia Department of Historic Resources, Richmond.

McLearen, Douglas C.

1991 Late Archaic and Early Woodland Material Culture in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 89-138. Archeological Society of Virginia Special Publication No. 23. Dietz Press, Richmond.

1992 Virginia's Middle Woodland Period: A Regional Perspective. In *Middle and Late Woodland Research in Virginia: A Synthesis*, ed. T. R. Reinhart and M. E. N. Hodges, pp. 39-64. The Dietz Press: Richmond, VA.

Manson, Carl

1947 Marcey Creek Site: An Early Manifestation in the Potomac Valley. In *American Antiquity* 13:223-227.

Meltzer, David J.

1988 Late Pleistocene Human Adaptations in Eastern North America. *Journal of World Prehistory* 2:1-52.

Morrison, Col. E. M.

1907 *Isle of Wight County, 1608-1907.* Compiled for distribution at the Jamestown Tercentenary Exposition.

Mouer, L. Daniel

1990 The Archaic to Woodland Transition in the Piedmont and Coastal Plain Sections of the James River Valley, Virginia. Ph.D. Dissertation, Department of Anthropology, University of Pittsburgh.

1991a The Formative Transition in Virginia. In *Late Archaic and Early Woodland Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges. Special Publication No. 23. The Dietz Press, Richmond.

1991b Explaining the Formative Transition in Virginia: Concluding Remarks. In *Late Archaic and Early Woodland Research in Virginia*, ed. T. R. Reinhart and M. E. N. Hodges, pp. 259-274. The Dietz Press: Richmond, Virginia.

REFERENCES

Mouer, L. Daniel, Frederic W. Gleach, and Douglas C. McLearen
1986 A Ceramics Temporal Typology in Progress for Central Virginia. In *Archaeology in Henrico, Volume 2: Introduction to Phase 2 and Phase 3 Archaeological Investigations of the Henrico County Regional Wastewater System,* edited by L.D. Mouer, pp. 119-149. Virginia Commonwealth University Archaeological Research Center, Richmond. Submitted to Henrico County, Virginia. On file at the VDHR, Richmond.

Mouer, L. Daniel, Douglas C. McLearen, R. Taft Kiser, C. P. Egghart, B. J. Binns, and Dane T. Magoon
1992 *Jordan's Journey.* Virginia Commonwealth Archaeological Research Center, Richmond, Virginia.

Munsell Color
1994 *Munsell Soil Color Charts.* Macbeth Division of Kollmorgen Instruments Corporation, New Windsor, NY.

Onuschak, Emil, Jr.
1973 Pleistocene-Holocene Environmental Geology. In *Geologic Studies, Coastal Plain of Virginia,* Bulletin 83 (Part 3), pp. 107-149. Virginia Division of Mineral Resources. Commonwealth of Virginia, Department of Purchases and Supply, Richmond.

Parker, Patricia L.
1986 *The Hinterland: An Overview of the Prehistory and History of Prince William Forest Park, Virginia. Occasional Report No. 1,* Regional Archaeology Program, National Park Service, National Capital Region.

Phelps, David Sutton
1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In *The Prehistory of North Carolina: An Archaeological Symposium,* edited by Mark A. Mathis and Jeffrey J. Crow, pp. 1-51. North Carolina Division of Archives and History, Department of Cultural Resources, Raleigh.

Poland, Charles Preston, Jr.
1976 *From Frontier to Suburbia.* Walsworth Publishing Co., Marceline, Missouri.

Potter, Stephen
1993 *Commoners, Tribute, and Chiefs: The Development of Algonquian Culture in the Potomac Valley.* University of Virginia Press, Charlottesville, Virginia.

Rader, E.K, and Evans, H.N. (editors)
1993 Geologic map of Virginia – expanded explanation: Virginia Division of Mineral Resources, 80.

REFERENCES

Ritchie, W. A.
1971 A Typology and Nomenclature for New York Projectile Points. New York State Museum and Science Service, *Bulletin 384*, Albany.

Rountree, Helen C., Wayne E. Clark, and Kent Mountford
2007 *John Smith's Chesapeake Voyages 1607-1609*. University of Virginia Press, Charlottesville.

Sadler, Donald L.
2006 *Cultural Legitimacy in Surry County, Virginia: The Edwards Family of Chestnut Farms*. Master Thesis, Anthropology Department College of William and Mary. Williamsburg, Virginia.

Sassaman, Kenneth E.
1999 A Southeastern Perspective on Soapstone Vessel Technology in the Northeast. In *The Archaeological Northeast*, ed. M. A. Levine, K. E. Sassaman, and M. S. Nassaney, pp. 75-98. Bergin & Garvey, Westport, CT.

Sassaman, Kenneth E., Glen T. Hanson, and Tommy Charles
1988 Raw Material Procurement and the Reduction of Hunter-Gatherer Range in the Savannah River Valley. In *Southeastern Archaeology* 7(2):79-94.

Slattery, Richard C.
1946 A Prehistoric Indian Site on Selden Island, Montgomery County, Maryland. In *Journal of the Washington Academy of Sciences* 36:262-266.

Smith, Bruce D.
1986 The Archaeology of the Southeastern United States: Form Dalton to De Soto, 10,500-500 B.P. In *Advances in World Archaeology* 5:1-92.

Smith, Marvin T., and Julie Barnes Smith
1989 Engraved Shell Masks in North America. In *Southeastern Archaeology* 8(1):9-18.

Smith, John, and William Hole
1624 *Virginia Discovered and Discribed [sic].* Library of Congress Geography and Map Division.

Soil Survey Staff
2018 Natural Resources Conservation Service, United States Department of Agriculture. Soil Series Classification Database. Available from: http://soils.usda.gov/soils/technical/classification/scfile/index.html. Accessed March 2023.

Stephenson, Robert L.
1963 *The Accokeek Creek Site: A Middle Atlantic Seaboard Culture Sequence*. Anthropological Papers, Museum of Anthropology, University of Michigan, No. 20, Ann Arbor.

REFERENCES

Stevens, J. Sanderson

1991 A Story of Plants, Fire, and People: The Paleoecology and Subsistence of the Late Archaic and Early Woodland in Virginia. *In Late Archaic and Early Woodland Research in Virginia: A Synopsis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 185-220. Council of Virginia Archaeologists and the Archaeological Society of Virginia. The Dietz Press, Richmond.

Stewart, R. Michael

1989 Trade and Exchange in Middle Atlantic Prehistory. In *Archaeology of Eastern North America* 17: 47-78.

Stewart, R. Michael

1995 The Status of Woodland Prehistory in the Middle Atlantic Region. In *Archaeology of Eastern North America* 23:177-206.

1998 Archaic Triangles at the Abbott Farm National Landmark: Typological Implications for Prehistoric Studies, Middle Atlantic Region. Paper prepared for an exhibit of Archaic-age triangular projectiles/bifaces sponsored by the Archaeological Society of New Jersey and the New Jersey Department of Transportation, Annual Meeting of the Middle Atlantic Archaeological Conference, Cape May, New Jersey. (http://www.temple.edu/anthro/stewart/abbott.html).

Teifke, Robert H.

1973 Stratigraphic Units of the Lower Cretaceous through Miocene Series. In *Geologic Studies, Coastal Plain of Virginia*, Bulletin 83 (Parts 1 and 2), pp. 5-78. Virginia Division of Mineral Resources. Commonwealth of Virginia, Department of Purchases and Supply, Richmond.

United States Department of the Interior (Interagency Resources Division)

1981 *Department of the Interior's Regulations, 36 CFR Part 60: National Register of Historic Places.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

1983 *Department of the Interior, Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

1991 How to Apply the National Register Criteria of Evaluation. *National Register Bulletin 15.* Interagency Resources Division, National Park Service, U.S. Department of the Interior, Washington, D.C.

United States Geology Society (USGS)

1919 *Smithfield, Virginia* 1:62,500 Quadrangle.

1945 *Smithfield, Virginia* 1:31,680 Quadrangle.

REFERENCES

Virginia Department of Historic Resources (DHR)
2017 *Guidelines for Archaeological Investigations in Virginia, Additional Guidance for the Implementation of the Federal Standards Entitled Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines (48 FR 44716-44742, September 29, 1983).* VDHR, Richmond.

2023 Archives Files

Waselkov, Gregory A.
1982 *Shellfish Gathering and Shell Midden Archaeology*. Ph.D. dissertation, University of North Carolina, Chapel Hill

Whyte, Thomas R.
1990 A Review of Evidence of Human Subsistence During the Early and Middle Archaic Periods in Virginia. In *Early and Middle Archaic Research in Virginia: A Synthesis*, edited by Theodore R. Reinhart and Mary Ellen N. Hodges, pp. 119-131. Council of Virginia Archaeologists and the Archaeological Society of Virginia. The Dietz Press, Richmond.

Willey, Gordon R., and Philip Phillips
1958 *Method and Theory in American Archaeology*. University of Chicago Press, Chicago, IL.

Willis, S.
1986 "To Lead Virginia Out of the Mud": Financing the Old Dominion's Public Roads, 1922-1924. In *Virginia Magazine of History and Biography* 94(4):425-452.

Yarnell, Richard A.
1976 Early Plant Husbandry in Eastern North America. In *Cultural Change and Continuity: Essays in Honor of James Bennett Griffin*, edited by Charles E. Cleland, Academic Press, New York.

APPENDICES

Appendix A ARTIFACT INVENTORY

Artifact Inventory

VAL-025 Solar Farm

Context	**Count and Description**
2607-IF1	**TPQ: 1820**

1 Ceramic fragment, refined earthenware, press molded, (1820-), Whiteware body sherd

Appendix B ARCHITECTURAL RESOURCE SURVEY MAPS

Figure No.

Appendix B

Title

Architectural Resources Map

Client/Project

195602607

Dawood Engineering, Inc.
VAL025 Solar Project

Project Location

Isle of Wight County, Virginia

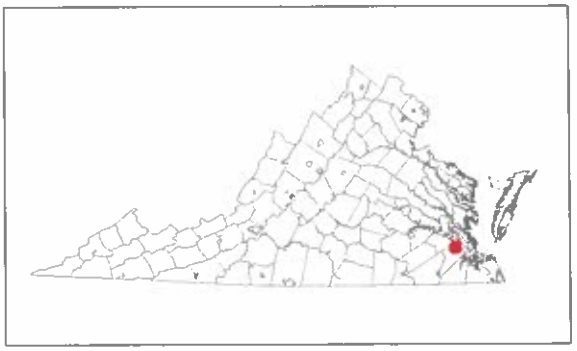
Prepared by ECL on 2023-04-03
TR by JMH on 2023-04-03
IR by SLD on 2023-04-03

N

0 800 1,600 Feet

(At original document size of 11x17)
1:9,600

- View Point
- Project Area
- 0.5- Mile Buffer
- Surveyed Architectural Resource with Viewshed Evaluation Conducted
- Architectural Resource Viewshed Only
- Resource Not Visible; Considered Eligible for Purposes of Environmental Review and Visual Effects Evaluation Conducted
- Surveyed Architectural Resource
- Newly Recorded Architectural Resource



Notes

1. Coordinate System: NAD 1983 StatePlane Virginia South FIPS 4502 Feet
2. Data Sources: Dawood Engineering, Inc., Stantec, U.S. Census Bureau, VDOT, Virginia Department of Historic Resources, Virginia Cultural Resources Information System (VCRIS)
3. Orthoimagery © Virginia Geographic Information Network (VGIN)

Stantec

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. responsibility for verifying the accuracy and completeness of the data

Appendix C ARCHITECTURAL V-CRIS FORMS

Property Information

Property Names

Name Explanation	Name
Descriptive	House at Smith's Beach
Function/Location	Farm, 16303 Morgarts Beach Rd (Rt 673)
Historic/Current	Bourne-Turner House

Property Evaluation Status

DHR Staff: Potentially Eligible

Property Addresses

Current - 16303 Morgarts Beach Road Route 673

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): 13-01-004
USGS Quad(s): BACONS CASTLE

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

May 1969: Located on north side of Route 673, in open field screened on the north from Burwell Bay and the James River by a wooded section of the tract. The complex includes several outbuildings. Old kitchen with huge chimney and early smokehouse still stand in yard. Earlier kitchen which stood some distance from west end of house has been torn down.

March 2014: The house is set back from the road, and is accessed by a long driveway. Fields fenced in and used as horse pastures are adjacent to both sides of the property. Wood fencing encloses a small yard area immediately surrounding the house. Shrubs grow adjacent to the foundation, and trees obscure some areas of the house from view from the public access road. A thick tree line is also visible behind the house. Secondary resources include a smokehouse, a shed, and two barns to the north of the dwelling, a shed, a vehicle shed, a livestock shelter, and two barns to the northeast, and a shed to the east.

March 2023: The landscape does not appear to have significantly changed since the previous survey. One of the sheds noted during the previous survey may have been the kitchen noted during the 1969 survey or may have served as a wash house. The shed to the east of the house within the fence line noted during the 2014 survey functions as an equine shelter, and the shed located directly behind the house appears to be a pump or well house.

Surveyor Assessment:

May 1969: Most of the land around Burwell's Bay was owned originally by the Burwell's and the Bennett's. Edward Bennett's daughter Silvestra Hill inherited much of this riverfront property & it was gradually sold off into smaller holdings. See survey form for complete chain of title, from 1762 (Jennings Ingram) through ca 1880 (Thomas B. Bournes to James A. Turner). Current owner is noted as James I. Turner.

2007: The Dutch-roofed house near the James River has long been called the Bourne place after Thomas H. Bourne who lived here during the Civil War.

This place is one of two remaining original manors on the James River between Burwell's Bay and Battery Park.

March 2014: The resource, in the opinion of the surveyor, is not recommended as individually eligible for listing on the NRHP under Criterion A, B, C or D. The property does not reflect broad patterns in history, and there is no known association with important people or events. Additionally, the architecture is undistinguished in workmanship and the materials stock.

March 2023: In 2015, the resource was determined potentially eligible for listing in the NRHP under Criterion C for its architectural merit. Based on the current survey, it is recommended that the resource retain its NRHP eligibility status.

Surveyor Recommendation: Recommended Potentially Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic

Resource Type:	Single Dwelling
NR Resource Type:	Building
Date of Construction:	ca 1790
Date Source:	Site Visit
Historic Time Period:	Early National Period (1790 - 1829)
Historic Context(s):	Architecture/Landscape, Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	1.5
Condition:	Good
Interior Plan:	Side Passage
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Euro-American
Cultural Affiliation Details:	*No Data*

Architectural Description:

May 1969: Late 18th century to early 19th century 1.5 story frame dwelling with gambrel roof. Beaded weatherboarding; finished basement; closet between two large outside chimneys on west end of house; hall is about 14 feet wide; runs from front to back with two large rooms to the left, the front door deeper than the back.

Wainscoting and mantels with a reeded design may not be original but have been there a long time. Enclosed stairway - has been changed several times. Until recently there were H & L hinges on all the doors. Original windows in roof (dormers) were only two window panes wide. Floors are wide, pine. Turners built modern kitchen wing on east end.

Undated entry: Two story side passage frame house with two large exterior end brick chimneys, a side gable roof, and two smaller additions on the end opposite the chimneys. Single story single bay entry porch, brick foundation. Good condition.

March 2014: Other than the construction of a one-story, frame side addition off the east elevation, the house appears unaltered since the previous survey. A previously unrecorded feature is the wood shingles present on the second floor of the main elevation.

March 2023: The house is one-and-a-half-stories supported by a brick foundation laid in a three-course American bond pattern, although it appears some repairs appear to have been made which have interrupted the coursing. The exterior is sheathed in beaded weatherboard and the roof clad primarily in asphalt shingles, with the front slope clad in scalloped wood shingles. Two parged exterior end, presumably brick, chimneys with corbeled caps are located off the western gable end. A shed-roofed closet is located between the two chimneys and a small, brick wing with wood board door and gable roof provides access into the basement. Extending across the rear of the dwelling is a one-story, shed-roofed ell which appears originally to have been supported by brick piers. The dwelling also features a gable-roofed entry porch supported by square wood posts, and a one-story wing off the eastern end of the dwelling. Fenestration comprises three-over-three wood sash windows in the basement, six-over-nine wood sashes flanked by louvered wood shutters on the first floor, and six-over-six wood sashes in the narrow shed-roofed dormers.

Exterior Components

Component	Component Type	Material	Material Treatment
Windows	Sash, Double-Hung	Wood	6/6
Chimneys	Exterior End	Brick	Cap, Corbeled
Roof	Gable, Side	Wood	Shingle
Structural System and Exterior Treatment	Frame	Wood	Weatherboard
Porch	1-story, 1-bay	Wood	Columns
Foundation	English	Brick	American/Common Bond
Roof	Side Gable	Asphalt	*No Data*

Secondary Resource Information

Secondary Resource #1

Resource Category:	Agriculture/Subsistence
Resource Type:	Smoke/Meat House
NR Resource Type:	Building
Date of Construction:	ca 1790
Date Source:	Site Visit
Historic Time Period:	Early National Period (1790 - 1829)
Historic Context(s):	Domestic
Other ID Number:	*No Data*

Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2014: The smokehouse is a one-story, frame building supported by a brick foundation. The exterior walls are sheathed in weatherboard siding, and the side gable roof is covered with wood shingles.

March 2023: The smokehouse does not appear to have been significantly altered since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #2

Resource Category: Domestic
Resource Type: Shed - Vehicle
NR Resource Type: Building
Date of Construction: ca 1940
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2014: The one-story, frame vehicle shed is mostly obscured from view from the point of survey. Visible features include a shed roof with projecting hood covered with seamed metal, and at least one exterior wall sheathed in weatherboard siding. There is also a shed-roofed side addition.

March 2023: The vehicle shed does not appear to have been significantly altered since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #3

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 1950
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*

Number of Stories:	1.0
Condition:	Fair
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Euro-American
Cultural Affiliation Details:	*No Data*

Architectural Description:

March 2014: The northern shed is mostly obscured from view from the point of survey. The building appears to be a one-story, frame structure with exterior walls sheathed in vertical board siding, and a gable roof covered with seamed metal.

March 2023: Based on the previous description of the building, the shed was not observed.

Secondary Resource #4

Resource Category:	Domestic
Resource Type:	Shed
NR Resource Type:	Building
Date of Construction:	ca 1790
Date Source:	Site Visit
Historic Time Period:	Early National Period (1790 - 1829)
Historic Context(s):	Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	1.0
Condition:	Fair
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Euro-American
Cultural Affiliation Details:	*No Data*

Architectural Description:

March 2014: The northeastern shed is a one-story, frame structure with a shed roof and exterior walls sheathed in weatherboard siding.

March 2023: The resource thought to be a shed, appears to have functioned as the kitchen noted during the 1969 survey or as a wash house. The shed roof noted in 2014 is the ell of the one-story, gable-roofed building. The building also features a weatherboard exterior, modern metal roof, exterior end brick chimney, six-light wood-framed window and five cross-panel wood entry door.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #5

Resource Category:	Domestic
Resource Type:	Shed
NR Resource Type:	Building
Date of Construction:	ca 1950
Date Source:	Site Visit
Historic Time Period:	The New Dominion (1946 - 1991)
Historic Context(s):	Domestic, Subsistence/Agriculture
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	1.0
Condition:	Fair
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Euro-American
Cultural Affiliation Details:	*No Data*

Architectural Description:

March 2014: The eastern shed is a one-story, frame, multi-bay building. The exterior walls are sheathed in vertical board siding, and the side gable roof is covered with seamed metal. One bay is open.

March 2023: The shed currently functions as an equine shelter. Sections of the vertical wood boards appear to have been removed since the previous survey; however, the building remains substantially unchanged otherwise.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Vertical Board

Secondary Resource #6

Resource Category: Agriculture/Subsistence
Resource Type: Animal Shelter/Kennel
NR Resource Type: Building
Date of Construction: ca 1940
Date Source: Site Visit
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2014: The animal shelter is a one-story, metal-framed structure.

March 2023: The building noted above appears to be located to the southeast of Barn #3 and northeast of Barn #4. The building; however, is a one-and-a-half-story, wood-frame building clad in weatherboards with a gable roof. The building was only partially visible from the point of survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #7

Resource Category: Agriculture/Subsistence
Resource Type: Barn
NR Resource Type: Building
Date of Construction: ca 1930
Date Source: Site Visit
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 2.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2014: The barn is a two-story, single bay building with a front gable roof covered with seamed metal, and exterior walls sheathed in vertical board siding. Two shed-roofed wings extend off each side. Wood doors on sliding metal rails are visible at each entrance.

March 2023: The barn does not appear to have been significantly altered since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Vertical Board

Secondary Resource #8

Resource Category: Agriculture/Subsistence
Resource Type: Barn
NR Resource Type: Building
Date of Construction: ca 1930
Date Source: Site Visit
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 2.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2014: The barn is a two-story, single bay building with a front gable roof covered with seamed metal, and exterior walls sheathed in vertical board siding. Two shed-roofed wings extend off each side. Wood doors on sliding metal rails are visible at each entrance.

March 2023: The barn does not appear to have been significantly altered since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Vertical Board

Secondary Resource #9

Resource Category: Agriculture/Subsistence
Resource Type: Barn
NR Resource Type: Building
Date of Construction: ca 1930
Date Source: Site Visit
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2014: The barn is a one-story, frame building with exterior walls sheathed in vertical board siding, and a gable roof covered with seamed metal.

March 2023: The barn does not appear to have been significantly altered since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment

Structural System and Exterior Treatment	Wood Frame	Wood	Vertical Board

Secondary Resource #10

Resource Category: Agriculture/Subsistence
Resource Type: Barn
NR Resource Type: Building
Date of Construction: ca 1930
Date Source: Site Visit
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2014: The barn is a one-story, frame building with exterior walls sheathed in vertical board siding, and a gable roof covered with seamed metal.

March 2023: The barn does not appear to have been significantly altered since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Vertical Board

Secondary Resource #11

Resource Category: Agriculture/Subsistence
Resource Type: Pump House
NR Resource Type: Structure
Date of Construction: ca 1960
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: *No Data*
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Euro-American
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The pump house (or possibly well house) is a low, one-story, masonry building with gable roof clad in metal.

Secondary Resource #12

Resource Category: Agriculture/Subsistence
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 2015
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)

Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023. The shed is a one-story, frame building with board-and-batten siding and a metal-clad shed roof with overhang.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Board-and-Batten

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 3/8/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Project Bibliographic Information:

A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia.

Surveyor's NR Criteria Recommendations:

C - Distinctive Characteristics of Architecture/Construction

Event Type: DHR Staff: Potentially Eligible

DHR ID: 046-0031
Staff Name: Andrea Burke
Event Date: 5/1/2015
Staff Comment

DHR File No. 2011-2071; Potentially Eligible under Criteria C

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2011-2071
Investigator: Emily Lindtveit
Organization/Company: Stantec 2034
Photographic Media: Digital

Survey Date: 3/10/2014
Dhr Library Report Number: JC-328
Project Staff/Notes:
No Data
Project Bibliographic Information:
A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia
Surveyor's NR Criteria Recommendations:
C - Distinctive Characteristics of Architecture/Construction

Event Type: Survey:Phase I/Reconnaissance

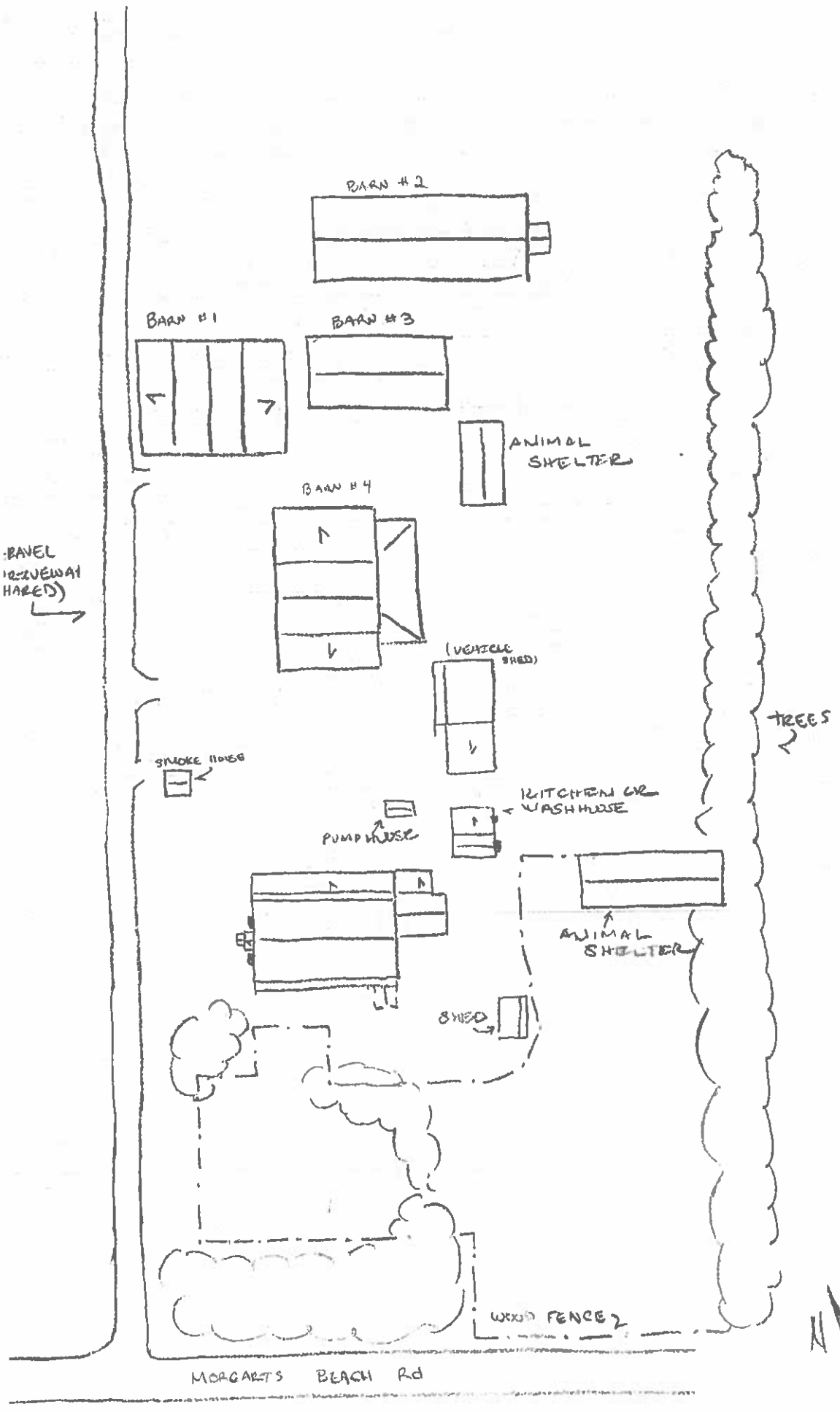
Project Review File Number: *No Data*
Investigator: Calder C. Loth
Organization/Company: VA Dept. of Historic Resources
Photographic Media: Film
Survey Date: 5/1/1969
Dhr Library Report Number: *No Data*
Project Staff/Notes:
VHLC staff member - later form filled out by another staff member (unattributed - ca 1970)
Surveyor's NR Criteria Recommendations:
C - Distinctive Characteristics of Architecture/Construction

Bibliographic Information

Bibliography:

King, Helen Haverty
"Historic Isle of Wight"
2007 (page 27)

Property Notes:
No Data



046-0031
FOXTAIL FARMS
16303 MORGARTS BEACH RD
ISLE OF WIGHT, VA
MARCH 8, 2023
N.T.S.

Property Information

Property Names

Name Explanation **Name**
Function/Location Farmhouse, 7428 Clifton Lane

Property Addresses

Current - 7428 Clifton Lane

Property Evaluation Status

DHR Staff: Not Eligible

County/Independent City(s):	Isle of Wight (County)
Incorporated Town(s):	*No Data*
Zip Code(s):	23430
Magisterial District(s):	*No Data*
Tax Parcel(s):	13-01-003
USGS Quad(s):	BACONS CASTLE

Additional Property Information

Architecture Setting: Rural

Acreage: 150

Site Description:

2005: This farmstead is situated at the north terminus of Clifton Lane. The building faces south. The area is characterized by open agricultural fields and farmsteads.

There is a dairy northeast of the dwelling. There is a barn southwest of the dwelling. There is a crib east of the dairy. There is a tenant house southeast of the dwelling. North of the tenant house is a kitchen foundation. Southeast of the tenant house is shed.

September 2014: The house is situated far back from and facing the road on a level lot surrounded by a manicured lawn edged by tree lines. Expansive agricultural fields lie between the house and the road. A long straight gravel drive, named Clifton Lane, leads from the road to the front of the house. An offshoot of the drive accesses a modern trailer located to the northeast of the house. A coop, a dairy, and a shed are located northeast of the house and west of the trailer. Two sheds are located northeast of the house and trailer. A corn crib is locates to the east of the house and trailer. A tenant house, a standing chimney and a vehicle shed are located southeast of the house. A modern garden shed is located south-southeast of the house. A modern faux privy, a barn, and a ruinous modern greenhouse are located southwest of the house.

March 2023: The landscape surrounding the core buildings has grown significantly with a barn as the only resource now visible from the public ROW.

Surveyor Assessment:

2005: This is a Queen Anne-style of house. The Queen Anne style appeared in the United States in 1880 from England and became a predominant architectural style concurrently with the Colonial Revival style. Its origins are derived from Jacobean architecture and early medieval sources. Unlike the Colonial Revival, which **emphasized simplicity** and United **States heritage, the Queen** Anne style was highly ornate with asymmetrical proportions, varying **material treatment and steeply** pitched **roofs. Towers were also** common and exhibited panels, shingling, varying window forms, varying **articulate cornices** and conical, **octagonal** or **pyramidal roofs** crowned by finials. Shingles of varying cuts and windows exhibiting stained glass and panes of varying forms and sizes were common. In addition, rounded and canted bays were common on wall planes allowing for asymmetrical roof forms and additional articulation on wall planes. Aside from the highly ornate exterior, the asymmetry of the style was continued on the interior. The plan of the style was open and the exterior bays figured prominently in the formal spaces of the house. In addition, fireplaces were not regulated to the center of a wall plane but appear in corners, and off-center on wall planes.

The Queen Anne style became a predominant architectural style concurrently with the Colonial Revival style. Its origins are derived from Jacobean architecture and early medieval sources. Unlike the Colonial Revival, which emphasized simplicity and United States heritage, the Queen Anne style was highly ornate with asymmetrical proportions, varying material treatment and steeply pitched roofs. Towers were also common and exhibited panels, shingling, varying window forms, varying articulate cornices and conical, octagonal or pyramidal roofs crowned by finials. Shingles of varying cuts and windows exhibiting stained glass and panes of varying forms and sizes were common. In addition, rounded and canted bays were common on wall planes allowing for asymmetrical roof forms and additional articulation on wall planes. Aside from the highly ornate exterior, the asymmetry of the style was continued on the interior. The plan of the style was open and the exterior bays figured prominently in the formal spaces of the house. In addition, fireplaces were not regulated to the center of a wall plane but appear in corners, and off-center on wall planes.

September 2014: The architectural resource is typical of the late nineteenth century in Isle of Wight County and in the opinion of the surveyor should not be considered individually eligible for the NRHP under Criterion A, B, C or D. There is no known association with important people or events and the resource is a typical example of this time period. In addition, the design is common, the materials stock, and the building has been altered from its original appearance.

March 2023: The resource, though generally reflective of the turn of the twentieth century development of Isle of Wight County, lacks direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing on the NRHP. As such, it is recommended that the resource is not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.
The resource, under NRHP Criterion A does not individually express any distinctive themes relating to the development of Isle of

Wight County and does not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.
The resource surveyed does not appear to be associated with any known individuals who made significant contributions to the historical development of the Isle of Wight County. Although limited information about the occupants of the property is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resource does not meet the criteria necessary for listing on the NRHP under Criterion B.
The resource does not appear to have significant architectural integrity for listing on the NRHP under Criterion C. The resource is utilitarian in design and does not embody distinctive characteristics of a type, period, or method of construction nor does the building represent the work of a master. It is therefore recommended that the resource surveyed does not meet the criteria necessary for listing on the NRHP under Criterion C.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category:	Domestic
Resource Type:	Single Dwelling
NR Resource Type:	Building
Not Observed:	This resource was not observed during the last survey.
Date of Construction:	ca 1905
Date Source:	Site Visit/Written Data
Historic Time Period:	Reconstruction and Growth (1866 - 1916)
Historic Context(s):	Architecture/Community Planning, Domestic, Subsistence/Agriculture
Other ID Number:	*No Data*
Architectural Style:	Vernacular
Form:	*No Data*
Number of Stories:	2.0
Condition:	Good
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Indeterminate
Cultural Affiliation Details:	*No Data*

Architectural Description:

May 2005: This dwelling has a brick foundation and wood frame structural system clad in vinyl siding. The roof is cross-gable clad in asphalt shingles. The roof features a boxed cornice, raking cornices and cornice returns. The façade is symmetrical and dominated by a projecting canted bay topped with a gable roof. The canted bay features a single-bay porch with bracketed turned posts. The roof is clad in asphalt shingles. The canted bay contains the single-leaf entrance door which has three panels and one light. The door is surmounted by a transom. The windows on the dwelling are 2/2 wood double-hung sash. There are interior brick chimneys at the east and west gable ends. A one-story side-gabled roof addition is appended to the dwelling at a slight angle. The addition has a brick foundation and wood frame structural system clad in vinyl siding. There is an exterior brick chimney at the west end which is joined to the interior brick chimney at the east end of the dwelling. The addition was construction in two stages and features a slightly lower roofline on the east end. There is an interior brick chimney at the east end. The windows on the addition are 2/2 wood double-hung sash. There is a one-bay gabled-roof porch on the south façade. A gabled-roof one-story addition is appended at the north end.

September 2014: The house remains largely unchanged since the previous survey. The condition of the vinyl siding has slightly deteriorated. In addition to the previously recorded aspects, several additional features were noted. It was observed that the east addition features a secondary entry accessed by a single bay porch with a front gable roof supported by turned posts, that the rear elevation features two projecting canted bays with pyramidal roofs, that the gable roof ell addition that extends off the rear elevation features a secondary entry and an interior brick flue, and that the hipped roof addition that extends off the rear elevation may be an enclosed porch and sits on a brick pier foundation infilled with brick. Additionally, it was noticed that the screening has been removed from the front porch, although the framing from the screens remains.

March 2023: The dwelling is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Roof	Gable, Side	Asphalt	Shingle
Chimneys	Interior	Brick	Bond, American
Windows	Sash, Double-Hung	Wood	2/2
Structural System and Exterior Treatment	Frame	Wood	Siding, Vinyl
Foundation	Solid/Continuous	Brick	Bond, American
Porch	1-story	Wood	Screened

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Secondary Dwelling
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 1910
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: Vernacular
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Neglect, Transportation Expansion, Vacant
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

May 2005: There is a tenant house with a wood frame structural system clad in weatherboard. The building has a brick pier foundation and gable roof clad in asphalt shingles. There is a double-leaf entrance at the north end of the west elevation. The windows are 6/6 wood double-hung sash.

September 2014: The condition of the tenant house has deteriorated since the previous survey and is now surrounded by overgrown brush and small trees. The tenant house is currently used for storage. The gable roof addition which previously extended off the north elevation and featured a two-leaf door has been removed. The house is now accessed by a centrally located recessed panel wood door which pierces the north elevation. It was additionally observed that the house roof features exposed rafter ends. A standing brick chimney is located just north of the tenant house with the firebox facing west. Some brickwork at the top of the firebox has collapsed.

March 2023: The dwelling is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #2

Resource Category: Domestic
Resource Type: Kitchen
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 1910
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Deteriorated
Threats to Resource: Demolition, Deterioration, Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

May 2005: The kitchen has only a brick foundation and brick chimney remaining.

September 2014: The chimney stack is extant and is located to the north of the tenant house. The building, as evidenced by the chimney, was

one story in height and constructed with a gable roof. The large firebox shows signs of structural collapse. A stove pipe hole is located on the opposite side of the chimney stack from the firebox and suggests the building had at least two rooms.

March 2023: The kitchen is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Unknown	Unknown	Not Visible

Secondary Resource #3

Resource Category: DSS Legacy
Resource Type: Shed
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 1910
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: Vernacular
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Neglect, Public Utility Expansion, Structural Failure
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*

Architectural Description:

May 2005: The shed features a wood frame structural system and brick pier foundation. It is one story with a 6-light casement window. An open bay is appended to the south elevation.

September 2014: The shed, based on the above description, appears to be unchanged since the previous survey. The condition has deteriorated; however. The shed is a one-story frame structure clad with weatherboard on the west elevation and vertical boards on the others. The side gable roof is covered by asphalt paper and is in near ruinous condition with large holes on the southern slope. The south elevation is pierced by a narrow central door opening. A ruinous and collapsed open shed roof addition extends off the north elevation. The shed is in very poor condition.

March 2023: The shed is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard
Structural System and Exterior Treatment	Wood Frame	Wood	Vertical Board

Secondary Resource #4

Resource Category: Agriculture/Subsistence
Resource Type: Cornerib
NR Resource Type: Structure
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 1910
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Architecture/Community Planning, Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: Vernacular
Form: *No Data*
Number of Stories: *No Data*
Condition: Good

Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

May 2005. The crib feature a wood frame structural system clad in horizontal boards. The building rests on a brick pier foundation. The roof is gable clad in standing-seam metal. The walls taper toward the ground. There is a single-leaf door on the south elevation.

September 2014: The corn crib has been altered since the previous survey. The brick piers have been replaced with concrete block piers and a single-bay one-story frame addition has been appended to the south elevation. The addition is clad with board-and-batten siding and has a side gable roof covered with corrugated metal. The addition sits on slender poured concrete piers. A dutch door pierces the west elevation of the addition which is accessed by wood stairs.

March 2023: The corn crib is no longer visible from the public ROW.

Secondary Resource #5

Resource Category: Agriculture/Subsistence
Resource Type: Barn
NR Resource Type: Building
Date of Construction: ca 1910
Date Source: Site Visit/Written Data
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: Vernacular
Form: *No Data*
Number of Stories: 2.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

May 2005. The barn is two-stories with a brick pier foundation and wood structural system clad in weatherboard. The roof is gable clad in standing-seam metal. There are wings appended to the east and west elevation. A shed-roofed shelter is appended to the north elevation.

September 2014: The barn is largely unchanged since the previous survey. The barn is a single-bay two-story frame structure clad in corrugated metal on the south elevation and weatherboard on the side and rear elevations. The front gable roof is covered in seamed metal and the barn rests on a brick pier foundation. The facade is pierced by a central vertical board door with a window opening covered by a sheet metal shutter piercing the second story above the door. One story single-bay shed roof side additions extend off the east and west elevations and feature T-111 siding on the side elevations. An open post-in-ground shed roof addition extends off the rear elevation. The shed roof is supported by log posts. The west end of the rear addition has been enclosed with horizontal boards.

March 2023: The barn does not appear to have been significantly altered since the previous survey.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard
Structural System and Exterior Treatment	Wood Frame	Metal	Siding

Secondary Resource #6

Resource Category: Agriculture/Subsistence
Resource Type: Dairy
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 1910
Date Source: Site Visit
Historic Time Period: Reconstruction and Growth (1866 - 1916)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: Vernacular

Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Neglect, Other, Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

May 2005: The dairy features an elevated brick foundation. A vertical board door pierces the foundation at the west corner of the south elevation. The building is wood frame clad in weatherboard and is topped by a side-gable roof clad in standing-seam metal. There is a centrally-placed single-leaf vertical board door. An open shelter is appended to the east elevation.

September 2014: The dairy is largely unchanged from the previous survey, although is in a slightly deteriorated condition. Several boards are missing from the siding. The elevated brick foundation is degraded, in large sections of the brickwork the mortar has eroded almost entirely from the joints and several brick bats are eroded or spalled. The east elevation brickwork is especially deteriorated. Heavy termite damage was also noticed throughout the framing timbers, and especially in the wood sill of the east elevation. Additionally, it was observed that the side gable roof is covered in corrugated metal.

March 2023: The dairy is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #7

Resource Category: Agriculture/Subsistence
Resource Type: Chicken House/Poultry House
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: Neglect, Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

September 2014: The coop is a small modern frame structure clad in plywood with a shed roof covered in seamed metal. A narrow hinged plywood door pierces the west elevation. A long rectangular hinged panel on the south elevation provides access to the nesting boxes.

March 2023: The chicken coop is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Siding

Secondary Resource #8

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)

Historic Context(s):	Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	1.0
Condition:	Good
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Indeterminate
Cultural Affiliation Details:	*No Data*

Architectural Description:

September 2014: This modern shed located to the northeast of the house is a single-bay one-story frame structure clad in T-111 siding with an overhanging shed roof covered in asphalt shingle. The shed sits on a concrete pad.

March 2023: The shed is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Siding

Secondary Resource #9

Resource Category:	Domestic
Resource Type:	Mobile Home/Trailer
NR Resource Type:	Building
Not Observed:	This resource was not observed during the last survey.
Date of Construction:	ca 2010
Date Source:	Site Visit
Historic Time Period:	Post Cold War (1992 - Present)
Historic Context(s):	Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	1.0
Condition:	Good
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Indeterminate
Cultural Affiliation Details:	*No Data*

Architectural Description:

September 2014: The trailer is a modern one-story six-bay frame structure clad in corrugated metal siding with a side arched roof covered in sheet metal. The raised foundation is not visible. Fenestration consists of one-by-one sliding metal windows. The trailer appears to have replaced the tenant house as the secondary dwelling on the property.

March 2023: The trailer is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Unknown	Metal	Siding

Secondary Resource #10

Resource Category:	Domestic
Resource Type:	Shed
NR Resource Type:	Building
Not Observed:	This resource was not observed during the last survey.
Date of Construction:	ca 2010
Date Source:	Site Visit
Historic Time Period:	Post Cold War (1992 - Present)
Historic Context(s):	Domestic

Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

September 2014: This shed is located to the rear of the trailer and is a single-bay modern frame structure clad in weatherboard with an overhanging front gable roof covered in corrugated metal. The shed sits on concrete piers.

March 2023: The shed is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #11

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

September 2014: This small low modern shed is located adjacent to and to the rear of the other trailer associated shed. The shed is a single-bay frame structure clad in plywood with a shallowly pitched shed roof covered in sheet metal.

March 2023: The shed is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Siding

Secondary Resource #12

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*

Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

September 2014: This garden shed located to the south-southeast of the house is a one-story single-bay frame structure clad in board-and-batten siding with an overhanging front gable roof covered in corrugated metal and features exposed rafter ends. Fenestration consists of a vertical board door and six-light hopper wood windows.

March 2023: The shed is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Board-and-Batten

Secondary Resource #13

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Poor
Threats to Resource: Neglect, Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

September 2014: This shed is styled as a faux privy and may have been constructed to function as a landscape folly. The shed is a small narrow single-bay frame structure clad in rustic weatherboards with a front gable roof. The roof appears to be unfinished with spaced weatherboards on the rafters, but lacking roofing material. The south elevation also appears to be unfinished with missing weatherboard siding. The shed is being subsumed by vines and brush.

March 2023: The shed is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Secondary Resource #14

Resource Category: Agriculture/Subsistence
Resource Type: Greenhouse/Conservatory
NR Resource Type: Building
Not Observed: This resource was not observed during the last survey.
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Subsistence/Agriculture

Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Ruinous
Threats to Resource: Erosion, Neglect, Public Utility Expansion, Vacant
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

September 2014: The ruinous greenhouse is largely subsumed by brush. The greenhouse appears to consist of a lumber frame with a shed roof; however, appears to have not been completed.

March 2023: The greenhouse is no longer visible from the public ROW.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Unknown	Not Visible

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 3/8/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Project Bibliographic Information:

A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAI-025 Solar Project, Isle of Wight County, Virginia.

Event Type: DHR Staff: Not Eligible

DHR ID: 046-5189
Staff Name: Andrea Burke
Event Date: 5/1/2015
Staff Comment

DHR File No. 2011-2071

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: 2011-2071
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 9/18/2014

Dhr Library Report Number: JC-419

Project Staff/Notes:

Sandra DeChard, Ellen Brady
Addendum to the Phase I Cultural Resources Survey of the Proposed Dominion Virginia Power Skiffes Creek to Surry 500 kV Transmission Line in James City, Isle of Wight and Surry Counties, Virginia
Stantec Consulting Services, Inc. -- October 24, 2014
DHR Report No. JC-419

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: David, Kimble
Organization/Company: Unknown (DSS)
Photographic Media: *No Data*
Survey Date: 5/1/2005
Dhr Library Report Number: *No Data*

Project Staff/Notes:

No Data

Project Bibliographic Information:

A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia.

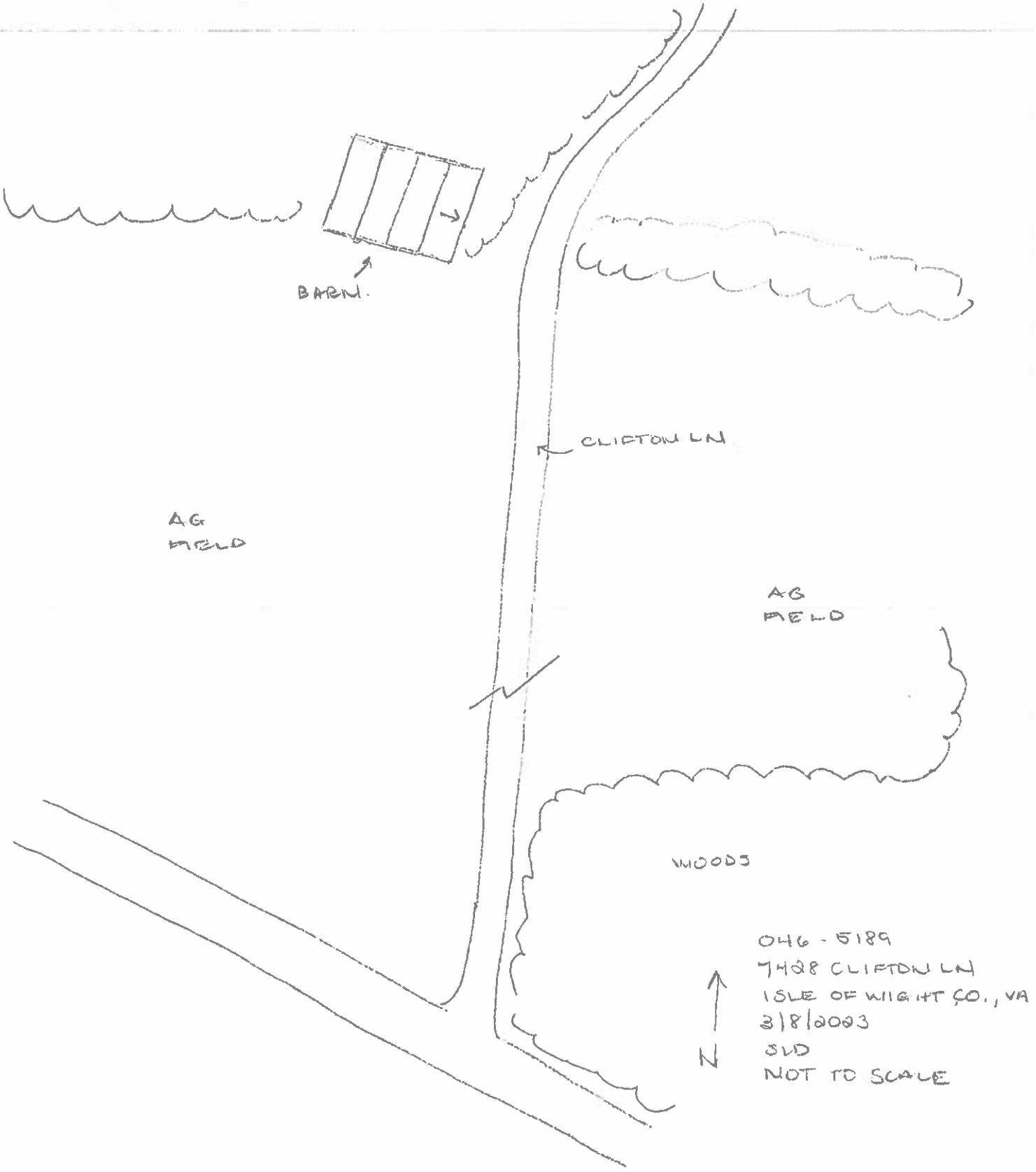
Bibliographic Information

Bibliography:

No Data

Property Notes:

Name: Mary Wynne et ux
Address 1: 7428 Clifton Lane
City: Smithfield
State: Virginia
ZIP: 23430
Owner Relationship: Owner of property


BARN
CLIFTON LN
AG
FIELD
AG
FIELD
WOODS
046 - 5189
7408 CLIFTON LN
ISLE OF WIGHT CO., VA
3/18/2003
SLD
NOT TO SCALE
N

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 8736 Old Stage Highway

Property Evaluation Status

Property Addresses

Current - 8736 Old Stage Highway

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BACONS CASTLE

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

March 2023: The house is located back from the road down a long, dirt driveway within a relatively level landscape. Surrounding the house is a lawn dotted with trees. A fenced in pasture is located in front of the house with wooded areas to the southwest and southeast of the dwelling. Six outbuildings were visible on the property at the time of the survey and include a chicken coop, shed, and what appears to be a vehicle shed located to the southwest of the house, a shed and well house to the north, and a small building which appears to be a pump house to the southeast of the house within a garden area.

Surveyor Assessment:

March 2023: The resource, though generally reflective of the mid-twentieth century development of Isle of Wight County, lacks direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing on the NRHP. As such, it is recommended that the resource is not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.
The resource, under NRHP Criterion A does not individually express any distinctive themes relating to the development of Isle of Wight County and does not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.
The resource surveyed does not appear to be associated with any known individuals who made significant contributions to the historical development of the Isle of Wight County. Although limited information about the occupants of the property is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resource does not meet the criteria necessary for listing on the NRHP under Criterion B.
The resource does not appear to have significant architectural integrity for listing on the NRHP under Criterion C. The resource is utilitarian in design and does not embody distinctive characteristics of a type, period, or method of construction nor does the building represent the work of a master. It is therefore recommended that the resource surveyed does not meet the criteria necessary for listing on the NRHP under Criterion C.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1950
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*

Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*

Architectural Description:

March 2023: The house is a one-story, four-bay, frame dwelling supported on what appears to be a brick and concrete block foundation. The exterior walls are sided in vinyl with the side gable roof with patterned shingles. The dwelling also features an exterior end brick chimney and brick flue with corbeled caps, a modern entry door, gable-roofed wing, and six-over-six vinyl sash windows.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Exterior End	Brick	Flue
Chimneys	Exterior End	Brick	Stretcher Bond
Foundation	Solid/Continuous	*No Data*	*No Data*
Roof	Side Gable	*No Data*	*No Data*
Structural System and Exterior Treatment	Wood Frame	Vinyl	Siding

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*

Architectural Description:

March 2023: The shed is a modern, frame building with T-111 siding and a side gable roof clad in asphalt shingles. The building also features a narrow, two-bay porch.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Plywood/Particle Board	Siding

Secondary Resource #2

Resource Category: Domestic
Resource Type: Well House
NR Resource Type: Building
Date of Construction: pre 1990
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic

Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The well house is a low, concrete block building with gable roof clad in asphalt shingles.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Masonry	Concrete	Block

Secondary Resource #3

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: ca 1990
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The shed is a modern, metal building with shed roof.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Unknown	Metal	Siding

Secondary Resource #4

Resource Category: Agriculture/Subsistence
Resource Type: Chicken House/Poultry House
NR Resource Type: Building
Date of Construction: pre 1990
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate

Cultural Affiliation Details: *No Data*

Architectural Description:

March 2023: The chicken coop is a one-story, frame, screened-in building with gable roof clad in corrugated metal. The coop is attached to a smaller, board-and-batten shed with metal-clad gable roof.

Secondary Resource #5

Resource Category: Agriculture/Subsistence
Resource Type: Pump House
NR Resource Type: Structure
Date of Construction: ca 2010
Date Source: Site Visit
Historic Time Period: Post Cold War (1992 - Present)
Historic Context(s): Domestic, Subsistence/Agriculture
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: *No Data*
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*

Architectural Description:

March 2023: The pump house is a modern, frame building sided in T-111 with a gable roof clad in asphalt shingles.

Secondary Resource #6

Resource Category: Domestic
Resource Type: Shed - Vehicle
NR Resource Type: Building
Date of Construction: pre 1990
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*

Architectural Description:

March 2023: The building is partially obscured from the point of survey by the house but appears to function as a vehicle or equipment shed. The walls are at least partially open and the gable roof is clad in metal.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	*No Data*	*No Data*

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

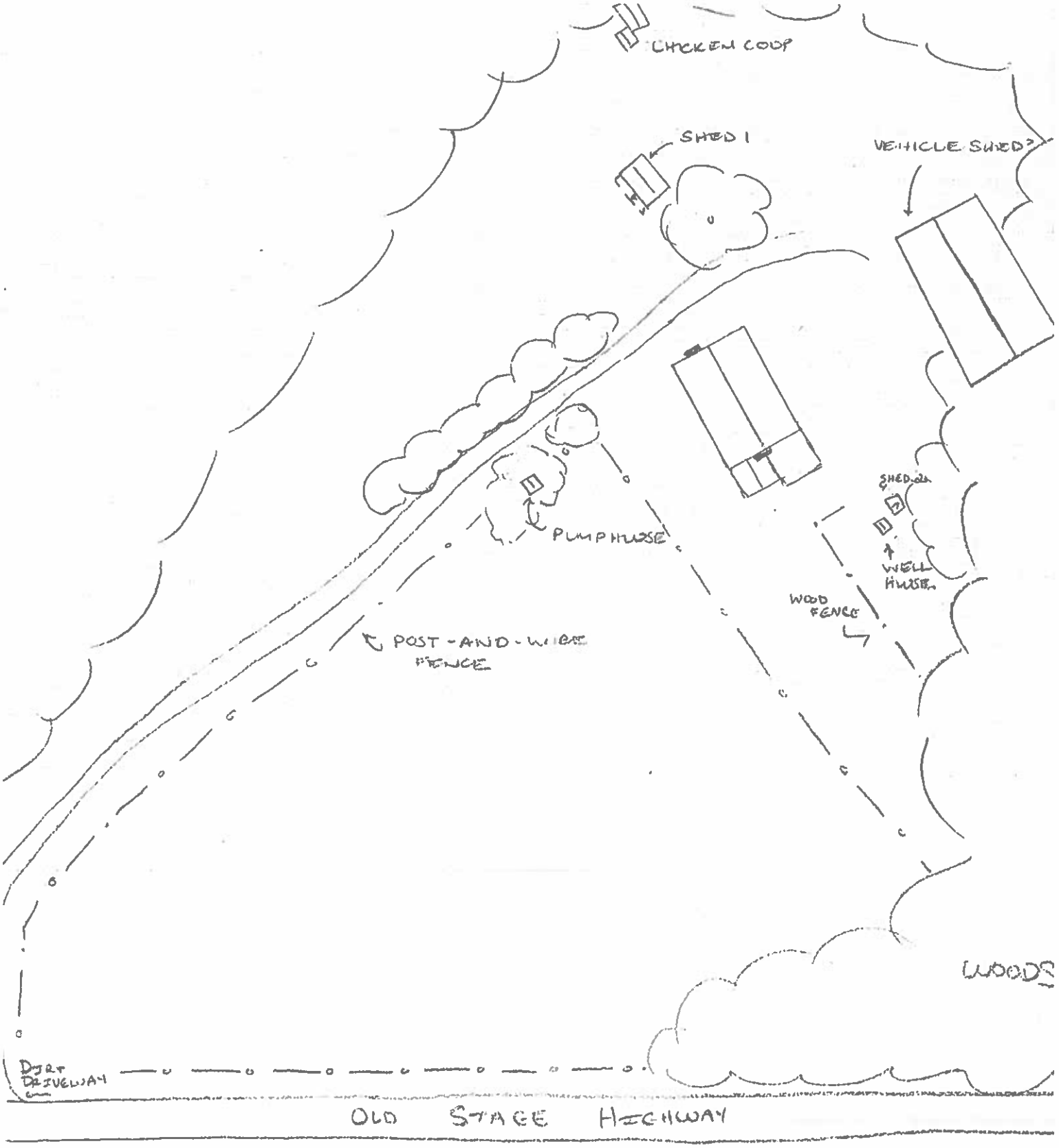
CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 3/8/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia.

Bibliographic Information

Bibliography:
Isle of Wight County Online Tax Assessment Records
Property Notes:
No Data



046-5715
N
8736 OLD STAGE HIGHWAY
ISLE OF WIGHT, VA
MARCH 8, 2023
O. MCCARTY
N.T.S

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 8837 Old Stage Highway

Property Evaluation Status

Property Addresses

Current - 8837 Old Stage Highway

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BACONS CASTLE

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

March 2023: The house sits back from the road within a relatively level lot and is surrounded by a lawn dotted with large trees, shrubs and gardens. A tree line is located beyond the yard to the east, northeast, and north as well as along the road. A gravel driveway provides access to the garage to the northeast of the house.

Surveyor Assessment:

March 2023: The resource, though generally reflective of the mid-twentieth century development of Isle of Wight County, lacks direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing on the NRHP. As such, it is recommended that the resource is not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.
The resource, under NRHP Criterion A does not individually express any distinctive themes relating to the development of Isle of Wight County and does not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.
The resource surveyed does not appear to be associated with any known individuals who made significant contributions to the historical development of the Isle of Wight County. Although limited information about the occupants of the property is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resource does not meet the criteria necessary for listing on the NRHP under Criterion B.
The resource does not appear to have significant architectural integrity for listing on the NRHP under Criterion C. The resource is utilitarian in design and does not embody distinctive characteristics of a type, period, or method of construction nor does the building represent the work of a master. It is therefore recommended that the resource surveyed does not meet the criteria necessary for listing on the NRHP under Criterion C.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1958
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*

Number of Stories: 1.5
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The house is a one-and-a-half-story dwelling with one-story, gable-roofed wing with perpendicular one-story wing. The exterior of the dwelling is brick veneer and the front and side gable roofs are clad in asphalt shingles. The dwelling also features a metal, shed-roofed entry porch with ornate cast metal supports over the front entry with a metal awning over the secondary entrance, interior brick chimney, and one-over-one vinyl and two-over-two wood sash windows.

Exterior Components

Component	Component Type	Material	Material Treatment
Foundation	Solid/Continuous	*No Data*	*No Data*
Porch	Portico/Entry Porch	*No Data*	Cast Metal Supports
Roof	Front Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Brick	Veneer
Windows	Double-hung	Vinyl	*No Data*
Chimneys	Interior Slope	Brick	Stretcher Bond

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Garage
NR Resource Type: Building
Date of Construction: ca 1980
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 2.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The garage is a two-story, two-bay, frame building with vinyl siding and an asphalt shingle-clad gambrel roof.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Vinyl	Siding

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 3/8/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Project Bibliographic Information:

A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia.

Bibliographic Information

Bibliography:

Isle of Wight County Online Tax Assessment Records.

Property Notes:

No Data

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 8821 Old Stage Highway

Property Evaluation Status

Property Addresses

Current - 8821 Old Stage Highway

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BACONS CASTLE

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

March 2023: The house sits back from the road on an open, level lot with a tree line to the west and north. A dirt and gravel driveway leads from the road, passed the western gable end of the house and provides access to the garage to the north.

Surveyor Assessment:

March 2023: The resource, though generally reflective of the mid-twentieth century development of Isle of Wight County, lacks direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing on the NRHP. As such, it is recommended that the resource is not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.
The resource, under NRHP Criterion A does not individually express any distinctive themes relating to the development of Isle of Wight County and does not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.
The resource surveyed does not appear to be associated with any known individuals who made significant contributions to the historical development of the Isle of Wight County. Although limited information about the occupants of the property is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resource does not meet the criteria necessary for listing on the NRHP under Criterion B.
The resource does not appear to have significant architectural integrity for listing on the NRHP under Criterion C. The resource is utilitarian in design and does not embody distinctive characteristics of a type, period, or method of construction nor does the building represent the work of a master. It is therefore recommended that the resource surveyed does not meet the criteria necessary for listing on the NRHP under Criterion C.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1970
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Ranch
Form: *No Data*

Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The house is a one-story, L-shaped dwelling with rusticated brick exterior walls and a cross-gable roof clad in asphalt shingles. A one-story, shed-roofed porch with ornate cast metal supports extends along the western and southern elevations. The dwelling also features an exterior end rusticated brick chimney, Chicago-style window, triple single-light entry doors, and one-over-one wood sash windows.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Exterior End	Brick	Stretcher Bond
Foundation	Solid/Continuous	*No Data*	*No Data*
Porch	Wrap-Around	*No Data*	Cast Metal Supports
Roof	Cross Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Unknown	Brick	Rusticated
Windows	Double-hung	Wood	*No Data*

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Garage
NR Resource Type: Building
Date of Construction: pre 1980
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.5
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The building is currently used as a garage and is a one-and-half-story, single-bay, frame building with board-and-batten siding and front gable roof clad in asphalt shingles. The building is supported by a concrete block foundation and also features a modern retractable garage bay door, one-story, shed-roofed wing with additional garage bay, and a hayloft door.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Board-and-Batten

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

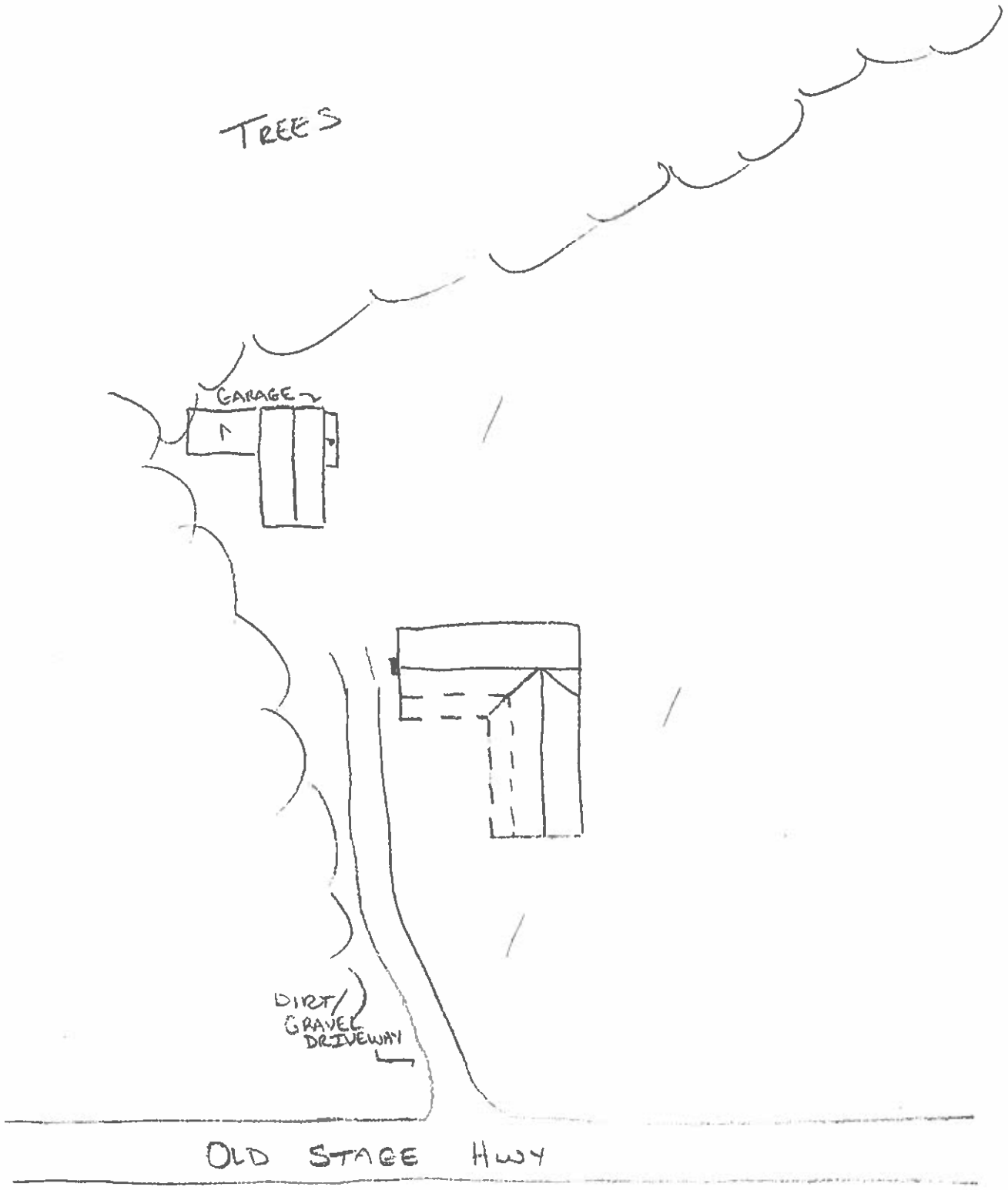
CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 3/8/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:
No Data
Project Bibliographic Information:
A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VA1-025 Solar Project, Isle of Wight County, Virginia.

Bibliographic Information

Bibliography:
Isle of Wight County Online Tax Assessment Records.
Property Notes:
No Data



N

046-5717
8821 Old Stage Highway
Isle of Wight County
March , 2023
O. McCarthy
N.T.S.

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 8785 Old Stage Highway

Property Evaluation Status

Property Addresses

Current - 8785 Old Stage Highway

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BACONS CASTLE

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

March 2023: The house sits back from the road on a relatively level lot and is surrounded by a lawn dotted with mature trees with wooded areas beyond to the northeast, north and southeast. A shared gravel driveway leads from the road and provides access to a carport. The driveway continues passed the south side of the house to the adjoining property. Aside from the carport immediately to the west, a shed is located to the southeast of the dwelling.

Surveyor Assessment:

March 2023: The resource, though generally reflective of the mid-twentieth century development of Isle of Wight County, lacks direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing on the NRHP. As such, it is recommended that the resource is not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.
The resource, under NRHP Criterion A does not individually express any distinctive themes relating to the development of Isle of Wight County and does not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.
The resource surveyed does not appear to be associated with any known individuals who made significant contributions to the historical development of the Isle of Wight County. Although limited information about the occupants of the property is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resource does not meet the criteria necessary for listing on the NRHP under Criterion B.
The resource does not appear to have significant architectural integrity for listing on the NRHP under Criterion C. The resource is utilitarian in design and does not embody distinctive characteristics of a type, period, or method of construction nor does the building represent the work of a master. It is therefore recommended that the resource surveyed does not meet the criteria necessary for listing on the NRHP under Criterion C.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1956
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Ranch

Form:	*No Data*
Number of Stories:	1.0
Condition:	Good
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Indeterminate
Cultural Affiliation Details:	*No Data*

Architectural Description:

March 2023: The house, which is partially obscured from the point of survey by trees, is a one-story, frame dwelling with one-story, gable-roofed wing. The exterior is clad in vinyl with a section of the facade in brick veneer. The cross-gable roof is sheathed in asphalt shingles and a large brick chimney projects through the front roof slope. Other visible features include a two-over-two horizontally divided wood sash window and a Chicago-style window.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Interior Slope	Brick	Stretcher Bond
Foundation	Solid/Continuous	*No Data*	*No Data*
Roof	Cross Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Vinyl	Siding
Structural System and Exterior Treatment	Wood Frame	Brick	Veneer
Windows	Double-hung	Wood	*No Data*

Secondary Resource Information

Secondary Resource #1

Resource Category:	Domestic
Resource Type:	Carport
NR Resource Type:	Structure
Date of Construction:	ca 1980
Date Source:	Site Visit
Historic Time Period:	The New Dominion (1946 - 1991)
Historic Context(s):	Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	*No Data*
Condition:	Good
Threats to Resource:	Public Utility Expansion
Cultural Affiliations:	Indeterminate
Cultural Affiliation Details:	*No Data*

Architectural Description:

March 2023: The carport is a modern, metal structure.

Secondary Resource #2

Resource Category:	Domestic
Resource Type:	Shed
NR Resource Type:	Building
Date of Construction:	ca 1956
Date Source:	Site Visit
Historic Time Period:	The New Dominion (1946 - 1991)
Historic Context(s):	Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*

Number of Stories: 1.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The shed is a one-story, frame building supported by brick piers with what appears to be concrete block in-fill. The exterior is sheathed in weatherboards with the shed roof clad in corrugated metal. The building also features a one-over-one wood sash window.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 3/8/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:

No Data

Project Bibliographic Information:

A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia

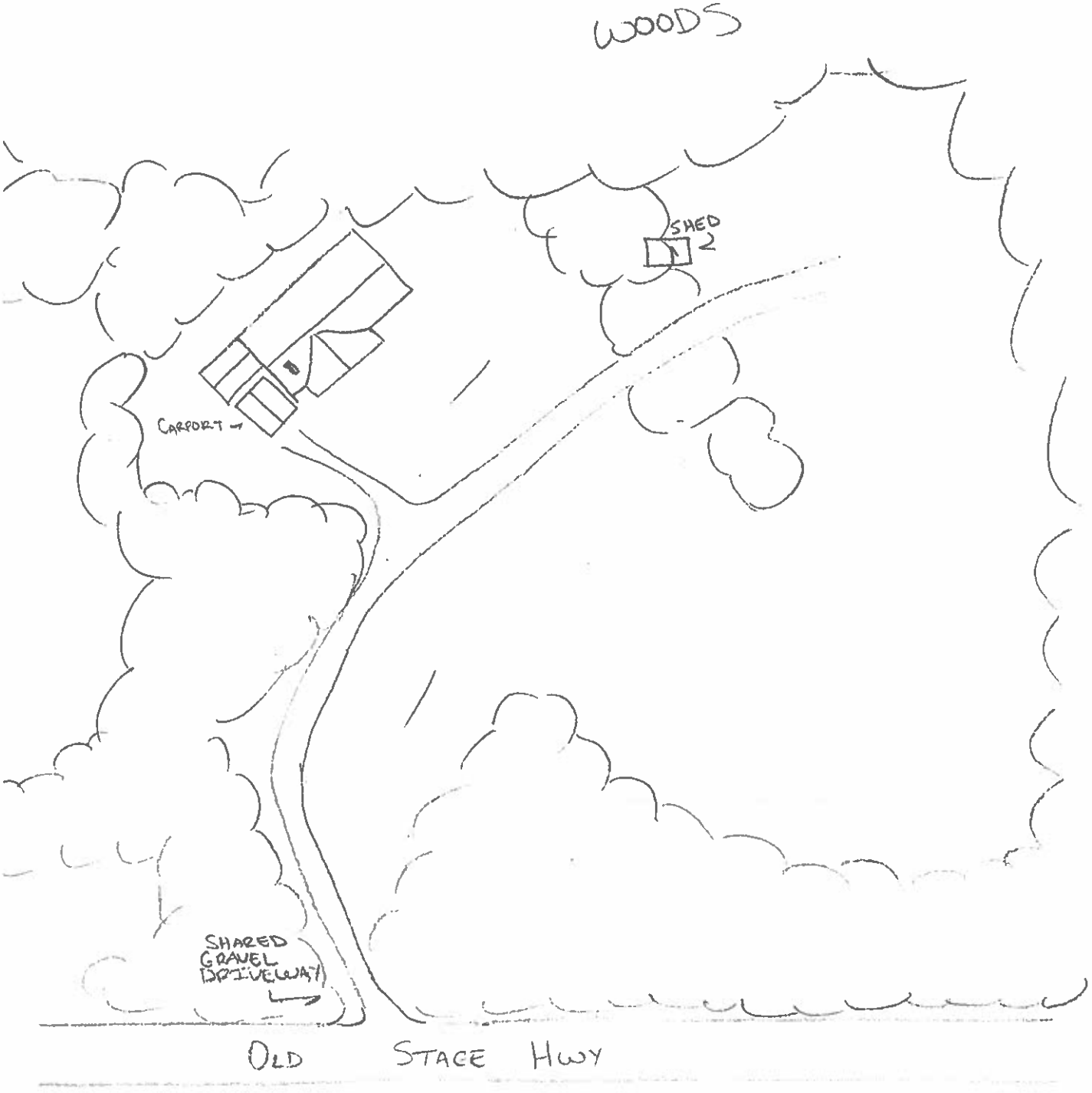
Bibliographic Information

Bibliography:

Isle of Wight County Online Tax Assessment Records.

Property Notes:

No Data



044-5718
8785 OLD STAGE HIGHWAY
ISLE OF WIGHT, VIRGINIA
MARCH 8, 2023
O. McCARTY
N.T.S.

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 8731 Old Stage Highway

Property Evaluation Status

Property Addresses

Current - 8731 Old Stage Highway

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BACONS CASTLE

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*

Site Description:

March 2023: The house sits back from the road on a relatively level lot and is surrounded by areas of lawn dotted with mature trees. A circular gravel driveway is located in front of the house and branches to the northeast and provides access to the garage and carport located to the north of the house. A third outbuilding, a vehicle/equipment shed, is located to the northwest of the dwelling.

Surveyor Assessment:

March 2023: The resource, though generally reflective of the mid-twentieth century development of Isle of Wight County, lacks direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing on the NRHP. As such, it is recommended that the resource is not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.
The resource, under NRHP Criterion A does not individually express any distinctive themes relating to the development of Isle of Wight County and does not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.
The resource surveyed does not appear to be associated with any known individuals who made significant contributions to the historical development of the Isle of Wight County. Although limited information about the occupants of the property is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resource does not meet the criteria necessary for listing on the NRHP under Criterion B.
The resource does not appear to have significant architectural integrity for listing on the NRHP under Criterion C. The resource is utilitarian in design and does not embody distinctive characteristics of a type, period, or method of construction nor does the building represent the work of a master. It is therefore recommended that the resource surveyed does not meet the criteria necessary for listing on the NRHP under Criterion C.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1950
Date Source: Local Records
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: Minimal Traditional
Form: *No Data*

Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The dwelling, constructed in 1950, incorporates typical characteristics of the style including limited ornamentation and essentially no eaves. The dwelling also features a cross-gable roof clad in asphalt shingles. The dwelling has been altered with the replacement of its original siding and windows with vinyl. Additional features include a brick foundation, one-story, shed-roofed and hipped-roof wing, exterior end brick chimney, and shed-roofed hood over the front entry.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Exterior End	Brick	Stretcher Bond
Foundation	Solid/Continuous	Brick	Stretcher Bond
Roof	Cross Gable	Asphalt	*No Data*
Structural System and Exterior Treatment	Wood Frame	Vinyl	Siding
Windows	Double-hung	Vinyl	*No Data*

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Garage
NR Resource Type: Building
Date of Construction: ca 1950
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The garage is a one-story, frame building supported by a concrete block foundation. The exterior is clad in vinyl. The garage also features a front gable roof and an off-center, retractable garage bay door.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Vinyl	Siding

Secondary Resource #2

Resource Category: Domestic
Resource Type: Carport
NR Resource Type: Structure
Date of Construction: ca 1990
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*

Architectural Style: No discernible style
Form: *No Data*
Number of Stories: *No Data*
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The carport is a modern, open, frame structure with metal-clad shed roof.

Secondary Resource #3

Resource Category: Domestic
Resource Type: Shed - Vehicle
NR Resource Type: Building
Date of Construction: ca 1990
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Good
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*
Architectural Description:

March 2023: The vehicle/equipment shed is a modern, open, frame structure with metal-clad shed roof.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	*No Data*	*No Data*

Historic District Information

Historic District Name: *No Data*
Local Historic District Name: *No Data*
Historic District Significance: *No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number: *No Data*
Investigator: Sandra DeChard
Organization/Company: Stantec 2034
Photographic Media: Digital
Survey Date: 3/8/2023
Dhr Library Report Number: *No Data*
Project Staff/Notes:

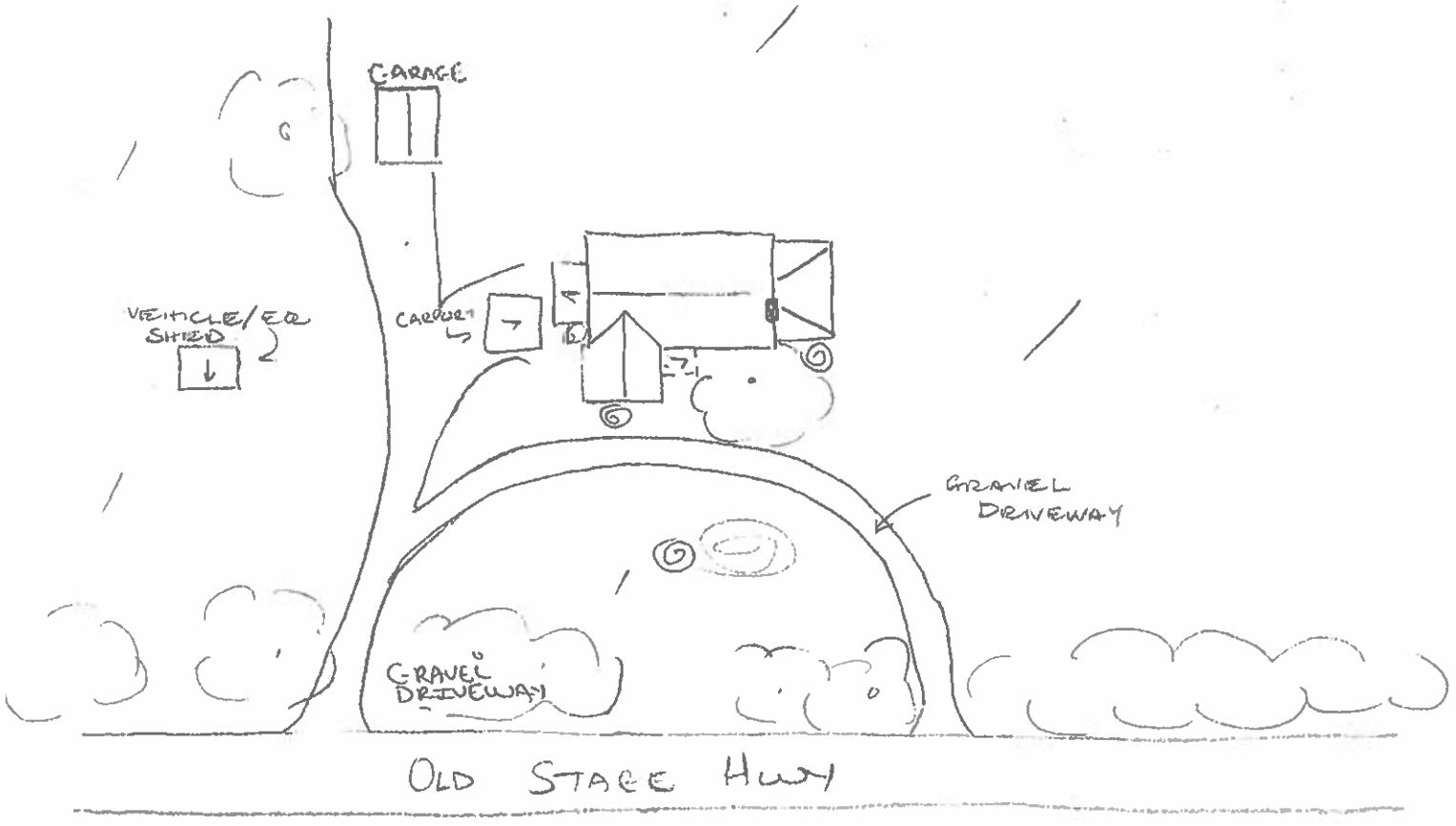
No Data

Project Bibliographic Information:
A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia.

Bibliographic Information

Bibliography:
Isle of Wight County Online Tax Assessment Records

Property Notes:
No Data



N

046-5719
87831 Old Stage Highway
Isle of Wight, Virginia
March 8, 2023
O. McCarty
N.T.S.

Property Information

Property Names

Name Explanation	Name
Function/Location	House, 8699 Old Stage Highway

Property Evaluation Status

Property Addresses

Current - 8699 Old Stage Highway

County/Independent City(s): Isle Of Wight (County)
Incorporated Town(s): *No Data*
Zip Code(s): 23430
Magisterial District(s): *No Data*
Tax Parcel(s): *No Data*
USGS Quad(s): BACONS CASTLE

Additional Property Information

Architecture Setting: Rural
Acreage: *No Data*
Site Description:

March 2023: The house sits back from the road on a relatively level lot and is surrounded by remnants of a lawn which is dotted by mature trees. Remnants of a circular gravel driveway are also visible, which also branches to the northwest and runs passed the southeast gable end of the dwelling. An area of woods is located to the northwest and behind the dwelling. Beyond the wooded area to the northwest is an area which has been clear cut which has also exposed a shed. Two additional secondary resources were visible and include a pump house immediately to the west of the house and a collapsed structure to the north.

Surveyor Assessment:

March 2023: The resource, though generally reflective of the early to mid-twentieth century development of Isle of Wight County, lacks direct and/or important associations under Criterion A, B, or C for historical significance necessary for listing on the NRHP. As such, it is recommended that the resource is not individually eligible for listing on the NRHP. Criterion D, typically associated with archaeological sites, was not considered in evaluating the architectural resources documented during the survey.
The resource, under NRHP Criterion A does not individually express any distinctive themes relating to the development of Isle of Wight County and does not contribute significantly to the county's growth. It is recommended therefore that the resources do not meet the criteria necessary for individual listing on the NRHP under Criterion A as the properties were constructed in response to the general development of the area.
The resource surveyed does not appear to be associated with any known individuals who made significant contributions to the historical development of the Isle of Wight County. Although limited information about the occupants of the property is known, it does not appear that the occupants would be considered of transcendent importance to the Nation's history and therefore the resource does not meet the criteria necessary for listing on the NRHP under Criterion B.
The resource does not appear to have significant architectural integrity for listing on the NRHP under Criterion C. The resource is utilitarian in design and does not embody distinctive characteristics of a type, period, or method of construction nor does the building represent the work of a master. It is therefore recommended that the resource surveyed does not meet the criteria necessary for listing on the NRHP under Criterion C.

Surveyor Recommendation: Recommended Not Eligible

Ownership

Ownership Category	Ownership Entity
Private	*No Data*

Primary Resource Information

Resource Category: Domestic
Resource Type: Single Dwelling
NR Resource Type: Building
Date of Construction: 1930
Date Source: Local Records
Historic Time Period: World War I to World War II (1917 - 1945)
Historic Context(s): Domestic
Other ID Number: *No Data*

Architectural Style: Craftsman
Form: Bungalow
Number of Stories: 1.5
Condition: Fair
Threats to Resource: Neglect, Public Utility Expansion, Vacant
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*

Architectural Description:

March 2023: The bungalow is architecturally intact but appears to have been abandoned. The one-and-a-half-story, three-bay dwelling is frame construction and is supported by a brick foundation. Projecting from the front roof slope of the side gable roof are two gable-roofed dormers and visible above the ridge line of the roof is a brick flue with corbelled cap. A concrete block flue is located off the wing. The exterior walls are clad in weatherboards and a one-story, hipped-roof, once screened-in porch extends across the façade. The northwestern end of the porch has been incorporated into the narrow, hipped-roof wing off the dwelling's northwest gable end. Additional features include six-over-one wood sash windows and bracketed eaves.

Exterior Components

Component	Component Type	Material	Material Treatment
Chimneys	Interior Central	Brick	Flue
Foundation	Solid/Continuous	Brick	Stretcher Bond
Porch	1-Story Full-Width	Wood	Posts
Roof	Side Gable	Asphalt	*No Data*
Chimneys	Exterior End	Concrete	Block
Structural System and Exterior Treatment	Wood Frame	Wood	Weatherboard
Windows	Double-hung	Wood	*No Data*
Dormer	Gable	*No Data*	*No Data*

Secondary Resource Information

Secondary Resource #1

Resource Category: Domestic
Resource Type: Shed
NR Resource Type: Building
Date of Construction: pre 1960
Date Source: Site Visit
Historic Time Period: The New Dominion (1946 - 1991)
Historic Context(s): Domestic
Other ID Number: *No Data*
Architectural Style: No discernible style
Form: *No Data*
Number of Stories: 1.0
Condition: Fair
Threats to Resource: Public Utility Expansion
Cultural Affiliations: Indeterminate
Cultural Affiliation Details: *No Data*

Architectural Description:

March 2023: The shed was once located in a wooded area and is a small, one-story, frame building with aluminum siding, front gable roof clad in metal, and a six-light, wood-framed window.

Exterior Components

Component	Component Type	Material	Material Treatment
Structural System and Exterior Treatment	Wood Frame	Aluminum	Siding

Secondary Resource #2

Resource Category: Agriculture/Subsistence
Resource Type: Pump House
NR Resource Type: Structure

Date of Construction:	ca 1980
Date Source:	Site Visit
Historic Time Period:	The New Dominion (1946 - 1991)
Historic Context(s):	Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	*No Data*
Condition:	Poor
Threats to Resource:	Neglect, Public Utility Expansion
Cultural Affiliations:	Indeterminate
Cultural Affiliation Details:	*No Data*

Architectural Description:

March 2023: The pump house is a one-story, frame building with plywood siding which has partially rotted, and a front gable roof covered in asphalt roll.

Secondary Resource #3

Resource Category:	Domestic
Resource Type:	Shed - Vehicle
NR Resource Type:	Building
Date of Construction:	pre 1940
Date Source:	Site Visit
Historic Time Period:	World War I to World War II (1917 - 1945)
Historic Context(s):	Domestic
Other ID Number:	*No Data*
Architectural Style:	No discernible style
Form:	*No Data*
Number of Stories:	1.0
Condition:	Ruinous
Threats to Resource:	Public Utility Expansion, Structural Failure
Cultural Affiliations:	Indeterminate
Cultural Affiliation Details:	*No Data*

Architectural Description:

March 2023: The building has collapsed but may have been used as a vehicle shed. Its close proximity to the house would suggest a domestic rather than agricultural function. The building appears to have been partially clad in weatherboards and partially in plywood with what appears to have been a shed roof covered in asphalt roll. The building also appears to have had two open bays.

Historic District Information

Historic District Name:	*No Data*
Local Historic District Name:	*No Data*
Historic District Significance:	*No Data*

CRM Events

Event Type: Survey:Phase I/Reconnaissance

Project Review File Number:	*No Data*
Investigator:	Sandra DeChard
Organization/Company:	Stantec 2034
Photographic Media:	Digital
Survey Date:	3/8/2023

Dhr Library Report Number: *No Data*

Project Staff/Notes:

No Data

Project Bibliographic Information:

A Phase I Cultural Resources Survey of Approximately 20 Acres Associated with the VAL-025 Solar Project, Isle of Wight County, Virginia.

Bibliographic Information

Bibliography:

Isle of Wight County Online Tax Assessment Records.

Property Notes:

No Data

Donald Sadler, MA

Project Archaeologist

Mr. Sadler has over 23 years of professional experience as an archaeologist. He has excavated on sites across Virginia, including Jamestown, as well as Greece, Bermuda, Georgia and Maryland, on both academic and professional projects. He has over a decade of experience as the primary field archaeologist supervising excavations at the Phase I, II and III levels involving the prehistoric and Euro-American history of the Chesapeake region. His duties at have included Phase I and II evaluations as a field technician and Field Supervisor. He has also assisted Senior Principal Investigators in report writing, management summaries, and historic research. Donnie has experience in historic ceramic analysis, 18th-century material culture analysis, managing archaeological collections, and database management.

EDUCATION

Master of Arts, Historical Archaeology, College of William and Mary, Williamsburg, Virginia, 2006

Bachelor of Arts, Anthropology with Honors, minor in History, College of William & Mary, Williamsburg, Virginia, 2001

CERTIFICATIONS & TRAINING

HAZWOPER 40 hour Certificate, Statewide, Virginia, 2018

Confined Space Awareness Training, Statewide, Virginia, 2016

RPA certified course "Metal Detecting for the Archaeologist", Nationwide, US, 2015

PROJECT EXPERIENCE

Data Recovery of Site 44JC0664, James City County, Virginia

Donald oversaw the data recovery effort for Site 44JC0664, a Colonial era domestic site with a Civil War encampment component. Donald managed all field staff, monitored mechanical excavations, participated in feature excavation, and participated in photodocumentation of the site as well as the production of scale drawings. The site was situated within an active construction zone and Donald coordinated with on-site contractors and ensured that all staff followed safety protocol. Donald is currently synthesizing the recovered data and writing a detailed technical report describing the results of the investigation.

Documentary Research for the Sammons Cemetery, Albemarle County, Virginia

Documentary Research for the Sammons Cemetery Report on file at the Virginia Department of Transportation (VDOT) in Richmond, Virginia.

City of Fredericksburg - Phase I Archaeological Survey, Phase II Evaluation, and Phase III Data Recovery for the Proposed Courthouse Facility at the Intersection of Princess Anne and Charlotte Streets, (Southeastern Quadrant of Block 42), City of Fredericksburg, Virginia

Three-stage archaeological investigation of a historic domestic site in the City of Fredericksburg in advance of the construction of a new Courthouse facility. The project resulted in the identification of 18th and 19th century domestic deposits including a Civil War period cellar dating to 1863. Work included archaeological fieldwork, extensive historic research, site interpretation, and final reporting. Also included was the development of an interpretive display featuring the sites to satisfy public participation requirements and highlight the significance of the lot and the site. Responsibilities included field supervision and direction for all fieldwork, field notes, and reporting.

Phase IA/Stage I Analysis for the Proposed Dominion Virginia Power Warrenton-Wheeler-Gainesville 230 kV Transmission Line Project, Fauquier and Prince William Counties, Virginia

Donald managed a cultural resources crew for the completion of a Phase IA/Stage I Cultural Resources Assessment for the proposed ~ 20 mile Warrenton-Wheeler-Gainesville 230 kV Transmission line project.

A Phase I Cultural Resources Survey of Approximately 9.4 Miles of the Proposed Dominion Virginia Power Dahlgren 230 kV Transmission Line*, King George County, Virginia

Donald and crew conducted a Phase I Cultural Resources Survey of a proposed Dominion Power 230kV utility line in King George County, Virginia. The proposed route of the Dahlgren line covers a distance of approximately 9.4 miles. Work included archaeological and architectural survey for the APE defined by the project for the entire corridor.

Donald Sadler, MA

Project Archaeologist

Stantec

A Phase I Cultural Resources Survey of Approximately 39.0 Miles of Proposed Improvements to the Dominion Virginia Power 500 kV Transmission Line from the Lexington Substation to the Dooms Substation, Augusta and Rockbridge Counties, Virginia

Donald and crew conducted a Phase I Cultural Resources Survey of a proposed Dominion Power 230kV utility line in August and Rockbridge counties, Virginia. The proposed route of the Lexington to Doom line covers a distance of approximately 39 miles. Work included archaeological and architectural survey for the APE defined by the project for the entire corridor.

Benns Church Substation Rebuild Project, Isle of Wight County, Virginia

Donald directed the field effort for a Phase I survey of approximately 3.332 acres associated with the Dominion Virginia Power Benns Church Substation Rebuild Project and Phase II evaluation of Site 44IW0275, a Woodland period temporary camp site. Responsibilities included directing field staff in systematic shovel testing and test unit excavation, photodocumentation of the project APE and Site 44IW0275, and the production of scale drawings associated with the Phase II evaluation effort.

Dahlgren 230 kV Transmission Line Project, King George County, Virginia

Mr. Sadler led the field effort for a Phase I survey of approximately 9.4 miles associated with the Dominion Virginia Power Dahlgren 230 kV Transmission line project in King George County, Virginia. Mr. Sadler was responsible for crew management, coordination with local landowners, systematic shovel testing, and recordation.

VDOT - Archaeological Survey for Proposed Improvements to I-64, Segment 2, James City and York Counties, Virginia

Archaeological survey support for proposed improvements to Segment 2 of the I-64 improvement project in James City and York Counties Virginia. The project included archaeological survey of approximately 7 miles of proposed roadway improvements and expansion. The project included traditional archaeological survey as well as metal detecting for military related resources. Responsibilities included field supervision and direction for all fieldwork, field notes, and reporting.

US Coast Guard Training Facility, Yorktown – Archaeological Monitoring for Water Line Replacement*, Yorktown, Virginia

As subconsultant to TetraTech Tesoro, Donald provided archaeological monitoring for the replacement of a water line supporting the USCG TRACEN facility. The water line crossed the NRHP-listed Yorktown National Battlefield. Services included daily on-site monitoring, recordation of soil profiles and conditions and documentation of archaeological deposits.

Fort Monroe – On-call Archaeological Support Services, Fort Monroe, Hampton, Virginia

Donald provided on-call archaeological support services to the Fort Monroe Authority, Hampton, Virginia. Fort Monroe is a former Army Base a portion of which was transferred to the Commonwealth of Virginia in 2011. Services provided included emergency response services. Phase I level archaeological survey, archaeological monitoring, and reporting.

Cemetery Verification and Delineation Study for Site 44KG0223 along the Proposed Dominion Virginia Power Dahlgren 230 kV Transmission Line, King George County, Virginia

Donald led the field effort, monitoring mechanical excavations to identify potential grave shaft features and overseeing the metal detecting effort. The project proved that the site did not extend into the proposed transmission line right-of-way.

Cemetery Removal and Reburial at the Abberly at Stafford Development, Stafford County, Virginia

Donald assisted with a cemetery documentation and excavation of 29 burial features at Abberly in Stafford County, Virginia. The project included documentation, removal and reburial of the cemetery. Responsibilities included directing the field effort and documenting and removing burial features.

Cemetery Recovery for the Abberly at Stafford Development, Stafford County, Virginia

Donald led the field effort, monitoring mechanical excavations to identify potential grave shaft features and overseeing and participating in the archaeological recovery of human remains. Donald managed field staff during the recovery effort and assisted with the reburial effort.

** denotes projects completed with other firms*

Sandra DeChard

Senior Architectural Historian

Stantec

Ms. Sandra DeChard is an Architectural Historian with over 25 years of experience in cultural resources as an architectural historian and archaeologist working in Virginia, North Carolina, Georgia, Pennsylvania, Delaware, New Jersey, Maryland, Arizona, California, Washington, Oregon, Illinois, Massachusetts, and New Hampshire. Her experience includes large- and small-scale architectural Phase I level surveys for transmission line corridors and transportation infrastructure as well as cost share projects in conjunction with local municipalities, Phase II level survey, stabilization plans, historic structures reports, and National Register of Historic Places nominations. Her range of experience also extends to detailed historical research and archival review, scaled architectural drawings and other technical drawings, signage and heritage tourism brochures, as well as museum displays. Additionally, Sandra was a founding member and Chairperson of the Martinsville, Virginia Architectural Review Board and has lectured on various Art, Art History, and Architectural topics as educator in humanities and as a guest speaker.

Sandra's current responsibilities at Stantec include architectural surveys at the Phase I and II levels, managerial tasks associated with architectural investigations, writing and editing technical reports, consultation with and representation of clients before state and national review agencies, and developing and managing project budgets and scopes of work.

EDUCATION

M.A. Preservation Studies, Architectural History, Boston University, Boston, Massachusetts, 2000

B.S. Interior Design, University of Delaware, Newark, Delaware, 1989

CERTIFICATIONS & TRAINING

Section 106 Certification, Richmond, Virginia, 2014

PROJECT EXPERIENCE

Transmission & Distribution, Transmission Lines

Dominion Energy Virginia – A Phase I Cultural Resources Survey of Approximately 7.39 Miles Associated with the Fudge Hollow to Low Moor Line #112 138 kV Transmission Line Partial Rebuild, City of Covington, Alleghany County, Virginia

Ms. DeChard served as Senior Architectural Historian for the project which included the documentation of 124 resources at a Phase I level within the defined APE of the project. The project also included the evaluation of the resources for NRHP eligibility.

Dominion Energy Virginia – A Phase I Cultural Resources Survey of Approximately 14.5 Miles Associated with the Proposed Valley to Dooms 500 kV Rebuild Project in Augusta County, Virginia

Ms. DeChard served as Senior Architectural Historian for the project which included the documentation of 306 resources at a Phase I level within the defined APE of the project. The project also included the evaluation of the resources for NRHP eligibility.

Roadways

NCDOT – Historic Structures Survey Report T.I.P. No. U-6077, Widening of SR 4315/Kernersville Road from SR 2632/Sedge Garden Road to Harmon Creek Road, Forsyth County, North Carolina

Ms. DeChard served as Architectural Historian for the project which included an intensive level survey of two resources within the area of potential effect for the proposed road improvements. The project also included a National Register of Historic Places eligibility evaluation for each of the resources surveyed.

** denotes projects completed with other firms*

NCDOT – Historic Structures Survey Report for T.I.P. No. U-3609B, Widening US 13 (Berkeley Boulevard) from SR 1003 (New Hope Road) to SR 1572 (Saulston Road) in the City of Goldsboro, Wayne County, North Carolina

Ms. DeChard served as Architectural Historian for the project which included an intensive level survey of two resources within the area of potential effect for the proposed road improvements. The project also included a National Register of Historic Places eligibility evaluation for each of the resources surveyed.

NCDOT – Building Inventory for TIP# U-5863, Widen NC 133 (Castle Hayne Road) from I-140/US17 (Wilmington Bypass) to SR 1310 (Division Drive, New Hanover County, North Carolina

Ms. DeChard served as Architectural Historian for the project which included building inventory of 136 resources within the area of potential effect for the proposed road improvements.

NCDOT – Historic Structure Survey for TIP# R-5743B, Widen US 23/US441 from US 64 to SR 1652 (Wide Horizon Drive)/SR1152 (Belden Circle) to South of SR1649 (Prentiss Bridge Road), Franklin, Macon County, North Carolina

Ms. DeChard served as Architectural Historian for the project which included an intensive level survey of five resources within the area of potential effect for the proposed road improvements. The project also included a National Register of Historic Places eligibility evaluation for each of the resources surveyed.

VDOT – A Phase I Architectural Survey for the Proposed Cochran Mill Road Bridge Replacement, Loudoun County, Virginia

Sandra served as architectural historian for the survey. The survey included the documentation of three resources at a Phase I level including the bridge as well as two resources immediately adjacent to and in view of the Cochran Mill Road Bridge.

VDOT – An Architectural Survey for the Route 15/29 Bridge Replacement*, Culpeper County, Virginia

Ms. DeChard served as Architectural Historian for the survey. The survey entailed the recordation of three resources, including the bridge, within the study area. Evaluations of NRHP eligibility for each resource were also conducted.

Bridges

City of Atlanta- Architectural Survey of the Powers Ferry Road Bridge over Nancy Creek, Powers Ferry Road, Atlanta, Georgia

Ms. DeChard served as Senior Architectural Historian, Principal Investigator for the survey. The survey documented the bridge at a Phase I level and utilized historic background research as well as an architectural evaluation of the resource's integrity in order to make a recommendation of the bridge's NRHP eligibility.

VDOT – Page County Bridge National Register of Historic Places Nomination Form*, Page County, Virginia

Ms. DeChard conducted detailed research and authored the National Register of Historic Places (NRHP) nomination form for the Page County Bridge, Page County, Virginia.

** denotes projects completed with other firms*

Brynn Stewart, MA

Program Manager/Senior Principal Investigator

Stantec

Brynn is the Program Manager/Senior Principal Investigator for Cultural Resources in Stantec's Williamsburg, Virginia, office. She has over 18 years of experience in cultural resources management. Brynn meets the Secretary of the Interior's standards and guidelines for a professional archaeologist. She has served as a Principal Investigator and Project Archaeologist on numerous transportation and energy-related projects as well as private development projects.

Brynn manages in-house technical staff, supervises technical document preparation, and provides quality control and peer review for cultural resources studies. Her expertise includes all phases of cultural resource management (archaeological assessments and Phase I, II, and III excavations) in compliance with local, state, and federal laws and regulations. Brynn's experience includes managerial tasks associated with all aspects of cultural resource management projects such as consultation with and representation of clients before state and national review agencies, writing and editing technical reports, preparing and managing project budgets, and developing and implementing archaeological research designs.

Brynn also has experience in the processing and analysis of artifact collections with special interest in Colonial-era ceramics and lithic analysis and the development and production of interpretive materials including pamphlets and exhibits.

EDUCATION

Master of Arts, Anthropology, University of Nevada, Las Vegas, Nevada, 2009

Bachelor of Arts, Anthropology, Washington College, Chestertown, Maryland, 2004

CERTIFICATIONS & TRAINING

OSHA Excavation Safety: Satisfies 29 CFR 1926.650

OSHA Confined Space Safety: Satisfies 29 CFR 1910.246, 29 CFR 1926.1001, 29 CFR 1915.1001

PROJECT EXPERIENCE

Ore Bank Undergrounding Project, Rockingham County, Virginia

Brynn served as Principal Investigator, developing a proposed scope of work and budget prior to the awarding of the project. Brynn directed pre-fieldwork planning and managed field personnel. She was responsible for coordinating with the Civil War Trust and will author the technical report upon completion of on-going investigations.

Abberly at South Campus Development, Stafford County, Virginia (Principal Investigator)

Brynn served as Principal Investigator, developing a proposed scope of work and budget prior to the awarding of the project. She directed pre-fieldwork planning, managed field personnel, and participated in Phase II evaluation of Site 44ST1141. Brynn synthesized data collected during evaluation and served as the lead author of the resulting technical report.

Data Recovery of Sites 44PW1305 and 44PW1306 for the Eagles Pointe Landbay A Section 2 Development Project, Prince William County, Virginia

Brynn is serving as Principal Investigator for this on-going project. She developed the scope of work and budget prior to the awarding of the project. Brynn coordinated with the client and the County Archaeologist on the Data Recovery Plan she developed. She has managed field personnel and coordinated with the VDHR to procure both an Anticipatory Permit and a Burial Permit for the excavation of a single burial identified within Site 44PW1306. Brynn coordinated the placement of public notice as part of the Burial Permit and gave a presentation concerning the burial feature to the Prince William County Historical Commission, which served as a public meeting as a result of responses received for the said public notice. Brynn is currently coordinating the reburial of the recovered remains with a local cemetery and will author the resulting technical report.

* *denotes projects completed with other firms*

Brynn Stewart, MA

Program Manager/Senior Principal Investigator

Stantec

Data Recovery of Site 44JC0662, James City County, Virginia

Brynn served as Principal Investigator, directing pre-fieldwork planning and overseeing the field effort. Brynn participated in feature excavation. She coordinated the field effort with the client as well as site inspectors and was responsible for coordinating with local Native American tribal representatives with an interest in the project. Brynn participated in shovel testing and monitoring activities, synthesized the data collected during the project, and served as lead author on the resulting technical report.

Poplar Grove National Cemetery Archaeological Investigations and Monitoring, Dinwiddie County, Virginia

Brynn served as Principal Investigator, coordinating with the NPS and field staff. The NPS conducted rehabilitation at the cemetery, including the replacement of 5,700 headstones, rehabilitation of the Superintendent's lodge, restoration of site furniture and signs, replacement of the flagpole and site utilities, preservation of the cemetery wall, and rehabilitation of the landscape. Brynn participated in shovel testing and monitoring activities, synthesized the data collected during the project, and served as lead author on the resulting technical report.

Berkmar Data Recovery, Charlottesville, Virginia

Brynn served as Principal Investigator, assisting in the development of a scope of work and budget prior to the awarding of the project. Brynn directed pre-fieldwork planning and managed field personnel. She was responsible for coordinating with client representatives, conducting excavations, compiling and interpreting fieldwork results, on-going lithic analysis, and is in the process of co-authoring the resulting technical report.

Trowbridge-Pantego Transmission Line Project, Washington and Beaufort Counties, North Carolina

Brynn served as Principal Investigator, coordinating with Project Managers and field personnel. Brynn directed pre-fieldwork planning and was responsible for compiling and interpreting fieldwork results. She is currently in the process of co-authored the resulting technical report.

Fredericksburg Courthouse Project, City of Fredericksburg, Virginia

Brynn served as Principal Investigator, directing pre-fieldwork planning and managing field personnel during Phase I, Phase II, and Phase III investigations of eighteenth-century through nineteenth-century deposits. She also participated in fieldwork, synthesized data collected during all three phases of work, and served as the lead author of the resulting technical report. She helped develop and produce a public exhibit of artifacts on display in the new Courthouse.

Dominion Virginia Power Splice Pit within the Colonial National Historic Park, James City County, Virginia

Brynn served as Principal Investigator, leading the field effort and interpreting data post-field effort. She also authored the resulting technical report.

Mosby Substation (Laydown Yard and Storm Water Management Basin Area) Project, Loudoun County, Virginia

Brynn served as Principal Investigator, managing the field effort and interpreting data post-field effort. She also authored the resulting technical report.

Goose Creek to Loudoun 500kV Transmission Line Improvement Project, Loudoun County, Virginia

Brynn served as Principal Investigator, developing a proposed scope of work and budget prior to the awarding of the project. Brynn directed pre-fieldwork planning and managed field personnel. She was responsible for coordinating with client representatives, compiling fieldwork results, interpreting sites, entering site data into V-CRIS, and co-authoring the resulting technical report.

Warren County Power Station Proposed Auxiliary Parking Lot, Warren County, Virginia

Brynn served as Principal Investigator, developing a proposed scope of work and budget prior to the awarding of the project. Brynn directed pre-fieldwork planning and managed field personnel. She was responsible for compiling fieldwork results and authoring the resulting technical report.

** denotes projects completed with other firms*

ISLE of WIGHT COUNTY MUSEUM

March 11, 2024

Virginia Department of Historic Resources
Adrienne Birge-Wilson, Architectural Historian, Review & Compliance Division
2801 Kensington Avenue
Richmond, Virginia 23321

Dear Ms. Birge-Wilson,

This letter acknowledges that Dawood, on behalf of solar projects Pivot Solar Sites VAL025 and VAL035, intends to contribute $15,000 towards the restoration of Isle of Wight County's 1950s Nike-Ajax missile. This is the largest artifact in the collection of the Isle of Wight County Museum. It was accessioned in 2019 after it was donated to us by the City of Hampton, Virginia. Once restored, it will contribute to the historic interpretation of Carrollton-Nike Park, the former site of the U.S. Army's Nike-Ajax Missile Launch Site N-75L and an historic district listed on the National Register of Historic Places.

The Carrollton-Nike Missile Battery was operational by 1954 and was one of eight batteries that made up the Norfolk Defense Area. Each battery consisted of two areas: a launch area and a control area. These two sites were connected by an underground cable system that enabled communication.

In the event of an impending attack on Hampton Roads, all area batteries prepared to fire under the direction of the central command at Fort Monroe. At Carrollton, troops manned their stations ready to deploy their 27 missiles. Once fired, a missile was guided to the target by its radar system.

When the U.S. Army developed nuclear-tipped Nike-Hercules missiles, Carrollton-Nike and four other batteries in the Norfolk Defense Area became obsolete. The U.S. Army operated this location as a radio relay site from 1961 to 1971. In 1972, Isle of Wight County obtained it – and the former control site located at Jones Creek - to develop the facilities in place today.

103 Main Street
Smithfield, VA 23430
(757) 356-1014
(757) 357-0114 FAX

ISLE of WIGHT COUNTY MUSEUM

We are very pleased to receive this generous grant for our restoration project from Dawood/Pivot at the approval and encouragement of the Virginia Department of Historic Resources. With mitigation not feasible as per your requirements, this substitution will positively impact the preservation of Isle of Wight County history.

Our acceptance of this grant does not represent approval or recommended approval of the project, but know that this rare opportunity is greatly valued.

As Dawood moves forward with Pivot Solar Sites VAL025 and VAL035, please do let me know if you visit the area. I would be pleased to offer you a tour of Carrollton-Nike Park and share our progress with the restoration of the Nike-Ajax missile.

Kind regards,

J.L. England
Isle of Wight County Museum Director
Isle of Wight County Historic Resources Manager

103 Main Street
Smithfield, VA 23430
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ISLE of WIGHT COUNTY MUSEUM

MEMORANDUM

TO: Jeryl R. Phillips, Assistant Director/Planning & Zoning

FROM: Jennifer England
Director, Isle of Wight County Museum
Historic Resources Manager, Isle of Wight County

RE: Conditional Use Permit Application (CUP-6-23)
VAL025/Elk Development, LLC
8699 Old Stage Highway, Tax Map/Parcel #13-01-005

DATE: May 22, 2023

After reviewing the **Phase I Cultural Resource Survey of the 20 Acres Associated with the VAL-025 Solar Project** as prepared by Stantec Consulting Services Inc. for Dawood Engineering Inc. on behalf of Pivot Energy with reference to Conditional Use Permit Application (CUP-6-23), the Isle of Wight County Museum/Isle of Wight County Department of Historic Resources agrees with the conclusions of the report.

While the acreage to be developed as a solar energy facility has been plowed and utilized as farmland for many years, the project's location is sited within the viewshed of several historic resources. As such, to mitigate the effects of the proposed project, vegetative screening should be planted to shield the c. 1790 Bourne-Turner House, located at 16303 Morgarts Beach Road, as well as the Keystone Segment of the Captain John Smith National Historic Trail Historic District.

Additionally, should this project proceed, a plan for construction and installation should be evaluated to ensure that no adverse effects will ensue for these sites or the Old Stage Highway Cemetery located immediately to the east of the proposed project.

The potential, however, on the project site for archaeological artifacts is likely. If the landowner is willing, the Isle of Wight County Museum should be considered a repository for discovered artifacts and future finds on this site as they could further the interpretation or discovery of Isle of Wight County history.

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COMMONWEALTH of VIRGINIA

Department of Historic Resources

Travis A. Voyles
Secretary of Natural and Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.virginia.gov

M E M O R A N D U M

To: Robert B. Hickox, III M.S.
Pivot Energy

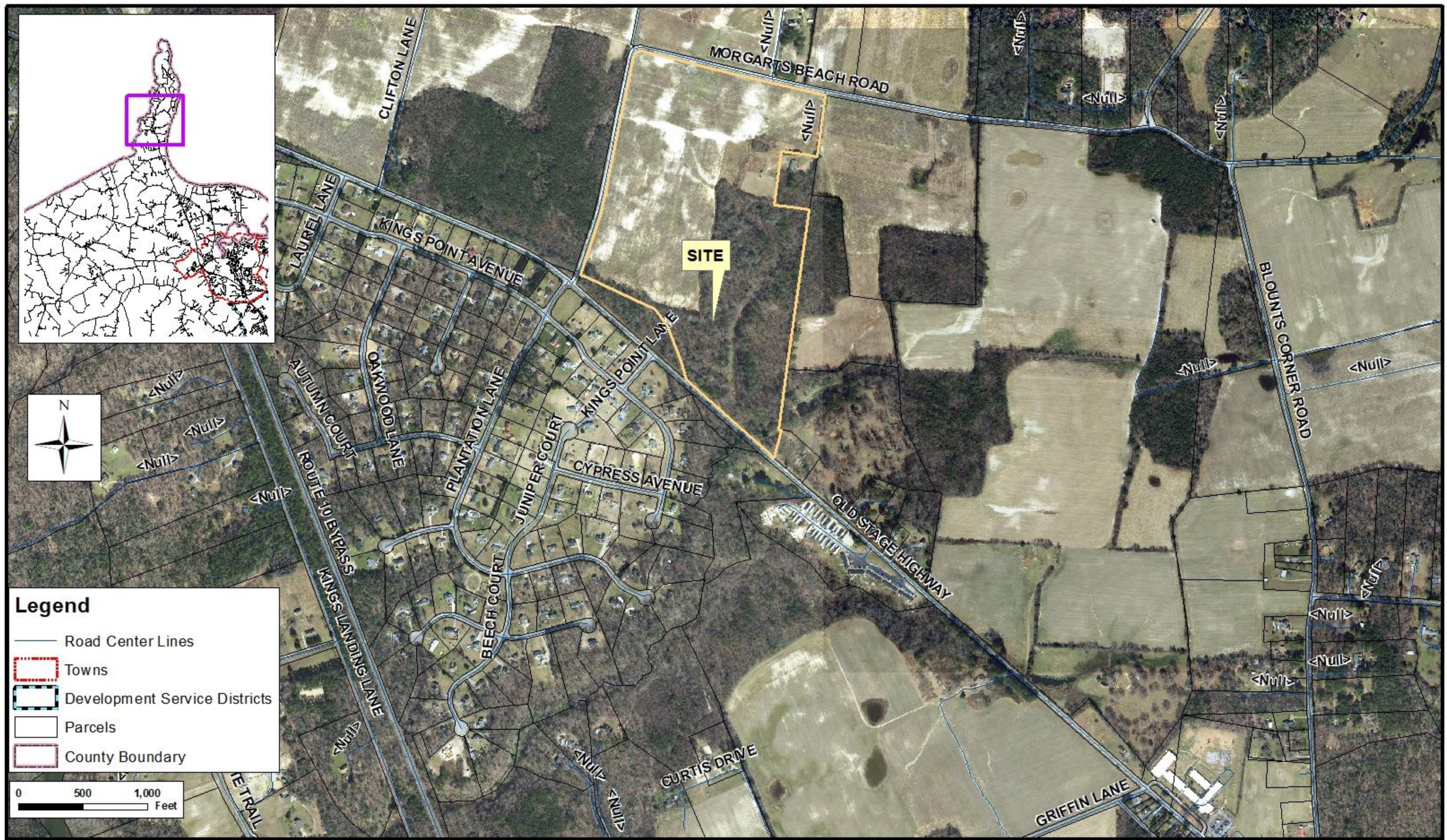
From: Adrienne Birge-Wilson, Architectural Historian (804) 482-6092
Review and Compliance Division

Subject: VAL-025 Solar Project, Isle of Wight (DHR File No. 2023-3719) and VAL-035 Solar Project, Isle of Wight (DHR File No. 2023-3718)

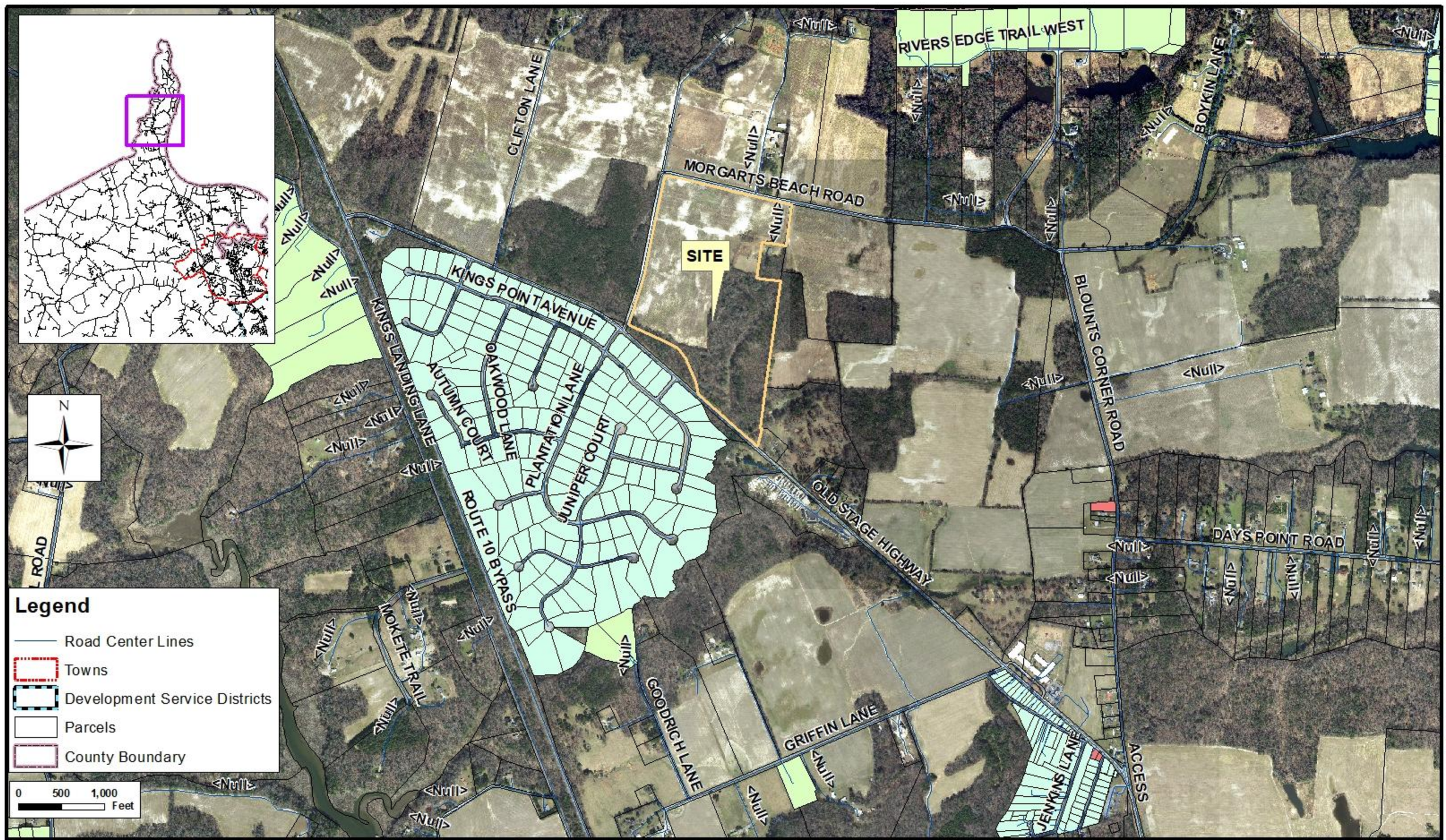
Comments:
We received communication from the Isle of Wight County Museum that your company intends to contribute $15,000 towards the restoration of Isle of Wight County's 1950s Nike-Ajax missile. DHR approves of the mitigation for the above referenced projects. Please provide a receipt or confirmation of payment after the transaction, to close out the mitigation item.

CUP-6-23 - Conditional Use Permit- Location Map

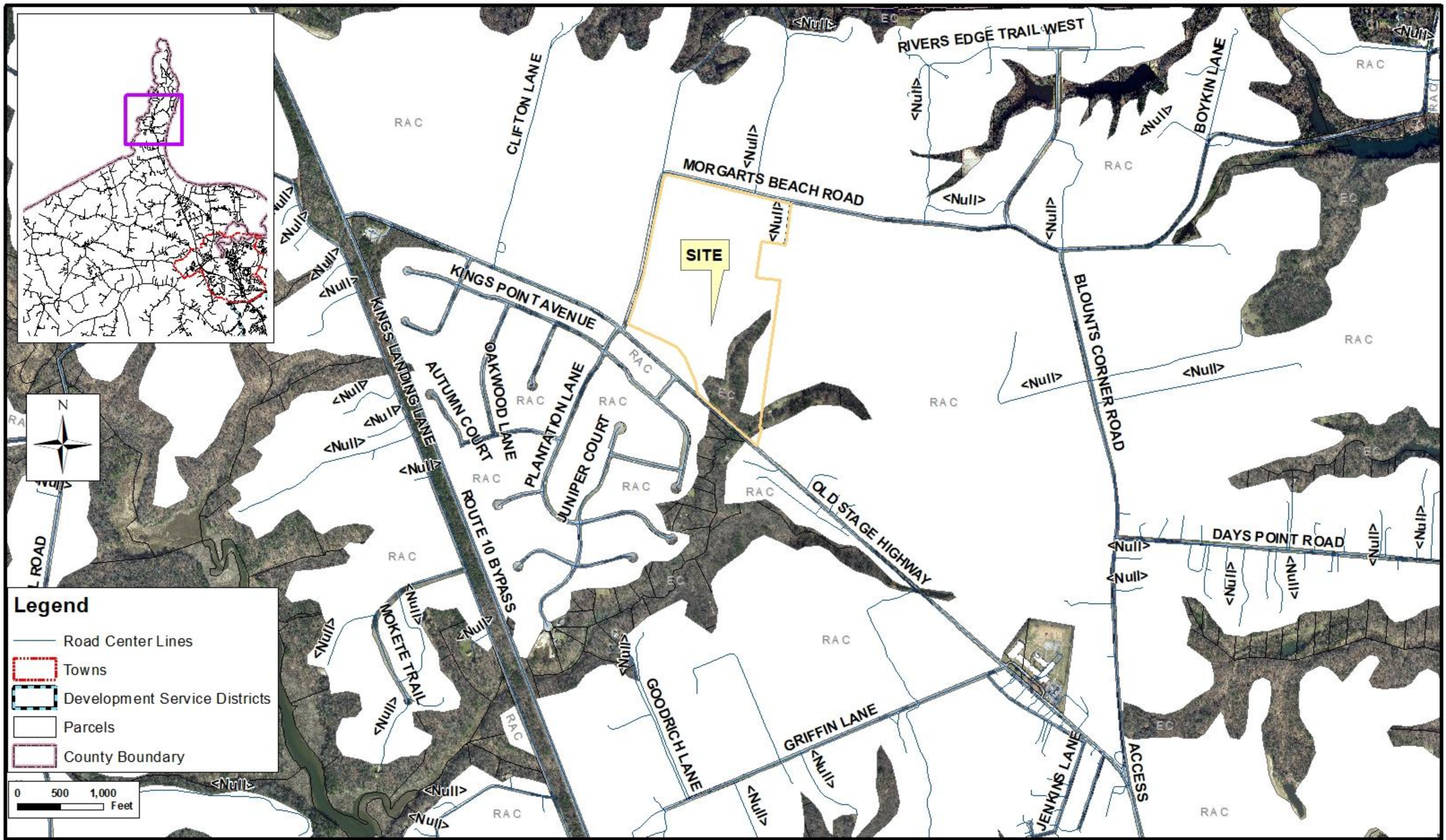
CUP-6-23 - Conditional Use Permit- Location Closeup Map



CUP-6-23 - Conditional Use Permit- Zoning Map



CUP-6-23 - Conditional Use Permit- Land Use Map



VAL025 - Ecological Core Areas

April 24, 2024

1:18,041

0 0.13 0.25 0.5 mi

0 0.17 0.35 0.7 km

Adjacent States

Ecological Cores

C1: Outstanding

C2: Very High

C3: High

C4: Moderate

C5: General

Esri Community Maps Contributors, VGIN, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US

Sycamore Cross A and B Solar Projects with Approved Solar Energy Generation Facilities as of 6/13/24

PROJECT	DEVELOPED AREA (PER CUP)	PRIME FARMLAND /SOILS OF STATEWIDE IMPORTANCE*	% OF TOTAL PRIME SOILS (rounded)	LOCATION	% OF TOTAL FARMLAND**	TOTAL MW	APPROVAL DATE
Woodland	180	124	0.10%	Longview	0.22%	20	2015
Solidago	170	170	0.14%	Redhouse	0.21%	20	2018
Ho-Fel	330	315	0.26%	Lees Mill	0.41%	55	2019; Amended 2023
Windsor PV1	630	630	0.52%	Windsor	0.78%	85	2019; Amended in 2021
Cavalier	500	500	0.41%	Hardy	0.62%	240	2021
Nuby Run	20	20	0.02%	Orbit	0.02%	2	2022
Carver	637	297	0.24%	Windsor	0.79%	71	Approved 7/23/2023
Prairie Solar	152	152	0.12%	Longview	0.19%	20	Approved 8/17/23
Courthouse Solar	18	18	0.01%	Route 258	0.02%	3	Approved February 2024
Old Stage (Proposed)	27.32	27.32	0.02%	Burwells Bay/Moonlight	0.03%	3	Under Review
TOTAL	**2,664**	**2,253**	**1.84%**		**3.30%**	**519**	

Prime soils include Prime Farmland, Prime, If Drained, and Soils of Statewide Importance – 122,296 total acres in County

****Total active agricultural lands as of 2017 Census of Agriculture – 80,672 acres***

PLANNING REPORT

APPLICATION:

Recreational Vehicle (RV) Ordinance Discussion

ELECTION DISTRICT:

All

LOCATION:

County-wide

BACKGROUND:

The Board of Supervisors began discussions of the potential use of RVs for short term stays at their June 1, 2023, worksession. At their December 2023 regular meeting, the Board requested that the Planning Commission review the existing Ordinance for potential flexibility to allow the use of RVs for temporary residential use.

At their February 27, 2024, regular meeting, the Planning Commission discussed modifying the current prohibition against the use of RVs in the Zoning Ordinance as temporary or full time residential uses. Following the discussion, the Planning Commission requested that further research be done on how other localities across the County permit RVs for residential uses and directed that their discussion be continued to a future meeting.

As requested, staff presented additional examples of localities that permit the temporary residential use of RVs from across the country to the Planning Commission at their April 23, 2024, regular meeting. Staff found there is no real consistency in how local governments regulate these uses, but most prohibit the use of RVs as a permanent residence. While some localities prohibit the use of RVs even as temporary residences, there are plenty of examples of localities who do permit them for temporary residential use subject to certain restrictions, such as the ones attached.

While considering how to permit the temporary residential use of RVs, the the following issues should be considered:

1. A definition of the duration of “temporary residential use;”
2. The number of times per year the use should be allowed;
3. Whether the use should be allowed only with a principal residence or on vacant property as well;
4. The number of RVs allowed per parcel;
5. The minimum size for the parcel;
6. A prohibition on the use of electrical cords and hose connections between the RV and principal residence; and
7. The use of RVs as Short Term Rentals.

DESCRIPTION:

Staff developed draft Ordinance changes for Planning Commission review and discussion during their February 27, 2024, regular meeting. A copy of the draft revisions is attached to this staff report.

Staff provided additional research to the Planning Commission via email prior to their April 23, 2024, regular meeting and is attached to this staff report.

ORDINANCE REVIEW:

The Zoning Ordinance defines RVs in Article II as a "vehicle designed to be self-propelled or permanently towable; and not designed for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use. This term shall also include watercraft and trailers."

The current Ordinance specifically prohibits the use of RVs as a temporary or permanent residence in Section 5-1001 unless otherwise permitted. Instances where RVs are permitted as temporary living quarters include in permitted campgrounds, for farm stays where a water supply is provided as defined in Section 4-2A003.B and as temporary emergency housing which is defined in Article III as a "manufactured home, Class B or recreational vehicle used temporarily for a period of reconstruction or replacement of an uninhabitable dwelling lost or destroyed by fire, acts of nature or used temporarily as housing relief to victims of declared disaster."

Section 5-2000.L states that RVs must be stored in the side or rear yards only on residential property at least five feet from any property line.

AGENCY REVIEW:

According to the Virginia Department of Health, permanent occupancy in an RV on private property would require a pump-out facility. This does not mean a person could simply modify their home's septic system or public sewer connection and connect an RV. With that said, a Professional Engineer can propose systems outside of the regulations and variances can be requested to any part of the regulations.

A camping event with three or more campsites requires a temporary campground permit from the state that allows up to fourteen days of camping in any one 60-day period. There must be pump-out facilities available if there are RVs present. A "camping unit" is defined as tents, tent trailers, travel trailers, camping trailers, pick-up campers, motor homes, yurts, cabins, or any other device or vehicular-type structure as may be developed, marketed and used by the camping trade for use as temporary living quarters or shelter during periods of recreation, vacation, leisure time, or travel.

Because RVs do not meet the definition of a structure under the Uniform Statewide Building Code or as defined by the U.S. Department of Housing and Urban Development (HUD), they are not regulated under the building code and are not subject to the same standards for construction, utilities, fire safety, or occupancy as structures. RVs are classified as personal property covered by motor vehicle regulations and taxed accordingly.

In order to distinguish RVs from manufactured housing and definitively exempt RVs from its regulation, HUD released a final rule on November 16, 2018, that defines RVs as:

1. Vehicles or vehicular structures not certified as manufactured homes;
2. Designed only for recreational use and not as a primary residence or for permanent occupancy; and either:
    a. Built and certified in accordance with NFPA 1192-15 or ANSI A119.5-15; or
    b. Any vehicle that is self-propelled.

The revised HUD rule also required labeling that notifies consumers that Park Model RVs are designed only for recreational use and not for use as a primary residence. The rules governing where RVs may be parked and how they may be used are set at the state and local level.

STAFF CONCLUSIONS:

A comparison table of local ordinances as well as additional national examples are

attached to this staff report for your information.

STAFF RECOMMENDATION:

The information provided in this staff report is for informational purposes only. No action is required.

ATTACHMENTS:

Description	Type	Upload Date
Comparison Table	Backup Material	6/20/2023
Draft Ordinance Revisions	Cover Memo	2/20/2024
Additional national examples	Backup Material	4/22/2024

As of June 20, 2023

Locality	Habitation in RVs
Chesapeake	No
Isle of Wight	Permitted in campgrounds, as temporary emergency shelter, and as farm stay, no more than (1), with sewer and water facilities
James City County	Not addressed
Newport News	Not addressed
Norfolk	No
Portsmouth	Defined as temporary living quarters for recreational camping, travel, or seasonal use.
Southampton County	Defined as temporary living quarters for recreational, camping or travel use.
Suffolk	No
Surry County	No
Virginia Beach	No
York County	No

Proposed Zoning Ordinance Revisions
Revised February 27, 2024

The draft revisions are listed by section below. New, proposed language is in red underlined text. Language proposed to be deleted is shown in red text with ~~strikethrough~~ markings.

Article V, Supplementary Use Regulations

Sec. 5-1001. - Prohibited uses.
The following uses are specifically excluded from all districts:

Replace current language:

~~A. Unless otherwise expressly permitted, the use of a recreational vehicle as a temporary or permanent residence.~~

With the Following *(see Section 86-111 of Louisa County Ordinance):*

Recreational vehicles, tents, and the like shall not be used for permanent or full-time dwellings in any district, unless otherwise permitted by the Ordinance and in accordance with the Virginia Department of Health, whether or not connected to utilities, wells or septic systems. For the purposes of this section, permanent means available for occupancy for 30 consecutive days or more per year regardless of actual use.

Sec. 5-2000. - Supplementary density and dimensional regulations.

L. Recreational vehicles and watercraft. In all districts it shall be permissible to store out-of-doors recreational vehicles and watercraft as an accessory use only in accordance with the following:

1. Such vehicles or watercraft shall be placed in the rear or side yards only, and shall be located at least five (5) feet from all property lines. This provision shall not apply to recreational vehicles or watercraft stored within completely enclosed structures.
2. Recreational vehicles shall not be used as permanent or full-time living quarters and may only be otherwise occupied in accordance with zoning district regulations and the Virginia Department of Health. For the purposes of this section, permanent means available for occupancy for 30 consecutive days or more per year regardless of actual use.

Recreational Vehicle (RV) Residential Use Regulation Examples as of 4/22/24

The examples listed below only include those localities that permit the temporary residential use of an RV. Localities that prohibit such uses were not included.

Grand Lake, CO

Private camping is subject to the following additional provisions:

- Private camping is permissible for the non-commercial use of a recreational camping vehicle or other camping shelter (such as a tent) on property consisting of 35 acres or more.
- Private camping is not permitted in a Residential or Estate Zoned District;
- Private camping is a use by right in the Forestry and Open District and is therefore not subject to the provisions in this section;
- Private camping in the Business District, Tourist District, Mobile Home District, and Accommodations Districts is a use permitted by special review and must obtain a camping permit. A camping permit is a no-fee Temporary Use Permit issued by the Community Development Department. Section 11.8 (2)(b) does not apply to the Forestry and Open District. In addition to requirements of the Temporary Use Permit, the following requirements apply:
  (i) Applications must be submitted at least fourteen (14) days prior to commencement of camping;
  (ii) The permit shall be posted on the required address post, visible at all times;
  (iii) By applying for a camping permit the applicant(s)/owner(s) authorizes the County to access the parcel(s) to verify compliance.
- Exemptions: Any seasonal work crews and/or outfitting type business;
- Compensation: There shall be no compensation to the owner of the parcel involved;
- Time Limit: The recreational camping vehicle, tent or other camping shelter may only be used for camping for a period that does not exceed a total of fourteen (14) days during any consecutive three months on the same parcel;
- Utilities: Utilities are not permitted to be extended to the camping unit

San Luis Obispo, CA

- A recreational vehicle may be parked in a residential parking space or driveway for periods not to exceed seven days in any one-month period for the purpose of housing guests of on-site residents only.
- Such recreational vehicle shall not be parked so as to prevent residents of any other dwellings on the site from using their assigned parking spaces, nor shall it discharge waste or sewage into the city's sewage system.
- No hose, electrical cord, pipe, wire, or other device extending from the vehicle may be permitted.

Walton County, Florida

- The use of a recreational vehicle as a permanent residence is not permitted, except within duly licensed and permitted recreational vehicle campgrounds/parks.
- Recreational vehicles may be used as temporary residences in zoning districts allowing residential uses as a primary use, only by the property owner, and only during construction of a primary residence on the same site.
- Temporary use of one recreational vehicle (RV) is permitted on parcels that are five acres or greater in size, with or without a primary residential structure, subject to the following:

a. The property owner shall provide for lawful disposal of all solid waste and waste water including both grey and black water.
b. Commercial use of recreational vehicles in this district is prohibited, recreational vehicles or recreational vehicle parking spaces may not be rented or leased.
c. Recreational Vehicles shall not be tied down or otherwise permanently affixed to any land outside of a designated and duly approved Recreational Vehicle Park.
d. Recreational Vehicles shall not be utilized as a short-term vacation rental unit.
e. Recreational Vehicles shall satisfy the primary structure setback requirements.

Chehalis, WA

- No recreational vehicle shall be used as a place of permanent habitation or residency except when located within an approved mobile home park and connected to required utilities. Habitation of any recreational vehicle on any private property exceeding 14 calendar days annually or 30 calendar days within an approved recreational vehicle park, or any habitation by persons not having an approved permanent address elsewhere shall be construed as permanent habitation of a recreational vehicle.
- Any unit connected to utilities and/or electricity on any portion of any private property or city right-of-way shall be deemed to be inhabited and shall cause the city to investigate such usage.
- No recreational vehicle shall be used for living or housekeeping purposes when parked on any public right-of-way, or any public property except approved recreational vehicle parks. No recreational vehicle shall be used for living or housekeeping purposes when parked on any private property except as provided in CMC 17.81.030(A)(1).
- No recreational vehicle shall be used for the conduct of business except approved conversions meeting all applicable codes and properly licensed for such business.
- Tent camping within the city shall only be allowed in back/rear yards within the residential zone for a period not to exceed 14 days within any 30-day period. The tent must be on private property and located in the rear yard. Tent camping is prohibited in all other zones except for approved RV parks that comply with the appropriate provisions of the municipal code. The Seattle to Portland Classic bike ride and other events that receive approval for special event licenses are exempt from the ordinance codified in this section.

Sanfod, NC

- Travel Trailers (also known as Recreational Vehicles, Campers, Motor Homes, etc.) are not permitted to be utilized as permanent dwellings, according to the North Carolina State Office of Fire Marshal and the North Carolina State Department of Insurance.
- Travel trailers can, however, be utilized as temporary dwellings under certain circumstances.
- It is the responsibility of the applicant to verify that the proposed use is in compliance with all other applicable governmental agencies, including but not limited to, the Sanford / Lee County Building Inspections and the Lee County Department of Environmental Health.

PLANNING REPORT

APPLICATION:

Comprehensive Plan Five Year Review Project Update

ELECTION DISTRICT:

All

LOCATION:

County-wide

BACKGROUND:

Section 15.2-2230 of the *Code of Virginia* stipulates that at least once every five years, the comprehensive plan shall be reviewed by the local planning commission to determine whether it is advisable to amend the plan. The five year deadline is 2025 for review of Isle of Wight County's comprehensive plan, *Envisioning the Isle*, adopted in 2020.

DESCRIPTION:

Staff will provide the Planning Commission a project update on the upcoming five year review of the County's current Comprehensive Plan, *Envisioning the Isle*, and the formation of a stakeholder workgroup to assist with this effort. A tentative project schedule and draft scope of work is attached to this staff report.

STAFF RECOMMENDATION:

This item is for discussion only. No action is recommended.

ATTACHMENTS:

Description	Type	Upload Date
Workgroup Draft Scope	Backup Material	3/19/2024
Tentative Review Schedule	Backup Material	3/19/2024

<u>Envisioning the Isle</u> Comprehensive Plan Five Year Review Stakeholder Workgroup
Draft Scope of Work
Rev 3/19/24

Section 15.2-2230 of the *Code of Virginia* stipulates that at least once every five years, the comprehensive plan shall be reviewed by the local planning commission to determine whether it is advisable to amend the plan. The five year deadline is 2025 for review of Isle of Wight County's comprehensive plan, *Envisioning the Isle*, adopted in 2020.

In order to facilitate this review, the Planning Commission will lead the formation of the Comprehensive Plan Review Stakeholder Workgroup consisting of its members and other stakeholder representatives, such as private citizens, appointed officials, and elected officials. This group will assist in the review of the current Comprehensive Plan and suggest revisions as needed to reflect current conditions and updated information. County staff will provide technical support to the workgroup.

Suggested members of the workgroup include representatives from the Energy task force, Commission on Aging, Town of Windsor Planning Commission, Town of Smithfield Planning Commission, Chamber of Commerce, Carrollton Citizens Association, the South and Central Isle of Wight Association, and staff from various departments for technical support as appropriate.

Following the review of background material and the Comprehensive Plan, the draft revisions will be presented to the community at large as well as the Planning Commission and the Board of Supervisors for their review and feedback. The final draft revised Plan will be subject to a public hearing for final comment at both the Planning Commission and Board of Supervisors prior to adoption.

The following is a proposed scope of work for the workgroup:

1. Provide feedback during the development of the proposed Growth Rate Impact Scenario Study to be prepared by an outside consultant and incorporate the study's findings into proposed revisions to the Comprehensive Plan as necessary.

2. Provide feedback during the development of the proposed Housing Study to be prepared by an outside consultant and incorporate the study's findings into proposed revisions to the Comprehensive Plan as necessary.

3. Form subcommittees from the larger stakeholder workgroup to review each of the Plan's chapters. Each subcommittee will be responsible for presenting proposed revisions to their chapters at the end of the review process to the larger workgroup for incorporation into the draft revised Plan document.

4. Workgroup members will also provide feedback on the community input survey, public meeting format, and draft plan documents.

The initial meeting of the workgroup is tentatively scheduled for July 9, 2024. It is suggested that the stakeholder subcommittee groups meet the second Tuesday of the month during the review process, because this is the day normally held for Planning Commission worksessions.

Staff recommends that the Planning Commission provide recommended stakeholder members to staff by their regular April 23, 2024, meeting date.

Envision the Isle Comprehensive Plan 2025 Review Tentative Schedule (Subject to Change Based on Meeting Availability and Consultant Deliverable Timeframes)

March 26, 2024	**Review of Tentative Review Schedule and Stakeholder Group Work Scope with Planning Commission**
April – May 2024	**Budget Proposal for Capital Impact Model Update, Operational Impact Model, Growth Rate Impact Scenario Study and Housing Study Consultant Services to County Administrator and Board of Supervisors**
July 9, 2024	**Initial Meeting of the Comprehensive Plan Review Stakeholder Workgroup – subcommittee chapter review assignments**
July 2024	**Consultants under contract and begin scenario development and draft community feedback survey**
August – September, 2024	**Initial growth rate scenario findings and draft community survey presented to stakeholder workgroup for feedback**
September 2024	**Initial Community Feedback Survey and initial subcommittee workgroup meetings**
October 2024	**Subcommittee workgroup meetings and Feedback Survey result analysis**
November 2024	**Feedback Analysis, Summary Report, and subcommittee meetings**
December 2024 – January 2025	**Subcommittee draft revisions submitted, draft consultant deliverables presented to Stakeholder Workgroup. Development of draft plan begins.**
January 2025	**Presentation of draft comprehensive plan revisions and initial consultant reports to Planning Commission**
February 2025 – March 2025	**Draft Comprehensive Plan revisions presented for community feedback**
April 2025	**Presentation of Comprehensive Plan revisions to Planning Commission for public hearing and consideration**
May 2025	**Presentation of Comprehensive Plan revisions to Board of Supervisors for public hearing and consideration**

PLANNING REPORT

APPLICATION:

Planning Commission Discussion on Possible Dates for the 2024 Annual Retreat

STAFF RECOMMENDATION:

This item is for general discussion only. No action is recommended at this time.