JAMIE WHITEHOUSE, AICP
DIRECTOR OF PLANNING & ZONING
(302) 855-7878 T
(302) 854-5079 F
jamie.whitehouse@sussexcountyde.gov

Sussex County
DELAWARE
sussexcountyde.gov

PLEASE NOTE

This paperless packet is published on the County's website for convenience purposes, and only includes information received up to the close of business on the day before a public hearing. Documents received after this, or documents submitted during the public hearing are not uploaded to the Paperless Packet. The legal record is the paper record maintained in the Offices of the Planning & Zoning Department.

PLANNING & ZONING COMMISSION
ROBERT C. WHEATLEY, CHAIRMAN
KIM HOEY STEVENSON, VICE-CHAIRMAN
R. KELLER HOPKINS
J. BRUCE MEARS
HOLLY J. WINGATE

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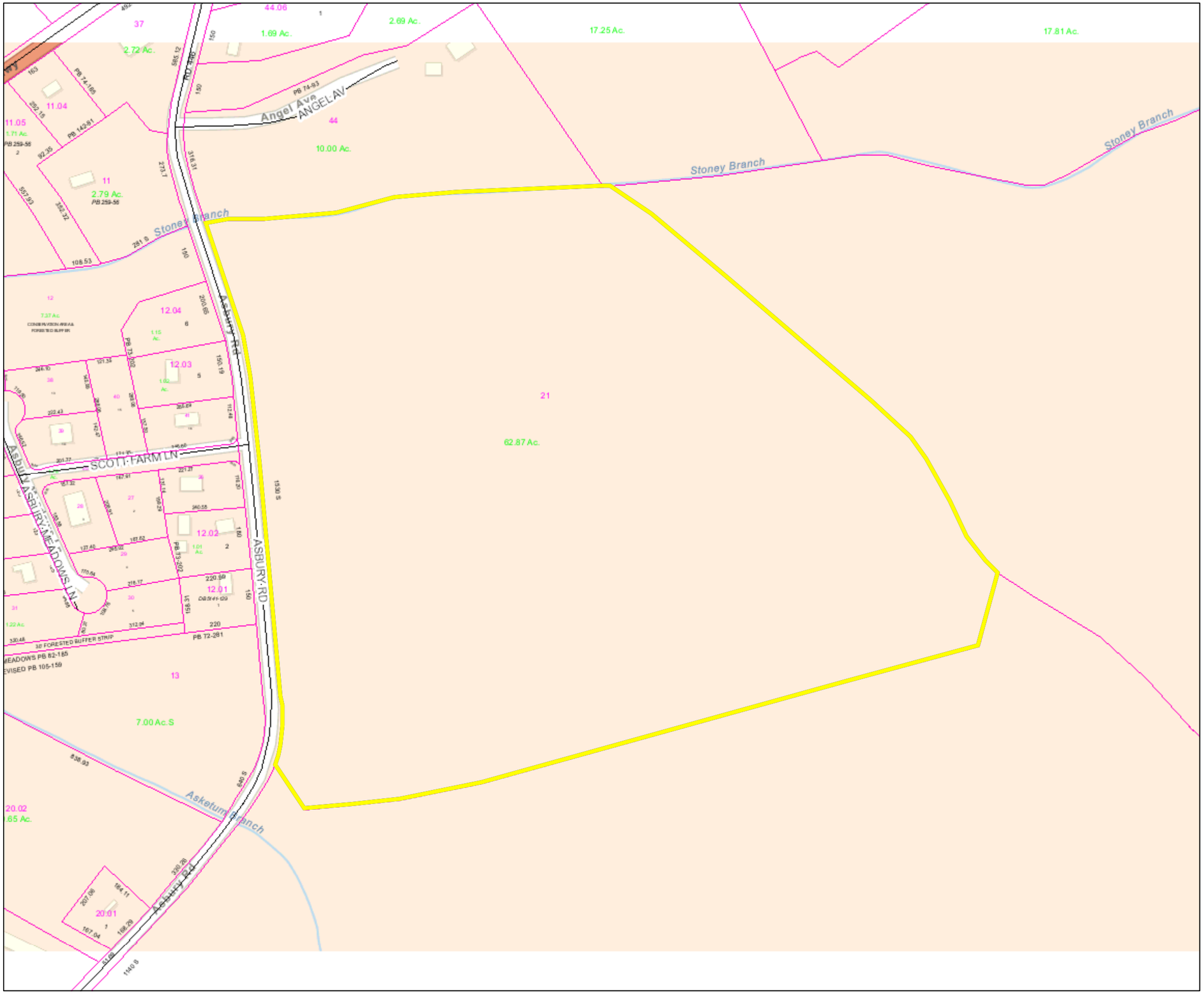
DELAWARE
sussexcountyde.gov
302-855-7878 T
JAMIE WHITEHOUSE, AICP, MRTPI
DIRECTOR

PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET
Planning Commission Public Hearing Date: May 12th, 2022

Application:	CU 2294 Horsey Farm, LLC
Applicant:	Horsey Farm, LLC 28107 Beaver Dam Branch Rd Laurel, DE 19956
Owner:	Horsey Farm, LLC 28107 Beaver Dam Branch Rd Laurel, DE 19956
Site Location:	The site is on the east side of Asbury Road (S.C.R. 446), south of County Seat Highway (Rt. 9).
Current Zoning:	Agricultural Residential (AR-1)
Proposed Zoning:	Agricultural Residential (AR-1)
Comprehensive Land Use Plan Reference:	Low Density
Councilmanic District:	District 1 - Vincent
School District:	Seaford School District
Fire District:	Georgetown Fire Company
Sewer:	On-site septic systems
Water:	On-site well
TID:	Not Applicable
Site Area:	62.204 acres +/-
Tax Map ID:	231-21.00-21.00

EQUAL HOUSING OPPORTUNITY

Sussex County



PIN:	231-21.00-21.00
Owner Name	HORSEY FAMILY LLC
Book	5422
Mailing Address	28107 BEAVER DAM BRANC
City	LAUREL
State	DE
Description	GEORGETOWNLAUREL
Description 2	E/RT 446 900'
Description 3	S/RT 9
Land Code	

polygonLayer

Override 1

polygonLayer

Override 1

Tax Parcels

Streets

County Boundaries

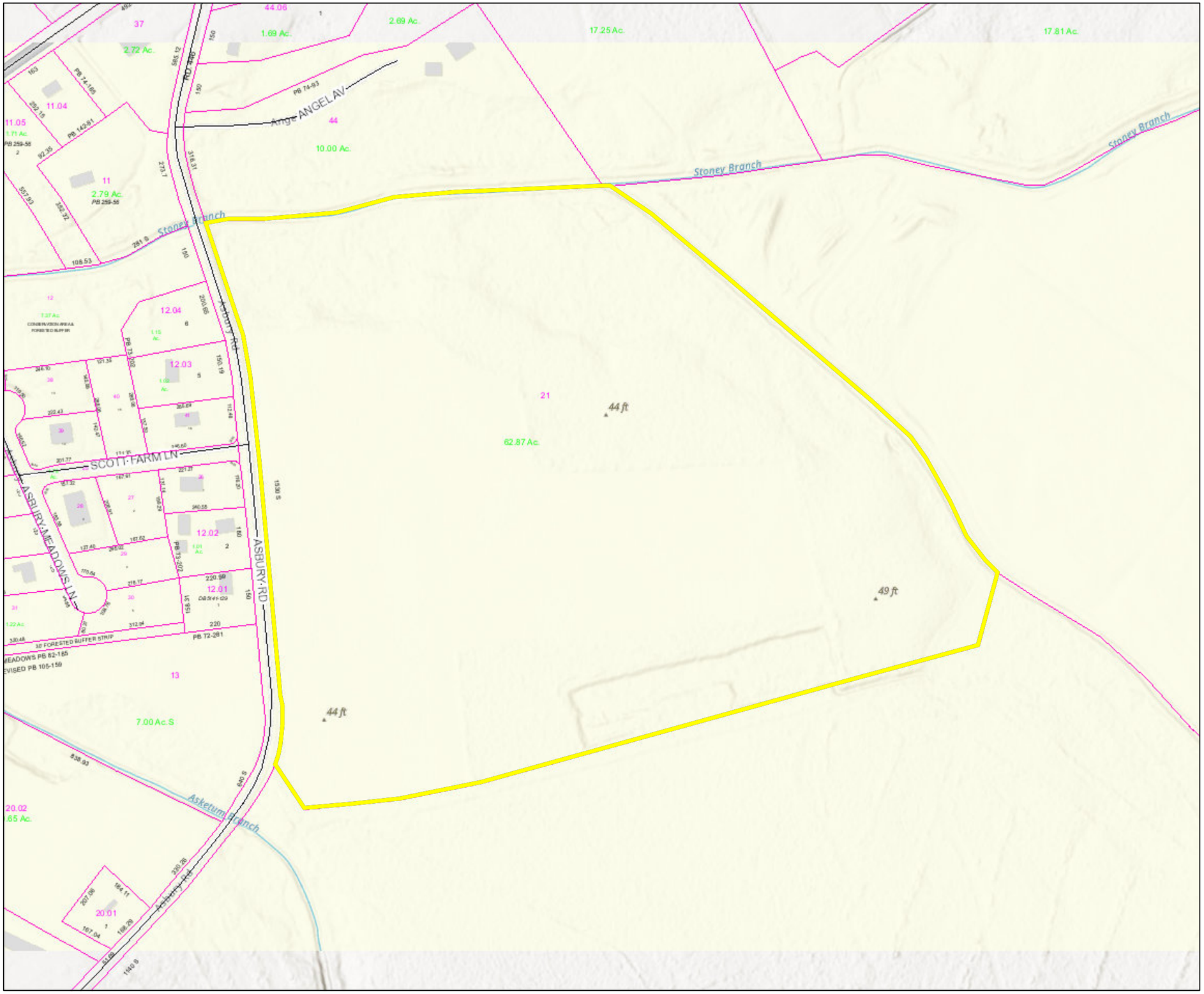
1:4,514

0 0.05 0.1 0.2 mi

0 0.075 0.15 0.3 km

April 12, 2022

Sussex County



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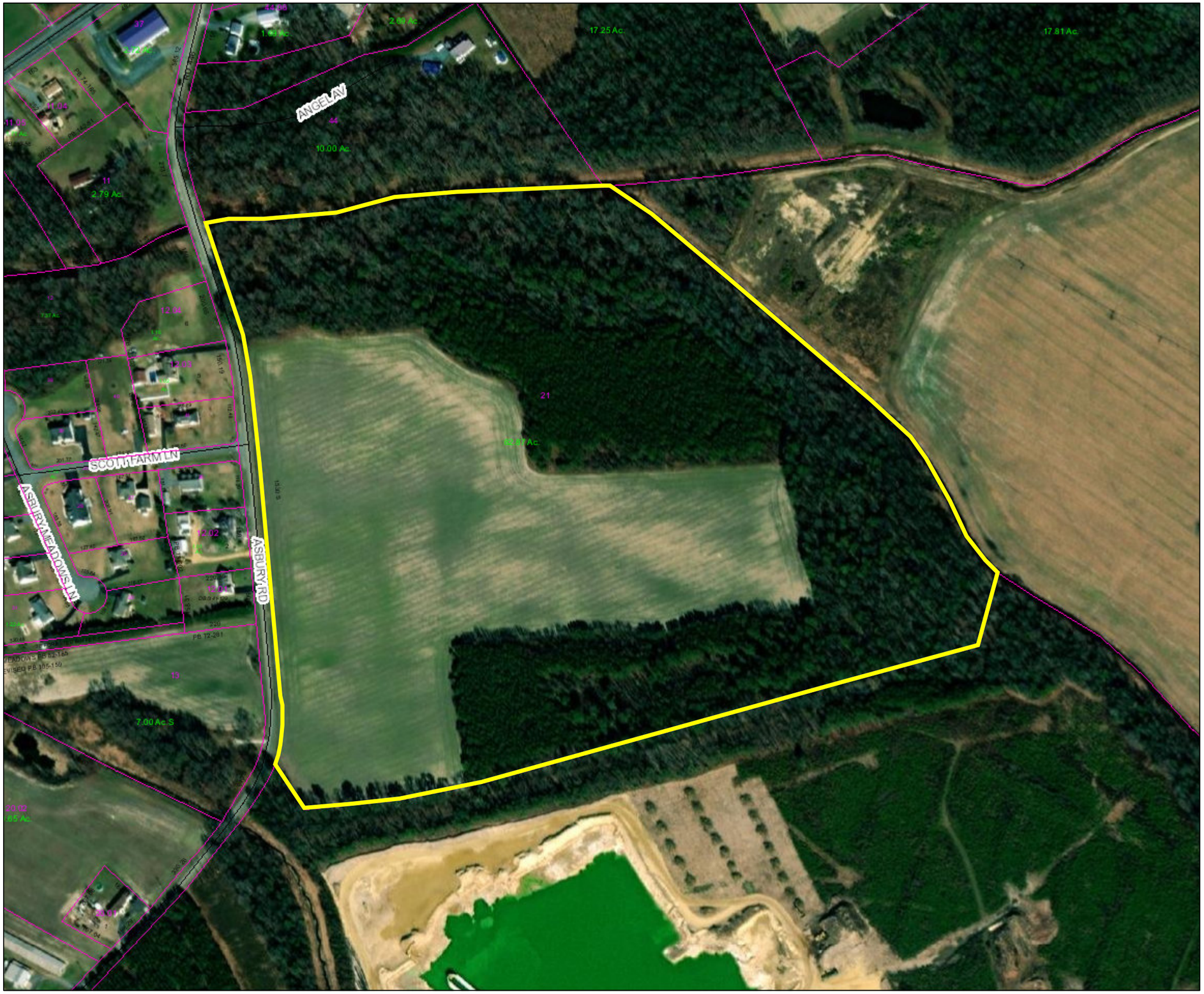

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April 12, 2022

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Memorandum

To: Sussex County Planning Commission Members
From: Mx. Jesse Lindenberg, Planner I
CC: Mr. Vince Robertson, Assistant County Attorney and Applicant
Date: April 26, 2022
RE: Staff Analysis for CU 2294 Horsey Family, LLC

This memo is to provide background and analysis for the Planning Commission to consider as a part of application CU 2294 Horsey Family, LLC to be reviewed during the May 26th, 2022, Planning Commission Meeting. This analysis should be included in the record of this application and is subject to comments and information that may be presented during the public hearing.

The request is for a Conditional Use for Tax Parcel: 231-21.00-21.00 to amend Conditional Use No. 1741 (Ordinance No. 2021) to allow for the expansion of an existing borrow pit through the addition of 62.204+/- acres of land. The property is lying on east side of Asbury Road (S.C.R. 446), approximately 0.35 mile south of County Seat Highway (Rt. 9). The parcel consists of 62.204 acres +/-.

It should be noted that the previous Conditional Use (Conditional Use No. 1741) was filed on behalf of David G. Horsey & Sons, Inc. for a borrow pit excavation to be located on a 199.50 acre +/- parcel of land. The Conditional Use was approved by the Sussex County Council on Tuesday, December 16th, 2008, and the change was adopted through Ordinance No. 2021.

The 2018 Sussex County Comprehensive Plan Update (Comprehensive Plan) provides a framework of how land is to be developed. As part of the Comprehensive Plan, a Future Land Use Map is included to help determine how land should be zoned to ensure responsible development. The Future Land Use Map in the plan indicates that the parcel has a designation of "Low Density." The parcels to the north, south, east, and west also have a Future Land Use Map designation of "Low Density."

As outlined in the 2018 Sussex County Comprehensive Plan, Low Density areas are intended to support agricultural uses and low-density single-family housing. Specifically, the Comprehensive Plan states that single family homes have a density of up to two dwelling units to the acre. It is envisioned that the Low-Density Areas allow for businesses that support nearby residents and the agricultural economy. More intense commercial uses could be limited in scale and impact. While residential growth is expected, the Comprehensive Plan intends for the rural landscape to be maintained and for farmland to be preserved in select locations.

The subject property is zoned Agricultural Residential (AR-1). All surrounding properties to the north, south, east, and west are also zoned Agricultural Residential (AR-1).

Since 2011, there has been one (1) Conditional Use application within a 1-mile radius of the application site. This application was Conditional Use No. 1952 Clinton & McCutchen to allow for

boat repair, storage, and sales to be permitted within an Agricultural Residential (AR-1) Zoning District. This application was approved by the Sussex County Council on Tuesday, March 19, 2013, and this change was adopted through Ordinance No. 2296. Please see the attached excel spreadsheet for information regarding previous Conditional Use Applications prior to 2011.

Based on the analysis of the land use, surrounding zoning and uses, the Conditional use to allow for the amendment of Conditional Use No. 1741 (Ordinance No. 2021) for the expansion of an existing borrow pit through the addition of 62.204 +/- acres of land, subject to considerations of scale and impact, could be considered as being consistent with the land use, area zoning and surrounding uses.

Conditional Use Number	Tax Parcel #	APPLICANT	911 Address or Road Name	Current Zoning
476	232-2.00-28.02	William P Layton	Layton Rd	AR-1
515	231-21.00-5.01	John & Hattie Wilkins	County Seat Hwy	AR-1
369	232-2.00-23.00	Ralph W Callaway	Messick Rd	AR-1
546	232-2.00-7.01	Charles T Workman & Brenda	Beaver Dam Rd	AR-1
373	232-2.00-7.01	Charles T Workman & Brenda	Messick Rd	AR-1
546	231-21.00-3.00	Independent Auto Sales	Concord Rd	AR-1
655	232-2.00-9.00	George Fensick	Rt 20	AR-1
1139	231-21.00-3.00	John W. Scott	Concord Rd	AR-1
1143	232-2.00-11.00	Shirley A. Sato	County Seat Hwy	AR-1
1271	232-2.00-6.00	The Horsey Family LLC	Beaver Dam Branch Rd	AR-1
1534	232-2.00-20.00	Kevin A. Davis	Beaver Dam Rd & Messick Rd	AR-1
1741	231-21.00-22.00	David G. Horsey & Sons, Inc.	Hardscrabble Rd.	AR-1
1952	232-2.00-21.00	Clinton & McCutchen	Messick Road (SCR. 473)	AR-1

Proposed Use	P&Z Initial Hearing Date	P&Z Decision	P&Z Decision Date	CC Initial Hearing Date
poultry house on less than 5-acres	N/A	N/A	N/A	6/13/1978
sample home & sales office (Nanticoke Homes)	N/A	N/A	N/A	1/16/1979
borrow pit	N/A	N/A	N/A	8/31/1976
poultry house on less than 5-acres	N/A	N/A	N/A	8/28/1979
Poultry Farm on Less than 5 Acres	N/A	N/A	N/A	8/31/1976
Auto Sales Lot and Office	9/10/1981	Recommended Approval	9/10/1981	9/29/1981
antique shop	11/12/1981	Recommended Approval		12/1/1981
automotive sales facility	11/16/1995	Recommended Approval	11/16/1995	12/5/1995
tanning salon	1/25/1996	Recommended Approval	1/25/1996	2/13/1996
borrow pit	2/11/1999	Recommended Approval	3/25/1999	3/9/1999
auto body repair	4/29/2004	Recommended Approval	4/29/2004	5/18/2004
Borrow Pit	5/8/2008	Recommended Approval	5/8/2008	6/3/2008
Boat repair, boat storage and boat sales	1/10/2013	Recommended Approval	2/28/2013	3/19/2013

CC Decision Date	CC Decision	Ordinance Number	parcel id 2
	Approved		
	Approved		
	Approved		
	Approved		
8/31/1976	Approved		
9/29/1981	Approved		
	Approved		
12/5/1995	Denied		231-21.00-3.01
2/13/1996	Approved	1077	
5/25/1999	Approved	1310	232-2.00-8.00
5/18/2004	Approved	1690	
12/16/2008	Approved	2021	
3/19/2013	Approved	2296	232-2.00-22.00

File #: CU 2294
20210 9613

Planning & Zoning Commission Application
Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

RECEIVED
JUN 24 2021
SUSSEX COUNTY
PLANNING & ZONING

Type of Application: (please check applicable)
Conditional Use ✓
Zoning Map Amendment ___

Site Address of Conditional Use/Zoning Map Amendment

Asbury Road, Seaford, South of Route 9 and east of Hardscrabble Road

Type of Conditional Use Requested:

Extension of an existing borrow pit by adding 62.204+/- acres and modifying the conditions of CU 1741 (Ordinance No. 2021)(copy attached) for the existing borrow pit on an adjacent property.

Tax Map #: 231-21.00-21.00 **Size of Parcel(s):** 62.204+/-

Current Zoning: AR **Proposed Zoning:** AR **Size of Building:** ____

Land Use Classification: Agricultural

Water Provider: None **Sewer Provider:** None

Applicant Information

Applicant Name: Horsey Family, LLC
Applicant Address: 28107 Beaver Dam Branch Road
City: Laurel State: DE ZipCode: 19956
Phone #: (302) 875-3033 E-mail: rcerklefsk@aol.com

Owner Information

Owner Name: Horsey Family, LLC
Owner Address: 28107 Beaver Dam Branch Road
City: Laurel State: DE Zip Code: 19956
Phone #: (302) 875-3033 E-mail: rcerklefsk@aol.com

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: Ring W. Lardner, c/o Davis, Bowen & Friedel,Inc.
Agent/Attorney/Engineer Address: 1 Park Ave
City: Milford State: DE Zip Code: 19963
Phone #: (302) 424-1441 E-mail: rwl@dbfinc.com

EQUAL HOUSING OPPORTUNITY

Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

✓ Completed Application

✓ Provide eight (8) copies of the Site Plan or Survey of the property
- Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
- Provide a PDF of Plans (may be e-mailed to a staff member)
- Deed or Legal description

✓ Provide Fee $500.00

___ Optional - Additional information for the Commission/Council to consider (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

✓ Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.

✓ DelDOT Service Level Evaluation Request Response

___ PLUS Response Letter (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on by behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

_____ Date: 6/22/2021

Signature of Owner

Robert E Hardy Date: 6/20/2021

For office use only:

Date Submitted: 06/24/2021 Fee: $500.00 Check #: 2947

Staff accepting application: chase Phillips Application & Case #: 2021090013

Location of property: Asbury Road, S/Rt. 9 E/ Hardscrabble

Subdivision: _____

Date of PC Hearing: _____ Recommendation of PC Commission: _____

Date of CC Hearing: _____ Decision of CC: _____

Mailing List Application Form

For Applications Requiring a Public Hearing in Sussex County

Please fill out this form and return it with your application. As a part of your application, a Public Hearing is required. The property owners within 200' of the site of the application will be notified. Staff will notify the property owners.

Application Information:

Site Address: Asbury Road, Seaford, South of Route 9 and east of Hardscrabble Road

Parcel #: 2-31-21.00-21.00

Site Address: _____

Parcel #: _____

Applicant Name: Horsey Family, LLC

Owner Name: Horsey Family, LLC

Type of Application:

Conditional Use: ☒
Change of Zone: ☐
Subdivision: ☐
Board of Adjustment: ☐

Date Submitted: 6/23/21

For office use only:

Date of Public Hearing: _____
File #: _____
Date list created: _____ List created by: _____
Date letters mailed: _____ Letters sent by: _____

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

May 9, 2022

Mr. Jamie Whitehouse, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **Horsey Farm LLC** proposed land use application, which we received on April 12, 2022. This application is for an approximately 62.87-acre parcel (Tax Parcel: 231-21.00-21.00). The subject land is located on the southeast side of Asbury Road (Sussex Road 446) approximately 900 feet south of the intersection with County Seat Highway (US Route 9). The subject land is currently zoned AR-1 (Agriculture Residential), and the applicant seeks a conditional use approval to expand an existing borrow pit by adding 62.204 acres.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volume along Asbury Road (Sussex Road 446), from County Seat Highway to Hardscrabble Road (State Route 20), is 737 vehicles per day.

Based on our review, we estimate that the above land use will generate fewer than 50 vehicle trips per day. This number of trips is below DelDOT's minimum warrants for determining that a Traffic Impact Study (TIS) should be required for a particular development. DelDOT's regulations specify the minimum TIS warrants as 50 vehicle trips in any hour and/or 500 vehicle trips per day. Because the proposed land use would generate fewer than 50 vehicle trips per day, we consider the development's traffic impact to be **diminutive** in the context of our agreement with the County regarding land development coordination and we do not recommend that the applicant be required to perform a TIS for the subject application. DelDOT's description of this application as diminutive with regard to warranting a TIS does not mean that it is diminutive in other respects. We recommend that the applicant not be required to perform a TIS for the subject application.

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Ms. Annamaria Furmato, at Annamaria.Furmato@delaware.gov, if you have questions concerning this correspondence.

Sincerely,

Claudy Joinville
Project Engineer
Development Coordination

CJ:afm
cc: Horsey Farm, LLC, Applicant
Jesse Lindenberg, Sussex County Planning & Zoning
David Edgell, Office of State Planning Coordination
Todd Sammons, Assistant Director, Development Coordination
T. William Brockenbrough, County Coordinator, Development Coordination
Matthew Schlitter, South District Public Works Engineer
Steve McCabe, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Annamaria Furmato, Project Engineer, Development Coordination

SUSSEX COUNTY ENGINEERING DEPARTMENT
UTILITY PLANNING & DESIGN REVIEW DIVISION
C/U & C/Z COMMENTS

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **4/28/2022**

APPLICATION: **CU 2294 Horsey Farm, LLC**

APPLICANT: **Horsey Farm, LLC**

FILE NO: **WSPA-5.02**

TAX MAP & PARCEL(S): **231-21.00-21.00**

LOCATION: **Lying on the east side of Asbury Road (SCR 446), south of County Seat Highway (Rt. 9).**

NO. OF UNITS: **Expansion of CU 1741 for the expansion of a Borrow Pit.**

GROSS ACREAGE: **62.204**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

SEWER:

(1). Is the project in a County operated and maintained sanitary sewer and/or water district?

Yes ☐ No ☒

a. If yes, see question (2).
b. If no, see question (7).

(2). Which County Tier Area is project in? **Tier 4**

(3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.

(4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.

(5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **No** If yes, the current System Connection Charge Rate is **Unified $6,600.00** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

(6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **N/A**

☐ Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.

(7). Is project adjacent to the Unified Sewer District? **No**

(8). Comments: **The proposed Conditional Use is not in an area where the Sussex County Engineering Department has a schedule to provide sanitary sewer service.**

(9). Is a Sewer System Concept Evaluation required? **Not at this time**

(10). Is a Use of Existing Infrastructure Agreement Required? **Not at this time**

(11). **All residential roads must meet or exceed Sussex County minimum design standards.**

UTILITY PLANNING & DESIGN REVIEW APPROVAL:

John J. Ashman
Sr. Manager of Utility Planning & Design Review

Xc: Hans M. Medlarz, P.E.
Lisa Walls
No Permit Tech Assigned

ORDINANCE NO. 2021

With Conditions

AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR BORROW PIT EXCAVATION TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN NANTICOKE HUNDRED, SUSSEX COUNTY, CONTAINING 199.50 ACRES, MORE OR LESS

WHEREAS, on the 15th day of December 2006, a conditional use application, denominated Conditional Use No. 1741, was filed on behalf of David G. Horsey & Sons, Inc.; and

WHEREAS, on the 8th day of May 2008, a public hearing was held, after notice, before the Planning and Zoning Commission of Sussex County and said Planning and Zoning Commission recommended that Conditional Use No. 1741 be approved with conditions; and

WHEREAS, on the 3rd day of June 2008, a public hearing was held, after notice, before the County Council of Sussex County and the County Council of Sussex County determined, based on the findings of facts, that said conditional use is in accordance with the Comprehensive Development Plan and promotes the health, safety, morals, convenience, order, prosperity and welfare of the present and future inhabitants of Sussex County, and that the conditional use is for the general convenience and welfare of the inhabitants of Sussex County;

NOW, THEREFORE,

THE COUNTY OF SUSSEX HEREBY ORDAINS:

Section 1. That Chapter 115, Article IV, Subsection 115-22, Code of Sussex County, be amended by adding the designation of Conditional Use No. 1741 as it applies to the property hereinafter described.

Section 2. The subject property is described as follows:

ALL that certain tract, piece or parcel of land lying and being situate in Nanticoke Hundred, Sussex County, Delaware, and lying north of Route 20 (Hardscrabble Road) and east of Road 446 (Asbury Road), and being more particularly described as follows:

BEGINNING at a concrete monument on the easterly right of way of Road 446 (Asbury Road), a corner for these lands and lands of Betty Ann Turner; thence northerly by and along the easterly right of way of Road 446, 1,058.10 feet to a point; thence by and along lands of Mary and Gail Wilson the following four courses: S 18°07'40" E 223.18 feet, N 71°40'30" E 165.21 feet, N 74°38'27" E 1,810.79 feet, and N 14°23'27" E 384.03 feet to the centerline of Jobs Branch; thence easterly with the meandering of the centerline of Jobs Branch 1,872.73 feet to a point; thence S 26°57'12" W 1,596.79 feet and S 49°26'48" E 1,169.80 feet along lands of Elwood Workman & Sons to a point; thence S 39°58'08" W 854.74 feet along lands of Alden James to a rebar on the northerly right of way of Route 20 (Hardscrabble Road); thence N 64°02'22" W 823.70 feet along the northerly right of way of Route 20 to a point; thence by and along the centerline of an abandoned road and lands of Lillian Blackson and lands of Everett Messick 1,335.10 feet to a point on the northerly right of way of Route 20; thence N 64°02'22" W 1,743.65 feet along the northerly right of way of Route 20 to a point; thence N 39°00'13" E 213.86 feet and N 49°30'00" W 694.69 feet along lands of Betty Ann Turner to the point and place of beginning, said parcel containing 199.50 acres, more or less, per survey by Meridian Architects and Engineers.

This Ordinance shall take effect immediately upon its adoption by majority vote of all members of the County Council of Sussex County, Delaware.

This Ordinance was adopted subject to the following conditions:

1. No materials may be brought from off the site for processing, mixing or similar purposes.
2. The operation of the borrow pit shall be controlled to provide reasonable protection to surrounding properties, as follows:
    a. A 200 foot vegetation/forested buffer shall be maintained along that portion of the site which abuts the State Route 20 (Hardscrabble Road) and the Route 446 (Asbury Road) rights-of-way. Existing vegetation and trees within the buffer area between the property line and the perimeter dike shall remain undisturbed.

b. A 100 foot vegetation/forested buffer shall be maintained along all other perimeter property lines within the site. Existing vegetation between the property lines and the perimeter dike shall remain undisturbed.

c. A water truck will be available to control dust from interior trucking traffic when conditions require.

3. Hours of operation of trucking activities shall be from 6:00 a.m. to 6:00 p.m., Monday through Friday, and 6:00 a.m. to 2:00 p.m. on Saturday. There shall be no trucking activities on Sunday.

4. Entrance improvements required by the Delaware Department of Transportation in connection with this land use will be completed by the applicant.

5. The borrow pit entrance shall have a fenced gate, which shall be secured when the operation is closed.

6. No materials will be stored on any access roads or within any buffer areas.

7. Signage will be placed at appropriate locations to designate pit areas.

8. Fuel shall be stored in storage tanks with confinement areas as required by the Department of Natural Resources and Environmental Control (DNREC) and the Office of the State Fire Marshal.

9. No stumps, branches, debris or similar items will be buried on the site.

10. A Final Site Plan shall be reviewed and approved by the Planning and Zoning Commission prior to commencement of operations.

11. Before any excavation operations begin, a complete Environmental Impact Study as defined in connection with Ordinance No. 1310 will be conducted and presented with the Final Site Plan.

12. Owner shall comply with all State and County erosion and sediment control regulations.

13. Owner shall be responsible for monitoring ground water quality. Specifically, owner shall install three wells, one above the excavation, and two below the excavation. Monitoring shall be performed by a licensed geologist, and the results filed on an annual basis with Sussex County and the Department of Natural Resources and Environmental Control (DNREC). Owner shall be responsible for all costs associated with the water quality monitoring. Owner shall also be responsible for the

cost of correcting any adverse impacts on water quality which may be occasioned by the excavation operation. Necessary remediation shall be determined by Sussex County, with guidance from the Department of Natural Resources and Environmental Control.

14. Reclamation plans shall indicate finished grading, seeding, and planting schedules designed to create a pleasing appearance. Reclamation will be completed in phases as excavation operations in a section are completed. Applicant will notify the Planning and Zoning Department in writing on or about April 1st of each year as to the status of the reclamation and reclamation plans for the following year.

15. The 199.5 acre parcel shall be divided into three (3) phases of 45 acres each. Phase Two will not be started until 75% of Phase One is completed. Phase Three will not be started until 75% of Phase Two is completed. The excavated area shall not exceed 135 acre.

16. The dredge may operate 24 hours per day, but no front-end loaders, backhoes, or other construction equipment with safety buzzers will operate after 10:00 p.m.

17. Every five (5) years after the start of digging, the Planning and Zoning Department shall perform an inspection of the site, and shall request written comments from all appropriate State agencies so that the Planning and Zoning Commission can review the comments to verify compliance with all then-existing regulations. After twenty (20) years, the property owner shall complete and pay for an Environmental Impact Study, as the phase is defined by the Department of Natural Resources and Environmental Control, or any successor. Upon certification by the Department of Natural Resources and Environmental Control of the owners' compliance with then-existing regulations, the permit shall be extended for an additional ten (10) years. The permit shall terminate upon the expiration of forty (40) years from the date of enactment.

18. Trucking vehicles shall be prohibited from using Road 446 (Asbury Road). The entrance to the borrow pit shall be from Route 20 (Hardscrabble Road).

19. No dewatering activities will occur on site.

20. The Applicant shall delay the sale of materials from off-site until January 1, 2011.

21. No hauling of materials shall occur from the site prior to January 1, 2011.

I DO HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF ORDINANCE NO. 2021 ADOTPED BY THE SUSSEX COUNTY COUNCIL ON THE 16TH DAY OF DECEMBER 2008.

ROBIN A. GRIFFITH
CLERK OF THE COUNCIL

The Council found that the Conditional Use was appropriate legislative action based on the following findings of fact:

1. This application is for a borrow pit excavation to be located on 199.50 acres lying on the north side of State Route 20 (Hardscrabble Road) and on the east side of County Road 446 (Asbury Road) in Nanticoke Hundred, Sussex County, Delaware.
2. DelDOT reported that a Traffic Impact Study was not recommended and that the existing Level of Service "A" on State Route 20 may change to a Level of Service "B" if the Conditional Use is approved.
3. The County Engineer's Office reported that the borrow pit site is not in an area where the County has current plans to provide sewer service and that an on-site septic system must be used.
4. No storm flood hazard areas would be affected and it may not be necessary for any off-site drainage improvements. The Applicant will be required to comply with sediment, erosion and stormwater management requirements. Stoney Branch and Asketum Branch tax ditches could be affected.
5. The dirt proposed to be excavated from the borrow pit will be used as fill dirt in residential, commercial and road construction projects.
6. The use is of a public or semi-public character in that it will provide a source of fill dirt which will be used by the entire County. The use is essential and desirable for the general convenience, health, safety, morals and welfare of the current and future citizens of Sussex County.
7. The site is similar to a borrow pit located on the south side of State Route 20 that has terminated its use after 20 years.
8. The approval of the application will not have an adverse affect on nearby properties, public facilities or public highways.

9. **The use will be subject to and comply with the requirements of Section 115-172(B) of the Sussex County Comprehensive Zoning Ordinance.**

10. **Based on the record and recommendation of the Planning and Zoning Commission, which was adopted by Council, and based on the record created before Council, the Conditional Use was approved subject to 21 conditions, which will serve to minimize any potential impacts on the surrounding area and adjoining properties.**

ORDINANCE NO. 2208

AN ORDINANCE PROVIDING FOR THE TEMPORARY EXTENSION OF TIME FOR SUBDIVISION APPLICATIONS, CONDITIONAL USE APPLICATIONS, AND RESIDENTIAL PLANNED COMMUNITY DISTRICTS

WHEREAS, the Sussex County Council has the power to develop, adopt, amend, and revise its Subdivision and Zoning Ordinances as it shall deem necessary in order to preserve and protect the public health, safety, morals, beauty and good appearance of Sussex County and to provide for the orderly growth thereof; and

WHEREAS, the Sussex County Council has adopted Subdivision and Zoning Ordinances and a Comprehensive Land Use Plan in order to provide for the regulation and orderly approval of residential, commercial, and industrial uses within Sussex County; and

WHEREAS, the Sussex County Council is concerned that the approvals and/or permits that have been granted by it and the County Planning and Zoning Commission may lapse due to the current economic crisis, and drastic recession affecting this County, the State and the United States, and severely impacting the County's banking, real estate, construction, and building materials businesses and employment in Sussex County; and

WHEREAS, the process of obtaining approvals and/or permits can be difficult, time consuming, and expensive for both the applicants and the County Government; and

WHEREAS, approvals and/or permits could be difficult to extend, renew, or re-obtain once lapsed or expired; and

WHEREAS, the Sussex County Council deems it appropriate to implement a general extension of approvals and/or permits for Subdivision and Residential Planned Community approvals, and Conditional Uses until economic conditions improve; and

WHEREAS, the Sussex County Council is of the opinion that the granting of a general extension is appropriate in order to avoid unnecessary administrative issues related to repetitive applications for extensions of time for approvals and/or permits or rehearing previously approved applications, and to otherwise provide for the orderly growth of Sussex County.

NOW, THEREFORE, THE SUSSEX COUNTY COUNCIL HEREBY ORDAINS:

Section 1. Notwithstanding the time limits for validity set out in Chapter 99 of the Sussex County Code, any preliminary subdivision plat under § 99-9 B, and any recorded subdivision plat valid under § 99-11 and § 99-40, with a date of approval of January 1, 2009 or later shall be valid until January 1, 2013 or the expiration of the current approval, whichever is later.

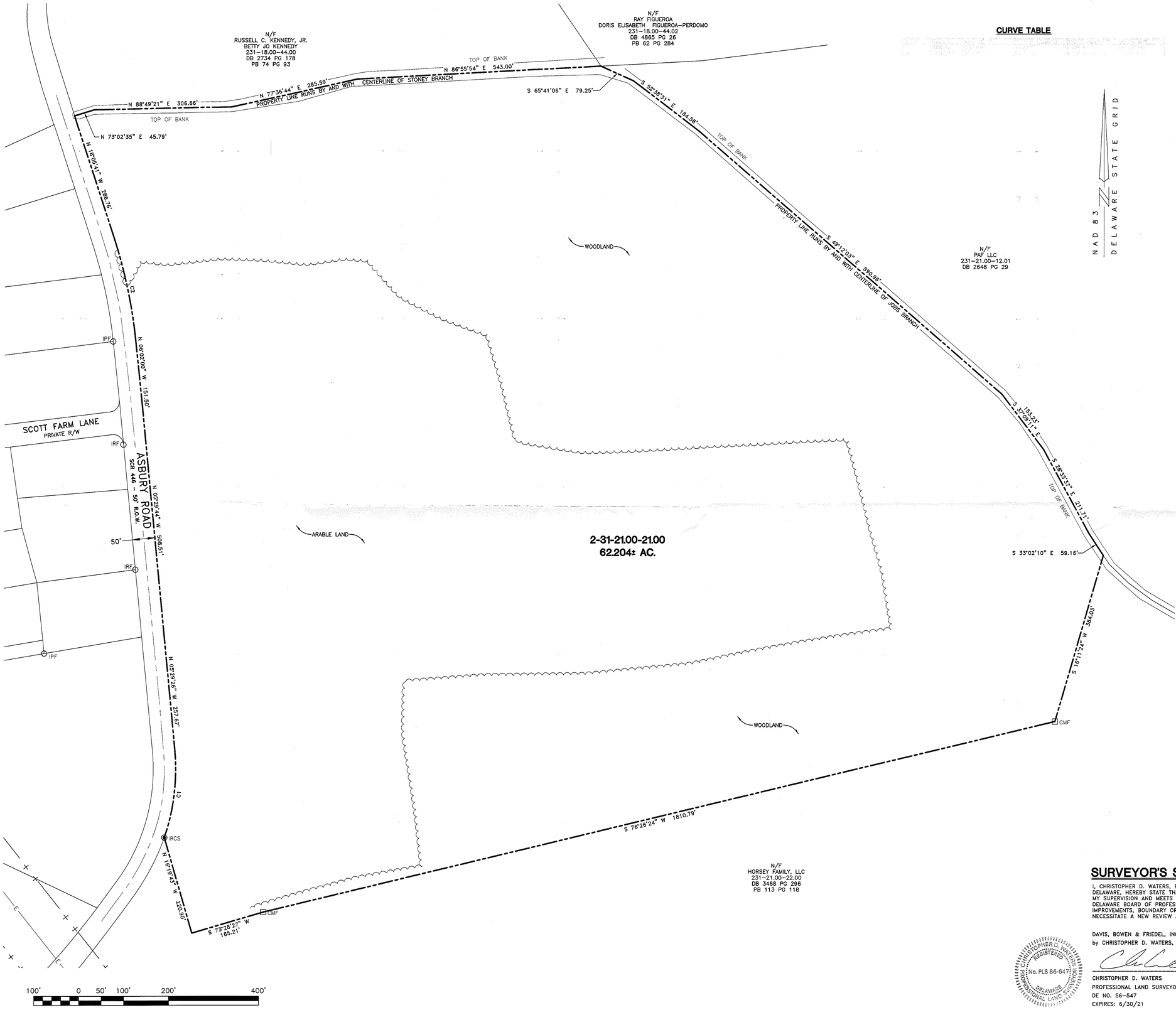
Section 2. Notwithstanding any other provisions of Chapter 115 of the Sussex County Code for any Residential Planned Community valid under Article XVI and outstanding as of January 1, 2009 or later shall be valid until January 1, 2013 or the expiration of the current approval, whichever is later.

Section 3. Notwithstanding any other provisions of Chapter 115 of the Sussex County Code for any Conditional Use action approved pursuant to the provision of Article XVI, Article XXIV, and Article XXVIII of Chapter 115 of the Sussex County Code valid and outstanding as of January 1, 2009 or later, and relating to new residential, commercial, or industrial developments, shall be valid until January 1, 2013 or the expiration of the current approval, whichever is later.

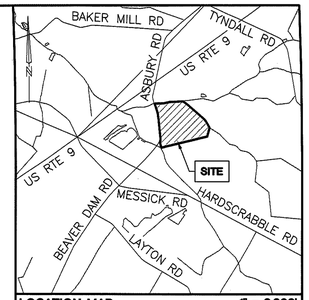
Section 4. This Ordinance shall become effective upon its adoption by a majority of all members elected to the County Council of Sussex County.

I DO HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF ORDINANCE NO. 2208 ADOPTED BY THE SUSSEX COUNTY COUNCIL ON THE 9TH DAY OF AUGUST 2011.

ROBIN A. GRIFFITH
CLERK OF THE COUNCIL



CURVE TABLE



LOCATION MAP 1" = 3,000'

SITE DATA

CURRENT OWNER:	HORSEY FAMILY, LLC 28107 BEAVER DAM BRANCH RD. LAUREL, DE 19956
TAX PARCEL NO.:	2-31-21.00-21.00
DEED REF.:	DB 5422 PG 148
SITE AREA:	62.204± ACRES
ZONING:	AR-1
SETBACKS:	FRONT: 40' SIDE: 15' REAR: 20'
FLOOD ZONE:	ZONE AE - ELEV. 34 ZONE X - MINIMAL FLOODING
F.I.R.M. NO.:	10005C 0450 L, DATED 6/20/18

LEGEND

IRCS	IRON ROD WITH CAP SET
IRF	IRON REBAR FOUND
IPF	IRON PIPE FOUND
CMF	CONCRETE MONUMENT FOUND
	UTILITY POLE
	PROPERTY LINE
	ADJACENT PROPERTY LINE
	ROAD CENTERLINE LINE
	EXISTING EASEMENT LINE
E	OVERHEAD UTILITY LINE
	TREE LINE

SURVEYOR'S STATEMENT

I, CHRISTOPHER D. WATERS, REGISTERED AS A PROFESSIONAL LAND SURVEYOR IN THE STATE OF DELAWARE, HEREBY STATE THAT THE INFORMATION SHOWN ON THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND MEETS THE STANDARDS OF PRACTICE AS ESTABLISHED BY THE STATE OF DELAWARE BOARD OF PROFESSIONAL LAND SURVEYORS. ANY CHANGES TO THE PROPERTY CONDITIONS, IMPROVEMENTS, BOUNDARY OR PROPERTY CORNERS AFTER THE DATE SHOWN HEREON SHALL NECESSITATE A NEW REVIEW AND CERTIFICATION FOR ANY OFFICIAL OR LEGAL USE.

DAVIS, BOWEN & FRIEDEL, INC.
by CHRISTOPHER D. WATERS, AGENT

CHRISTOPHER D. WATERS, REGISTERED, No. PLS S6-647, DELAWARE, PROFESSIONAL LAND SURVEYOR

3-21-21
DATE

CHRISTOPHER D. WATERS
PROFESSIONAL LAND SURVEYOR
DE NO. S6-547
EXPIRES: 6/30/21

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

BOUNDARY SURVEY PLAN of the Lands of HORSEY FAMILY LLC

E/S ASBURY ROAD
NANTICOKE HUNDRED
SUSSEX COUNTY, DELAWARE

Revisions:

Date: MARCH 2021
Scale: 1"=100'
Dwn.By: PAB
Proj.No.: 0700A035
Dwg.No.:

1 OF 1

S:\0700\0700A035 Borrow Pit Expansion\BOUNDARY-Parcel 21.00dwg.dwg Mar 21, 2021 - 12:45pm

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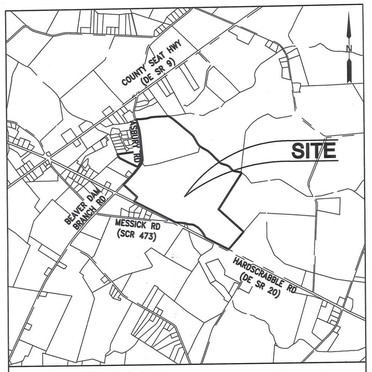
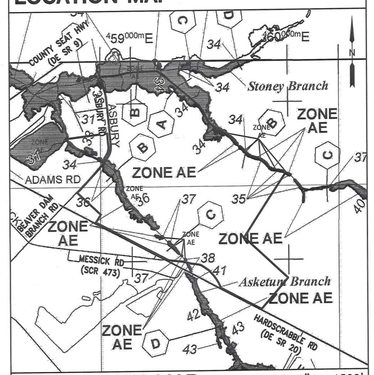
BORROW PIT EXPANSION

GEORGETOWN
NANTICOKE HUNDRED, SUSSEX COUNTY, DELAWARE
DBF # 0700A035
PRELIMINARY PLAN
JUNE, 2021

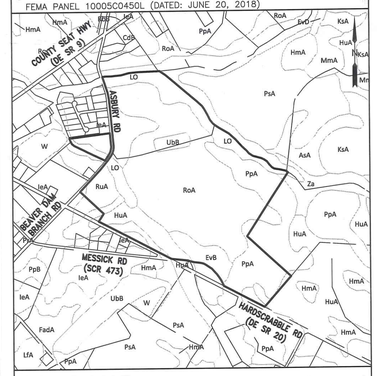
SHEET INDEX	
TITLE SHEET	PRE-01
PRELIMINARY PLAN	PRE-02



LOCATION MAP SCALE: 1" = 1/2-MILE



FLOODPLAIN MAP SCALE: 1" = 1500'
FEMA PANEL 10005C0450L (DATED: JUNE 20, 2018)



SOILS MAP SCALE: 1" = 1500'

AsA: ASKECKSY LOAMY SAND, 0 TO 2 PERCENT SLOPES
EvB: EVESBORO LOAMY SAND, 0 TO 5 PERCENT SLOPES
HmA: HAMMONTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
HuA: HURLOCK SANDY LOAM, 0 TO 2 PERCENT SLOPES
IeA: INGLESIDE LOAMY SAND, 0 TO 2 PERCENT SLOPES
LO: LONGMARSH AND INDIANTOWN SOILS, FREQUENTLY FLOODED
PpA: PEPPERBOX LOAMY SAND, 0 TO 2 PERCENT SLOPES
RoA: ROSEDALE LOAMY SAND, 0 TO 2 PERCENT SLOPES
RuA: RUNCLINT LOAMY SAND, 0 TO 2 PERCENT SLOPES
UbB: UDORTHENTS, BORROW AREA 0 TO 5 PERCENT SLOPES
W: WATER

DATA COLUMN

TAX MAP ID: 2-31-21.00-21.00
2-31-21.00-22.00

DATUM:
VERTICAL: NAVD 88
HORIZONTAL: NAD 83 (DE STATE PLANE)
PLUS #: 2017-06-04

LAND USE
EXISTING: AGRICULTURAL
PROPOSED: BORROW PIT

ZONING
EXISTING: AR

AREAS:
EXISTING SITE
SITE AREA: 202.518 AC.
WETLANDS (INCLUDED IN SITE AREA): 8.523 AC. (4.21%)

PROPOSED SITE
SITE AREA: 270.323 AC.
WETLANDS (INCLUDED IN SITE AREA): 22.432 AC. (8.30%)

TOTAL SITE AREA 270.323 AC.

FORESTED AREAS
EXISTING: 37.049 AC.
REMOVED: 29.469 AC.
TOTAL PRESERVED: 7.580 AC.

WETLANDS - THIS PROPERTY IS IMPACTED BY WETLANDS.

FLOODPLAIN - THE PROPERTY IS IMPACTED BY THE 100 YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0450L DATED JUNE 20, 2018.

THIS PROPERTY IS LOCATED SOUTHEAST OF THE INTERSECTION OF ASBURY ROAD AND HARDSCRABBLE ROAD (DE SR 20).

PROPERTY OWNER/DEVELOPER:
HORSEY FAMILY LLC.
28107 BEAVER DAM ROAD
LAUREL, DE. 19956
PHONE: 302-875-3033

ENGINEER:
DAVIS, BOWEN, & FRIEDEL, INC.
RING LARDNER, P.E.
1 PARK AVENUE
MILFORD, DE 19963
PHONE: 302-424-1441
FAX: 302-424-0430

OWNER'S STATEMENT

I, THE UNDERSIGNED, CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, AND THAT I ACKNOWLEDGE THE SAME TO BE ACT AND DESIRE THE PLAN TO BE RECORDED TO ORDINANCE.

HORSEY FAMILY LLC
28107 BEAVER DAM BRANCH RD
LAUREL, DE 19956

DATE

ENGINEER'S STATEMENT

I, RING W. LARDNER, HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

RING W. LARDNER
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DELAWARE, 19963

DATE

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS, ENGINEERS & SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

GENERAL NOTES:

1. BOUNDARY INFORMATION, EXISTING UTILITIES, AND TOPOGRAPHICAL INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD RUN SURVEY PERFORMED BY DAVIS, BOWEN AND FRIEDEL, INC. (DBF) MARCH 22, 2021 AND INFORMATION FOUND AT THE RECORDER OF DEEDS OFFICE FOR SUSSEX COUNTY.
2. THIS SITE IS IMPACTED BY THE 100-YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0450L DATED JUNE 20, 2018.
3. THIS PLAN DOES NOT VERIFY THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF EASEMENTS OR RIGHT-OF-WAYS CROSSING THE SUBJECT PROPERTY AS NO TITLE SEARCH WAS PERFORMED OR PROVIDED.
4. EXISTING UTILITIES ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THROUGH TEST PITTING, THE LOCATIONS, SIZE AND INVERT ELEVATIONS OF ALL UNDERGROUND UTILITIES AS REQUIRED TO GIVE TIMELY ADVANCE NOTICE TO ENGINEERS ANY CONFLICT BETWEEN EXISTING AND NEW WORK.
5. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-282-8555) AND SUSSEX COUNTY 48 HOURS PRIOR TO EXCAVATION TO HAVE UNDERGROUND UTILITIES MARKED. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS PRIOR TO EXCAVATION.
6. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT, LATEST EDITION, AND ALL RULES AND REGULATIONS THERETO.
7. PROPOSED PROJECT SITE WITHIN FLOOD ZONE X. INFORMATION OBTAINED FROM FEMA FIRM MAPS. MAP #10005C0450J DATED 1-6-2005.

CONDITIONAL USE #1741 CONDITIONS OF APPROVAL

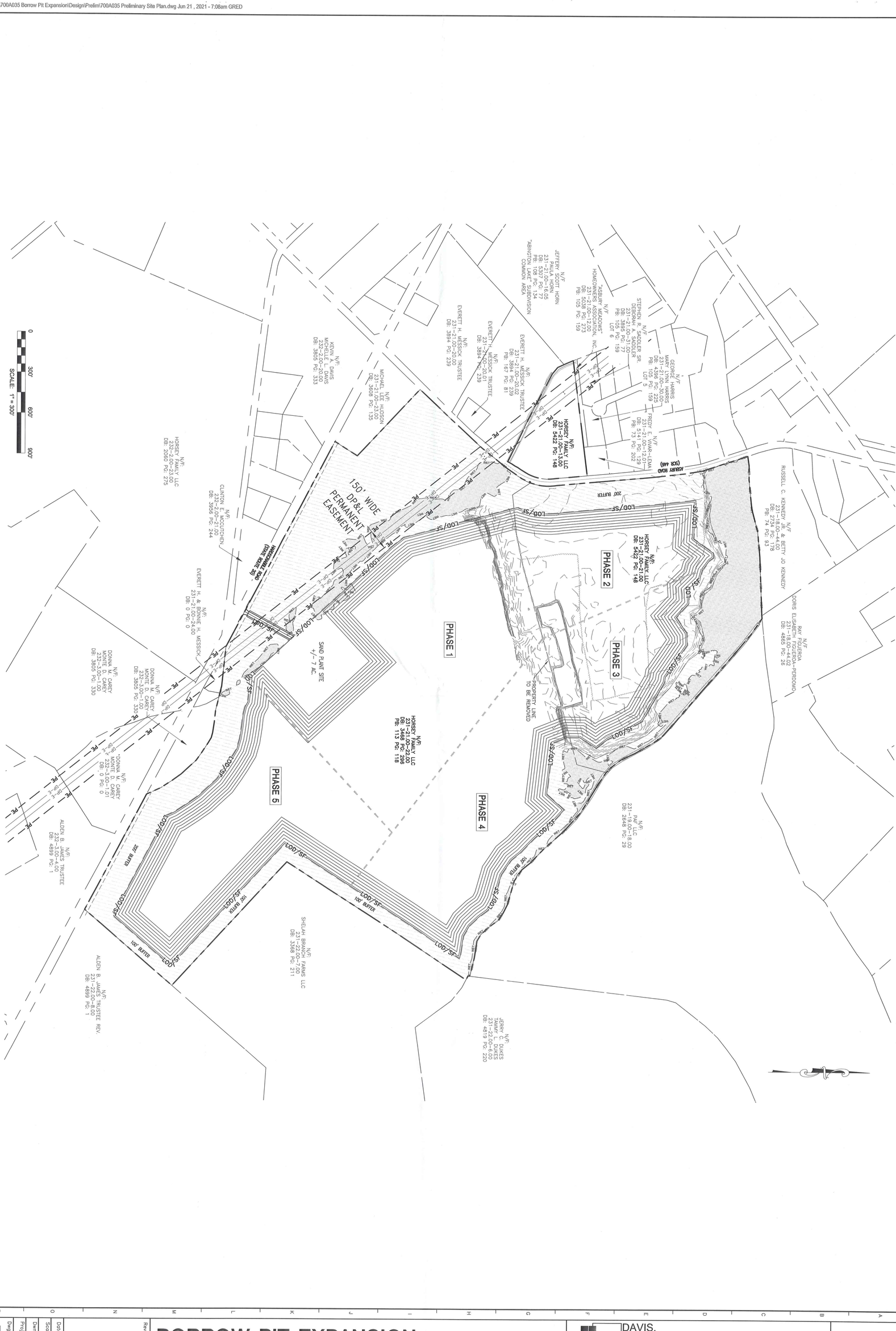
1. NO MATERIAL:S MAY BE BROUGHT FROM OFF THE SITE FOR PROCESSING, MIXING OR SIMILAR PURPOSES.
2. THE OPERATION OF THE BORROW PIT SHALL BE CONTROLLED TO PROVIDE REASONABLE PROTECTION SURROUNDING PROPERTIES AS FOLLOWS:
   a. A 200 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG THAT PORTION OF THE SITE WHICH ABUTS THE STATE ROUTE 20 (HARDSCRABBLE ROAD) AND THE ROUTE 446 (ASBURY ROAD) RIGHTS-OF-WAY. EXISTING VEGETATION AND TREES WITHIN THE BUFFER AREA BETWEEN THE PROPERTY LINE AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   b. A 100 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG ALL OTHER PERIMETER PROPERTY LINES WITHIN THE SITE. EXISTING VEGETATION BETWEEN THE PROPERTY LINES AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   c. A WATER TRUCK WILL BE AVAILABLE TO CONTROL OUST FROM INTERIOR TRUCKING TRAFFIC WHEN CONDITIONS REQUIRE.
3. HOURS OF OPERATION OF TRUCKING ACTIVITIES SHALL BE FROM 6:00 A.M. TO 6:00 P.M., MONDAY THROUGH FRIDAY, AND 6:00 A.M. TO 2:00 P.M. ON SATURDAY. THERE SHALL BE NO TRUCKING ACTIVITIES ON SUNDAY.
4. ENTRANCE IMPROVEMENTS REQUIRED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION IN CONNECTION WITH THIS LAND USE WILL BE COMPLETED BY THE APPLICANT.
5. THE BORROW PIT ENTRANCE SHALL HAVE A FENCED GATE, WHICH SHALL BE SECURED WHEN THE OPERATION IS CLOSED.
6. NO MATERIALS WILL BE STORED ON ANY ACCESS ROADS OR WITHIN ANY BUFFER AREAS.
7. SIGNAGE WILL BE PLACED AT APPROPRIATE LOCATIONS TO DESIGNATE PIT AREAS.
8. FUEL SHALL BE STORED IN STORAGE TANKS WITH CONFINEMENT AREAS AS REQUIRED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC) AND THE OFFICE OF THE STATE FIRE MARSHAL.
9. NO STUMPS, BRANCHES, DEBRIS OR SIMILAR ITEMS WILL BE BURIED ON THE SITE.
10. A FINAL SITE PLAN SHALL BE REVIEWED AND APPROVED BY THE. PLANNING AND ZONING COMMISSION PRIOR TO COMMENCEMENT OF OPERATIONS.
11. BEFORE ANY EXCAVATION OPERATIONS BEGIN, A COMPLETE ENVIRONMENTAL IMPACT STUDY AS DEFINED IN CONNECTION WITH ORDINANCE NO. 1310 WILL BE CONDUCTED AND PRESENTED WITH THE FINAL SITE PLAN.
12. OWNER SHALL COMPLY WITH ALL STATE AND COUNTY EROSION AND SEDIMENT CONTROL REGULATIONS.
13. OWNER SHALL BE RESPONSIBLE FOR MONITORING GROUND WATER QUALITY. SPECIFICALLY, OWNER SHALL INSTALL THREE WELLS, ONE ABOVE THE EXCAVATION, AND TWO BELOW THE EXCAVATION. MONITORING SHALL BE PERFORMED BY A LICENSED GEOLOGIST, AND THE RESULTS FILED ON AN ANNUAL BASIS WITH SUSSEX COUNTY AND THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC). OWNER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WATER QUALITY MONITORING. OWNER SHALL ALSO BE RESPONSIBLE FOR THE COST OF CORRECTING ADVERSE IMPACTS ON WATER QUALITY WHICH MAY BE OCCASIONED BY THE EXCAVATION OPERATION. NECESSARY REMEDIATION SHALL BE DETERMINED BY SUSSEX COUNTY, WITH GUIDANCE FROM THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL.
14. RECLAMATION PLANS SHALL INDICATE FINISHED GRADING, SEEDING, AND PLANTING SCHEDULES DESIGNED TO CREATE A PLEASING APPEARANCE. RECLAMATION WILL BE COMPLETED IN PHASES AS EXCAVATION OPERATIONS IN A SECTION ARE COMPLETED. APPLICANT WILL NOTIFY THE PLANNING AND ZONING DEPARTMENT IN WRITING ON OR ABOUT APRIL 1 ST OF EACH YEAR AS TO THE STATUS OF THE RECLAMATION AND RECLAMATION PLANS FOR THE FOLLOWING YEAR.
15. THE 199.5 ACRE PARCEL SHALL BE DIVIDED INTO THREE (3) PHASES OF 45 ACRES EACH. PHASE TWO WILL NOT BE STARTED UNTIL 75% OF PHASE ONE IS COMPLETED. PHASE THREE WILL NOT BE STARTED UNTIL 75% OF PHASE TWO IS COMPLETED. THE EXCAVATED AREA SHALL NOT EXCEED 135 ACRES.
16. THE DREDGE MAY OPERATE 24 HOURS PER DAY, BUT NO FRONT-END LOADERS, BACKHOES, OR OTHER CONSTRUCTION EQUIPMENT WITH SAFETY BUZZERS WILL OPERATE AFTER 10:00 P.M.
17. EVERY FIVE (5) YEARS AFTER THE START OF DIGGING, THE PLANNING AND ZONING DEPARTMENT SHALL PERFORM AN INSPECTION OF THE SITE, AND SHALL REQUEST WRITTEN COMMENTS FROM ALL APPROPRIATE STATE AGENCIES SO THAT THE PLANNING AND ZONING COMMISSION CAN REVIEW THE COMMENTS TO VERIFY COMPLIANCE WITH ALL THEN-EXISTING REGULATIONS. AFTER TWENTY (20) YEARS, THE PROPERTY OWNER SHALL COMPLETE AND PAY FOR AN ENVIRONMENTAL IMPACT STUDY, AS THE PHASE IS DEFINED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, OR ANY SUCCESSOR. UPON CERTIFICATION BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL OF THE OWNERS' COMPLIANCE WITH THEN-EXISTING REGULATIONS, THE PERMIT SHALL BE EXTENDED FOR AN ADDITIONAL TEN (10) YEARS. THE PERMIT SHALL TERMINATE UPON THE EXPIRATION OF FORTY (40) YEARS FROM THE DATE OF ENACTMENT.
18. TRUCKING VEHICLES SHALL BE PROHIBITED FROM USING ROAD 446 (ASBURY ROAD). THE ENTRANCE TO THE BORROW PIT SHALL BE FROM ROUTE 20 (HARDSCRABBLE ROAD).
19. NO DEWATERING ACTIVITIES WILL OCCUR ON SITE.

LEGEND

EXISTING		PROPOSED	
RIGHT-OF-WAY	EX-RW	RIGHT-OF-WAY / BOUNDARY LINE	
ADJACENT PROPERTY OWNER		PROPERTY LINE	
EASEMENT		SETBACK	
CONTOUR	33	EASEMENT	
CATCH BASIN, STORM PIPE		BUFFER	
DELMARVA POWER LINES	DP-E	SANITARY SEWER IDENTIFICATION, MANHOLE, PIPE, FLOW ARROW, PIPE SIZE	8SS
SANITARY SEWER MANHOLE, PIPE	EX-SS	WATER MAIN, TEE W/ VALVES, PIPE SIZE	8W
WATER MAIN	EX-W	FIRE HYDRANT ASSEMBLY	
FIRE HYDRANT ASSEMBLY		TREE LINE	
UTILITY POLE		PAVEMENT	
SIGN		SIDEWALK	
FENCE	X		
TREE			
TREE LINE			
WETLANDS	WET		
PAVEMENT			

PRE-01

P:\Horsey\700A035 Borrow Pit Expansion\Design\Prelim\700A035 Preliminary Site Plan.dwg Jun 21 , 2021 - 7:08am GRED



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PRE-02

Date: JUNE 2021
Scale: 1" = 300'
Dwn. By: DEG
Proj. No.: 700A035
Dwg No.:

Revisions:

BORROW PIT EXPANSION

NANTICOKE HUNDRED

GEORGETOWN, SUSSEX COUNTY, DELAWARE

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

PRELIMINARY SITE PLAN

Applicant Exhibit

FILE COPY
Received at Public Hearing
5.26.2022

HORSEY FAMILY, LLC

PROPOSED FINDINGS OF FACTS & CONDITIONS OF APPROVAL
C.U. No. 2294

Findings of Fact

1. This is an application for a Conditional Use in an AR-1 Agricultural Residential District for the excavation of a 62.204± acre borrow pit, extraction, processing and removal of sand, gravel or stone, from a property being located in Nanticoke Hundred, Sussex County, Delaware and situated on the east side of Asbury Road (S.C.R. 446), south of County Seat Highway (Rt. 9), also being known as Sussex County Tax District 2-31, Map 21.00, Parcel 21.00.

2. The subject property is owned by the applicant, Horsey Family, LLC, a Delaware limited liability company.

3. The property is presently partially used for agricultural purposes and partially wooded.

4. The property is adjacent to a 199.5± tract, known as Sussex County Tax District 2-31, Map 21.00, Parcel 22.00 which is subject to the provisions of Conditional Use No. 1741, Ordinance No. 2021 for borrow pit excavation.

5. Thus, the present application is a proposed expansion of the existing Conditional Use on the adjacent property.

6. The immediate area surrounding this property is primarily agricultural lands with some residential homes.

7. The property is zoned AR-1 (Agricultural Residential District). All of the surrounding properties in the immediate area are also zoned AR-1 (Agricultural Residential District).

8. On the 2045 Future Land Use Map in the 2018 Sussex County Comprehensive Plan, the property is identified for purposes of future land use as being within a Low Density Area, a "Rural Area." The properties that immediately surround this property are also in the Low Density Area.

9. The 2020 Delaware Strategies for State Policies and Spending identify the property as being located within an Investment Level 4 area. The proposed conditional use does not require public funds for the proposed use and instead provides basic construction components for projects in the more active Investment Level areas.

10. The proposed conditional use will not increase the congestion of roads or streets as confirmed by DelDOT in its response to the Service Level Evaluation Request, which stated that, pursuant to its Memorandum of Understanding for Land Development Coordination with Sussex

County, the proposed conditional use borrow pit would have a "Diminutive" impact, which means that it will create less than 50 vehicle trips per day.

11. Any site plan will require DelDOT review and approval to provide for safe vehicular and pedestrian movement within the site and this expansion proposes to use the existing entrance on Hardscrabble Road (Rt. 20).

12. This conditional use application is subject to the provisions of Articles IV through XX, § 115-22 and § 115-172 of the Zoning Code.

13. The purpose of a Conditional Use is to provide for certain uses which cannot otherwise be well adjusted to their environment in particular locations with full protection offered to surrounding properties by rigid application of the district regulations.

14. A borrow pit use is generally of a public or semipublic character and is essential and desirable for the general convenience and welfare but, because of the nature of the use, the importance of its relationship to the Comprehensive Plan and possible impact on neighboring properties, requires the exercise of planning judgment on location and site plan.

15. The granting of this application will provide a borrow pit for the processing and removal of sand, gravel, and stone, to be used in the construction of private and public works projects in the immediate area and throughout Sussex County.

16. The proposed use complies with Sussex County Code ARTICLE XXIV, Section 115-172 B. which contains Sussex County's "Special Requirements" relating to excavation or backfilling of borrow pits, extraction, processing and removal of sand, gravel or stone, stripping of topsoil (but not including stripping of sod) and other major excavations, provided that:

a. *No material may be brought from off the site for processing, mixing or similar purposes.*

The applicant will comply with this requirement and no offsite materials will be brought to the site for processing, etc.

b. *The excavating, extraction or filling operation shall be controlled to offer reasonable protection to surrounding properties and the neighborhood, particularly as regards to odors, dust, air or water pollution and uses of roads or streets providing access to the site.*

The applicant designed the project so that the existing entrance, intersection, and roadway improvements, which were completed in accordance with all DelDOT requirements will be used for the expansion of the existing borrow pit.

The proposed access is the existing entrance located on Hardscrabble Road (Rt. 20).

c. *The location of the excavation, extraction or filling with respect to property lines, the depth of excavation or filling and relation to the water table or flood criteria and the slope of the sides of the excavation shall be controlled to prevent a continuing unsightly, hazardous or wasteful condition of the land.*

The proposed pit is greater than 100 feet from all property lines.

The proposed pit is surrounded by woodlands, agricultural lands and a small number of residential homes.

The proposed pit will have a 4:1 side slope down to a 10-foot level bench that will be approximately near or 1-foot below the static water surface.

The depth of the water in the proposed borrow pit will not exceed 100 feet.

Only the trees within the area of the proposed pit will be disturbed. All other existing trees will remain as they are on the property.

Wetlands are located on the property and the applicant proposes a buffer of 100 feet from those wetlands.

There are no known endangered species located onsite.

d. *The Borrow Pit shall be surrounded by a landscaped unexcavated buffer strip of open space a minimum distance of 100 feet from any street lines and a minimum distance of 50 feet from all other property lines. The buffer strip shall remain free of any buildings or streets.*

The proposed expansion of the Borrow Pit is greater than 50 feet from property lines, as the plans submitted with the application show a minimum 100-foot landscaped buffer around the entire proposed Borrow Pit.

The proposed borrow pit will be located approximately 200 feet from Asbury Road (the nearest public road) which exceeds the 100-foot minimum requirement.

e. *The Borrow Pit shall be at least 200 feet from any dwelling on property of other ownership.*

All excavation of the proposed pit will occur more than 200' from any adjacent dwellings.

f. *Prior to issuance of a notice to proceed with development of the Borrow Pit, a site plan shall be submitted to the Commission for review. The site plan shall*

be prepared in compliance with this subsection, Article XXVIII of this chapter and the following:

i. *Site plans shall designate existing site conditions, proposed excavation area and proposed reclamation plans.*

The preliminary site plan submitted shows these features and the applicant intends to comply with this requirement during the approval process.

ii. *Approvals shall be required to be submitted from the appropriate governmental agency for ingress/egress and erosion/sediment control.*

If any additional entrance, intersection and roadway improvements shall be completed by the applicant in accordance with all DelDOT requirements.

The stormwater management control system shall meet or exceed the requirements of Sussex Conservation District and DNREC through a combination of Best Management Practices (BMP) and Best Available Technologies (BAT).

17. Potable drinking water will be provided for on-site.

18. Sanitary Sewer will be provided through the use of a Delaware State Licensed Port-O-Potty company. No onsite wastewater disposal system will be needed for the proposed pit.

19. The reclamation plan for this borrow pit is that, upon completion, it will be a wildlife pond for fish and fowl.

20. The proposed conditional use meets the general purpose of the Zoning Ordinance and the Comprehensive Plan as it is being located in an appropriate location providing sufficient area for a use of this nature which in other locations may not be able to be as well adjusted to its environment.

21. Through the placement of appropriate conditions of approval, the impact of the borrow pit on neighboring properties will be significantly reduced.

22. The proposed project meets the purpose of the Zoning Ordinance in that it promotes the orderly growth, convenience, order, prosperity and welfare of the County.

23. The conditional use requested will promote the health and safety of the inhabitants of Sussex County and is essential and desirable for the general convenience, orderly growth, prosperity and welfare of the County, particularly for any projects that have been or may be approved for development.

Conditional Use 2294 - Conditions of Approval

Approval is subject to the following conditions:

A. No materials shall be brought from off the site for processing, mixing or similar purposes.

B. Water or a water truck shall be available to control dust from road traffic when conditions require.

C. The entrance to the expansion of the existing pit shall utilize the existing entrance on Hardscrabble Road. There shall be no entrance on S.C.R. 446 (Asbury Road). The entrance on Hardscrabble Road shall be fenced or gated to prevent access. All entrances shall be secured when the borrow pit is not in operation.

D. Any additional roadway and entrance improvements required by DelDOT shall be completed by the Applicant as required and in accordance with all DelDOT requirements.

E. The Applicant shall comply with all State and County erosion and sediment control regulations. The project will meet or exceed stormwater management system regulations set forth by the Sussex Conservation District and DNREC through a combination of Best Management Practices (BMP) and Best Available Technologies (BAT). The final site plan shall contain the approval of Sussex County Conservation District for the design and location of all stormwater management areas and erosion and sedimentation control facilities.

F. The hours of operation shall be between 6 a.m. and 6 p.m. Monday thru Friday and between 6 a.m. and 2 p.m. on Saturdays. No Sunday hours shall be permitted.

G. No materials shall be stored on any access roads or within any buffers.

H. No fuel shall be stored on-site.

I. No stumps, branches, debris or similar items shall be buried or placed in the borrow pit site.

J. The proposed pit will have a 4:1 side slope down to a 10 foot level bench that will be approximately near or 1 foot below the static water surface. Below the water level the borrow pit shall have 3:1 slopes. The depth of the water in the proposed borrow pit will not exceed 100 feet.

K. A final site plan, including all pit slopes, excavation phasing, and reclamation plans shall be reviewed and approved by the Planning and Zoning Commission prior to the commencement of operations. Reclamation plans shall indicate finished grading, seeding and planting schedules designed to create a pleasing appearance and protect existing and future developments.

L. Permanent concrete markers and signs shall be placed at appropriate locations to designate the boundaries of the subject property and pit areas. The boundary markers shall be raised and marked so that they are clearly visible to anyone nearing the site.

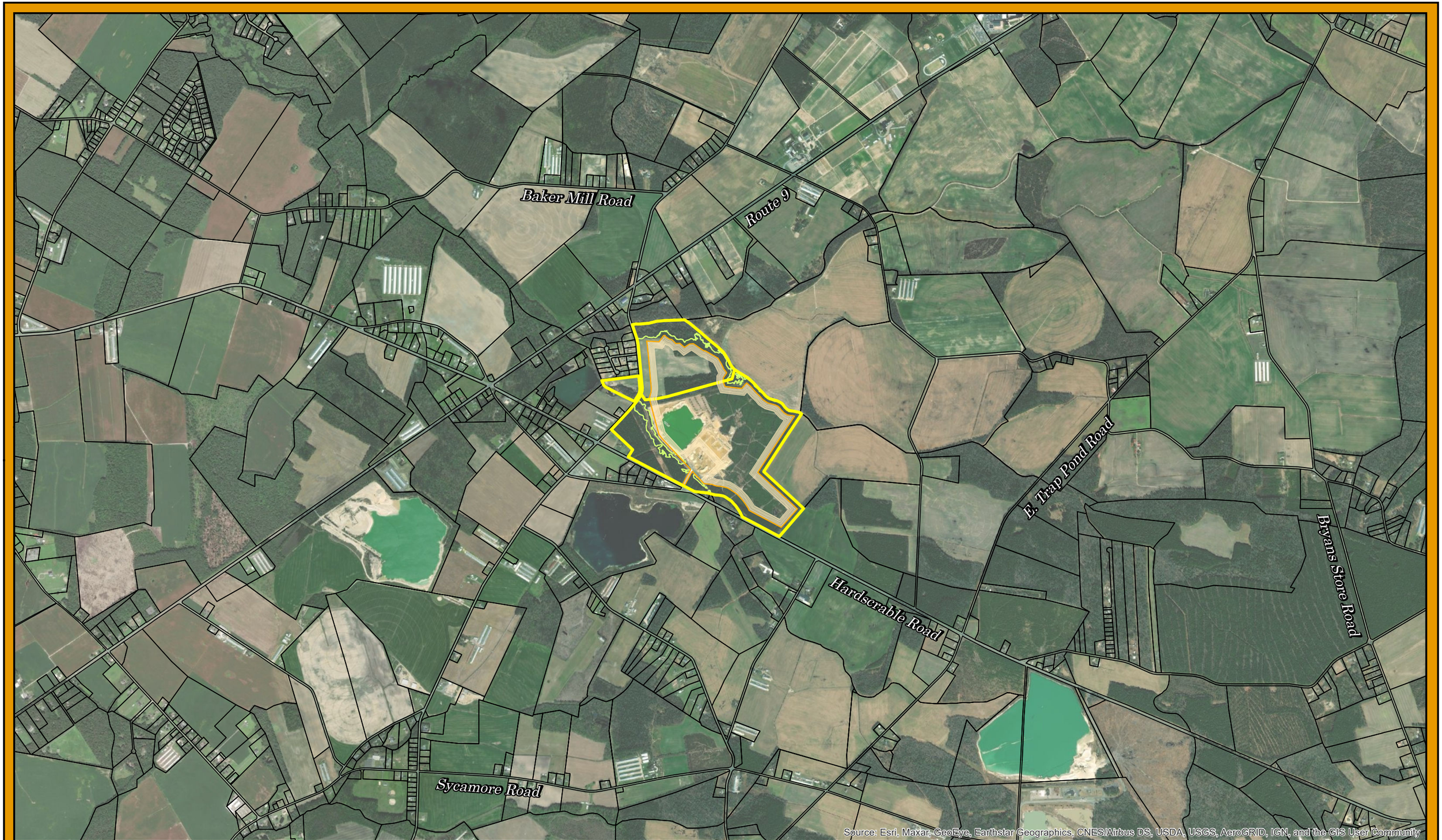
M. The borrow pit shall be surrounded by a buffer strip a minimum distance of 100 feet from any street lines, 200 feet from any dwelling of other ownership, and 50 feet from all other property lines of other ownership. The buffer area shall be a vegetated buffer of existing vegetation or native species vegetation.

N. No wetlands on the site shall be disturbed and the pit shall be located at least 100 feet from all delineated wetlands.

O. This approval shall terminate upon the expiration of fifty (50) years from the date of enactment.

P. Any safety lights shall be screened downward, so they do not shine on neighboring properties or roadways.

Q. The final site plan shall be subject to the review and approval of the Sussex County Planning and Zoning Commission.



Sources:
Tax Parcels per Sussex County

N
W E
S

February 2022

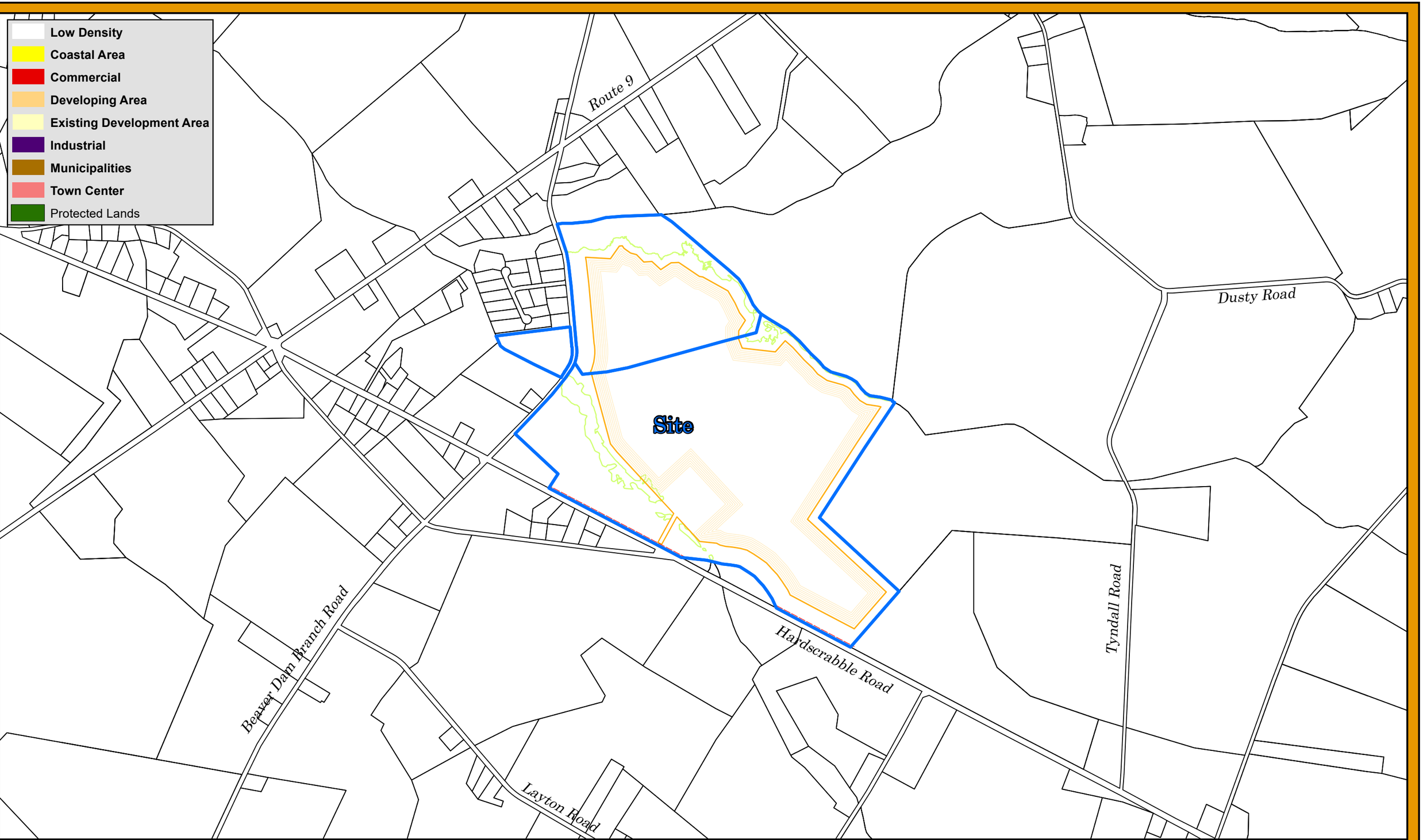
Surrounding Communities Map

Borrow Pit Expansion

Sussex County, Delaware

0 2,000 4,000 Feet

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS • ENGINEERS • SURVEYORS



Sources:
Tax Parcels per Sussex County

N
W E
S

February 2022

Sussex County 2045 Future Land Use Map

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS • ENGINEERS • SURVEYORS

- Agricultural - AR-1
- Agricultural - AR-2
- Medium Residential - MR
- General Residential - GR
- High Density Residential - HR2
- Vacation, Retire, Resident - VRP
- Neighborhood Business - B-1
- Business Community -B-2
- General Commercial - C-1
- Heavy Commercial - C-3
- Commercial Residential
- Marine - M
- Limited Industrial-LI1
- Light Industrial - LI-2
- Heavy Industrial - HI-1

Route 9

Dusty Road

Site

Beaver Dam Branch Road

Hardscrabble Road

Tyndall Road

Layton Road

Sources:
Tax Parcels per Sussex County

N
W E
S

February 2022

Sussex County Zoning Map

Borrow Pit Expansion

Sussex County, Delaware

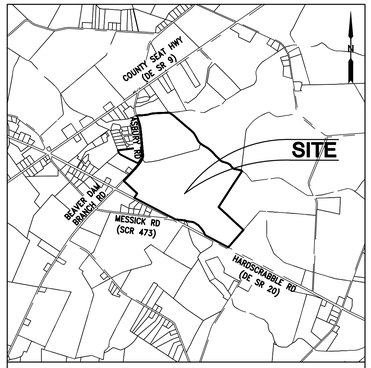
0 800 1,600 Feet

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS • ENGINEERS • SURVEYORS

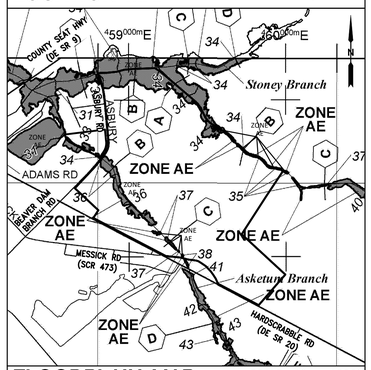
BORROW PIT EXPANSION

GEORGETOWN
NANTICOKE HUNDRED, SUSSEX COUNTY, DELAWARE
DBF # 0700A035
PRELIMINARY PLAN
JUNE, 2021

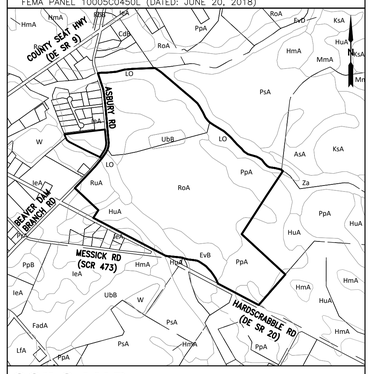
SHEET INDEX	
TITLE SHEET	PRE-01
PRELIMINARY PLAN	PRE-02



LOCATION MAP SCALE: 1" = 1/2-MILE



FLOODPLAIN MAP SCALE: 1" = 1500'
FEMA PANEL 10005C0450L (DATED: JUNE 20, 2018)



SOILS MAP SCALE: 1" = 1500'

AsA: ASKECKSY LOAMY SAND, 0 TO 2 PERCENT SLOPES
EvB: EVESBORO LOAMY SAND, 0 TO 5 PERCENT SLOPES
HmA: HAMMONTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
HuA: HURLOCK SANDY LOAM, 0 TO 2 PERCENT SLOPES
IeA: INGLESIDE LOAMY SAND, 0 TO 2 PERCENT SLOPES
LO: LONGMARSH AND INDIANTOWN SOILS, FREQUENTLY FLOODED
PpA: PEPPERBOX LOAMY SAND, 0 TO 2 PERCENT SLOPES
RoA: ROSEDALE LOAMY SAND, 0 TO 2 PERCENT SLOPES
RuA: RUNCLINT LOAMY SAND, 0 TO 2 PERCENT SLOPES
UbB: UDORTHENTS, BORROW AREA 0 TO 5 PERCENT SLOPES
W: WATER

DATA COLUMN

TAX MAP ID: 2-31-21.00-21.00, 2-31-21.00-22.00

DATUM:
VERTICAL: NAVD 88
HORIZONTAL: NAD 83 (DE STATE PLANE)
PLUS #: 2017-06-04

LAND USE
EXISTING: AGRICULTURAL
PROPOSED: BORROW PIT

ZONING
EXISTING: AR

AREAS:
EXISTING SITE
SITE AREA: 199.500 AC.
WETLANDS (INCLUDED IN SITE AREA): 8.523 AC. (4.27%)

PROPOSED SITE EXPANSION
SITE AREA: 62.204 AC.
WETLANDS (INCLUDED IN SITE AREA): 13.909 AC. (22.36%)

TOTAL COMBINED SITE AREA 261.704 AC.

FORESTED AREAS
EXISTING: 37.049 AC.
REMOVED: 29.469 AC.
TOTAL PRESERVED: 7.580 AC.

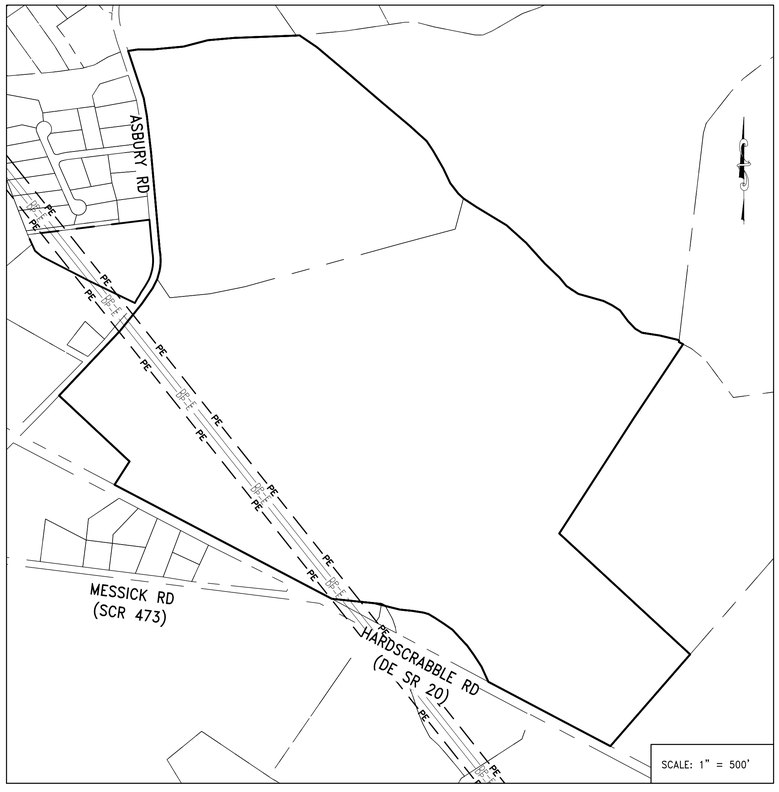
WETLANDS - THIS PROPERTY IS IMPACTED BY WETLANDS.

FLOODPLAIN - THE PROPERTY IS IMPACTED BY THE 100 YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0450L DATED JUNE 20, 2018.

THIS PROPERTY IS LOCATED SOUTHEAST OF THE INTERSECTION OF ASBURY ROAD AND HARDSCRABBLE ROAD (DE SR 20).

PROPERTY OWNER/DEVELOPER:
HORSEY FAMILY LLC.
28107 BEAVER DAM ROAD
LAUREL, DE. 19956
PHONE: 302-875-3033

ENGINEER:
DAVIS, BOWEN, & FRIEDEL, INC.
RING LARDNER, P.E.
1 PARK AVENUE
MILFORD, DE 19963
PHONE: 302-424-1441
FAX: 302-424-0430



GENERAL NOTES:

1. BOUNDARY INFORMATION, EXISTING UTILITIES, AND TOPOGRAPHICAL INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD RUN SURVEY PERFORMED BY DAVIS, BOWEN AND FRIEDEL, INC. (DBF) MARCH 22, 2021 AND INFORMATION FOUND AT THE RECORDER OF DEEDS OFFICE FOR SUSSEX COUNTY.
2. THIS SITE IS IMPACTED BY THE 100-YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0450L DATED JUNE 20, 2018.
3. THIS PLAN DOES NOT VERIFY THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF EASEMENTS OR RIGHT-OF-WAYS CROSSING THE SUBJECT PROPERTY AS NO TITLE SEARCH WAS PERFORMED OR PROVIDED.
4. EXISTING UTILITIES ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THROUGH TEST PITTING, THE LOCATIONS, SIZE AND INVERT ELEVATIONS OF ALL UNDERGROUND UTILITIES AS REQUIRED TO GIVE TIMELY ADVANCE NOTICE TO ENGINEERS ANY CONFLICT BETWEEN EXISTING AND NEW WORK.
5. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-282-8555) AND SUSSEX COUNTY 48 HOURS PRIOR TO EXCAVATION TO HAVE UNDERGROUND UTILITIES MARKED. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS PRIOR TO EXCAVATION.
6. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT, LATEST EDITION, AND ALL RULES AND REGULATIONS THERETO.
7. PROPOSED PROJECT SITE WITHIN FLOOD ZONE X. INFORMATION OBTAINED FROM FEMA FIRM MAPS. MAP #10005C0450J DATED 1-6-2005.

CONDITIONAL USE #1741 CONDITIONS OF APPROVAL

1. NO MATERIAL.S MAY BE BROUGHT FROM OFF THE SITE FOR PROCESSING, MIXING OR SIMILAR PURPOSES.
2. THE OPERATION OF THE BORROW PIT SHALL BE CONTROLLED TO PROVIDE REASONABLE PROTECTION SURROUNDING PROPERTIES AS FOLLOWS:
   a. A 200 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG THAT PORTION OF THE SITE WHICH ABUTS THE STATE ROUTE 20 (HARDSCRABBLE ROAD) AND THE ROUTE 446 (ASBURY ROAD) RIGHTS-OF-WAY. EXISTING VEGETATION AND TREES WITHIN THE BUFFER AREA BETWEEN THE PROPERTY LINE AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   b. A 100 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG ALL OTHER PERIMETER PROPERTY LINES WITHIN THE SITE. EXISTING VEGETATION BETWEEN THE PROPERTY LINES AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   c. A WATER TRUCK WILL BE AVAILABLE TO CONTROL OUST FROM INTERIOR TRUCKING TRAFFIC WHEN CONDITIONS REQUIRE.
3. HOURS OF OPERATION OF TRUCKING ACTIVITIES SHALL BE FROM 6:00 A.M. TO 6:00 P.M., MONDAY THROUGH FRIDAY, AND 6:00 A.M. TO 2:00 P.M. ON SATURDAY. THERE SHALL BE NO TRUCKING ACTIVITIES ON SUNDAY.
4. ENTRANCE IMPROVEMENTS REQUIRED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION IN CONNECTION WITH THIS LAND USE WILL BE COMPLETED BY THE APPLICANT.
5. THE BORROW PIT ENTRANCE SHALL HAVE A FENCED GATE, WHICH SHALL BE SECURED WHEN THE OPERATION IS CLOSED.
6. NO MATERIALS WILL BE STORED ON ANY ACCESS ROADS OR WITHIN ANY BUFFER AREAS.
7. SIGNAGE WILL BE PLACED AT APPROPRIATE LOCATIONS TO DESIGNATE PIT AREAS.
8. FUEL SHALL BE STORED IN STORAGE TANKS WITH CONFINEMENT AREAS AS REQUIRED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC) AND THE OFFICE OF THE STATE FIRE MARSHAL.
9. NO STUMPS, BRANCHES, DEBRIS OR SIMILAR ITEMS WILL BE BURIED ON THE SITE.
10. A FINAL SITE PLAN SHALL BE REVIEWED AND APPROVED BY THE. PLANNING AND ZONING COMMISSION PRIOR TO COMMENCEMENT OF OPERATIONS.
11. BEFORE ANY EXCAVATION OPERATIONS BEGIN, A COMPLETE ENVIRONMENTAL IMPACT STUDY AS DEFINED IN CONNECTION WITH ORDINANCE NO. 1310 WILL BE CONDUCTED AND PRESENTED WITH THE FINAL SITE PLAN.
12. OWNER SHALL COMPLY WITH ALL STATE AND COUNTY EROSION AND SEDIMENT CONTROL REGULATIONS.
13. OWNER SHALL BE RESPONSIBLE FOR MONITORING GROUND WATER QUALITY. SPECIFICALLY, OWNER SHALL INSTALL THREE WELLS, ONE ABOVE THE EXCAVATION, AND TWO BELOW THE EXCAVATION. MONITORING SHALL BE PERFORMED BY A LICENSED GEOLOGIST, AND THE RESULTS FILED ON AN ANNUAL BASIS WITH SUSSEX COUNTY AND THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, (DNREC). OWNER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WATER QUALITY MONITORING. OWNER SHALL ALSO BE RESPONSIBLE FOR THE COST OF CORRECTING ADVERSE IMPACTS ON WATER QUALITY WHICH MAY BE OCCASIONED BY THE EXCAVATION OPERATION. NECESSARY REMEDIATION SHALL BE DETERMINED BY SUSSEX COUNTY, WITH GUIDANCE FROM THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL.
14. RECLAMATION PLANS SHALL INDICATE FINISHED GRADING, SEEDING, AND PLANTING SCHEDULES DESIGNED TO CREATE A PLEASING APPEARANCE. RECLAMATION WILL BE COMPLETED IN PHASES AS EXCAVATION OPERATIONS IN A SECTION ARE COMPLETED. APPLICANT WILL NOTIFY THE PLANNING AND ZONING DEPARTMENT IN WRITING ON OR ABOUT APRIL 1 ST OF EACH YEAR AS TO THE STATUS OF THE RECLAMATION AND RECLAMATION PLANS FOR THE FOLLOWING YEAR.
15. THE 199.5 ACRE PARCEL SHALL BE DIVIDED INTO THREE (3) PHASES OF 45 ACRES EACH. PHASE TWO WILL NOT BE STARTED UNTIL 75% OF PHASE ONE IS COMPLETED. PHASE THREE WILL NOT BE STARTED UNTIL 75% OF PHASE TWO IS COMPLETED. THE EXCAVATED AREA SHALL NOT EXCEED 135 ACRES.
16. THE DREDGE MAY OPERATE 24 HOURS PER DAY, BUT NO FRONT-END LOADERS, BACKHOES, OR OTHER CONSTRUCTION EQUIPMENT WITH SAFETY BUZZERS WILL OPERATE AFTER 10:00 P.M.
17. EVERY FIVE (5) YEARS AFTER THE START OF DIGGING, THE PLANNING AND ZONING DEPARTMENT SHALL PERFORM AN INSPECTION OF THE SITE, AND SHALL REQUEST WRITTEN COMMENTS FROM ALL APPROPRIATE STATE AGENCIES SO THAT THE PLANNING AND ZONING COMMISSION CAN REVIEW THE COMMENTS TO VERIFY COMPLIANCE WITH ALL THEN-EXISTING REGULATIONS. AFTER TWENTY (20) YEARS, THE PROPERTY OWNER SHALL COMPLETE AND PAY FOR AN ENVIRONMENTAL IMPACT STUDY, AS THE PHASE IS DEFINED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, OR ANY SUCCESSOR. UPON CERTIFICATION BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL OF THE OWNERS' COMPLIANCE WITH THEN-EXISTING REGULATIONS, THE PERMIT SHALL BE EXTENDED FOR AN ADDITIONAL TEN (10) YEARS. THE PERMIT SHALL TERMINATE UPON THE EXPIRATION OF FORTY (40) YEARS FROM THE DATE OF ENACTMENT.
18. TRUCKING VEHICLES SHALL BE PROHIBITED FROM USING ROAD 446 (ASBURY ROAD). THE ENTRANCE TO THE BORROW PIT SHALL BE FROM ROUTE 20 (HARDSCRABBLE ROAD).
19. NO DEWATERING ACTIVITIES WILL OCCUR ON SITE.

OWNER'S STATEMENT

I, THE UNDERSIGNED, CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, AND THAT I ACKNOWLEDGE THE SAME TO BE ACT AND DESIRE THE PLAN TO BE RECORDED TO ORDINANCE.

HORSEY FAMILY LLC
28107 BEAVER DAM BRANCH RD
LAUREL, DE 19956

DATE

ENGINEER'S STATEMENT

I, RING W. LARDNER, HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

RING W. LARDNER
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DELAWARE, 19963

DATE

LEGEND

EXISTING		PROPOSED	
RIGHT-OF-WAY	EX-RW	RIGHT-OF-WAY / BOUNDARY LINE	
ADJACENT PROPERTY OWNER		PROPERTY LINE	
EASEMENT		SETBACK	
CONTOUR	33	EASEMENT	
CATCH BASIN, STORM PIPE		BUFFER	
DELMARVA POWER LINES	DP-E	SANITARY SEWER IDENTIFICATION, MANHOLE, PIPE, FLOW ARROW, PIPE SIZE	8SS
SANITARY SEWER MANHOLE, PIPE	EX-SS	WATER MAIN, TEE W/ VALVES, PIPE SIZE	8W
WATER MAIN	EX-W	FIRE HYDRANT ASSEMBLY	
FIRE HYDRANT ASSEMBLY		TREE LINE	
UTILITY POLE		PAVEMENT	
SIGN		SIDEWALK	
FENCE			
TREE			
TREE LINE			
WETLANDS	WET		
PAVEMENT			

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS, ENGINEERS & SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

REVISIONS:
2022-05-15: UPDATE DATA COLUMN

PRE-01

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

PRELIMINARY SITE PLAN

BORROW PIT EXPANSION

NANTICOKE HUNDRED
GEORGETOWN, SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JUNE 2021
Scale:	1" = 300'
Dwn.By:	DEG
Proj.No.:	0700A035
Dwg.No.:	PRE-02

P:\Horsey\700A035 Borrow Pit Expansion\Design\Prelim\700A035 Preliminary Site Plan.dwg Jun 21, 2021 - 7:08am GRED

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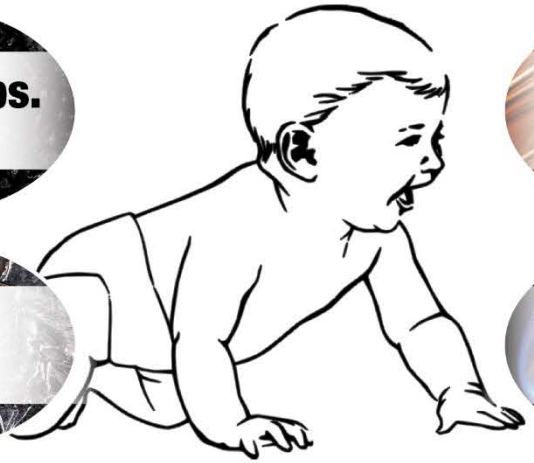
Every American Born Will Need...

2.96 MILLION POUNDS

of minerals, metals, and fuels in their lifetime



- **2,069 lbs.** BAUXITE (ALUMINUM)
- **52,757 lbs.** CEMENT
- **11,379 lbs.** CLAYS
- **223,973 lbs.** COAL
- **828 lbs.** COPPER
- **1.51 Troy oz.** GOLD
- **17,068 lbs.** IRON ORE
- **776 lbs.** LEAD
- **7.67 million cu. ft.** NATURAL GAS
- **65,170 gallons** PETROLEUM
- **13,448 lbs.** PHOSPHATE ROCK
- **27,413 lbs.** SALT
- **1.32M lbs.** STONE, SAND & GRAVEL
- **445 lbs.** ZINC
- **+54,137 lbs.** OTHER MINERALS/ METALS

©2021 Minerals Education Coalition

Learn more at **www.MineralsEducationCoalition.org**

EVERY YEAR:

38,272 pounds of new minerals must be provided for every person in the United States to make the things we use daily

10,188 lbs. **Stone** is used to make roads, buildings, bridges, landscaping and other construction uses, and for numerous chemical uses.

6,912 lbs. **Sand and Gravel** are used to make concrete, asphalt, roads, blocks and bricks.

682 lbs. **Cement** is used to make roads, sidewalks, bridges, buildings, schools and houses.

221 lbs. **Iron Ore** is used to make steel for buildings, cars, trucks, planes, trains, and for other construction and containers.

355 lbs. **Salt** is used in various chemicals, for highway deicing, and in food and agriculture.

174 lbs. **Phosphate Rock** is used to make fertilizers to grow food and in animal feed supplements.

147 lbs. **Clays** are used to make floor and wall tile, dinnerware, kitty litter, bricks, cement and paper.

27 lbs. **Aluminum (from bauxite)** is used to make buildings, beverage containers, autos and airplanes.

11 lbs. **Copper** is used in buildings, electrical and electronic parts, plumbing and in transportation.

10 lbs. **Lead**—75% is used for transportation, and it is used in batteries, electrical equipment and in communications.

6 lbs. **Zinc** is used to make metals rust-resistant, to make various metals and alloys, paints, rubber, and in skin creams, health care and nutritional supplements.

27 lbs. **Soda Ash** is used in all kinds of glass, powdered detergents, medicines, as a food additive, and for water treatment.

3 lbs. **Manganese** is used to make almost all steel for construction, and in machinery and transportation.

547 lbs. **Other Nonmetals** are used in glass, chemicals, soaps, paper, computers, cell phones, and more.

20 lbs. **Other Metals** are used in electronics, TV and video equipment, recreation equipment, and more.

Including These Energy Fuels

- 843 gallons of Petroleum
- 99,204 cu. ft. of Natural Gas
- 2,897 lbs. of Coal
- 0.15 lb. of Uranium

To generate the energy each person uses in one year—

MEC
Minerals Education Coalition

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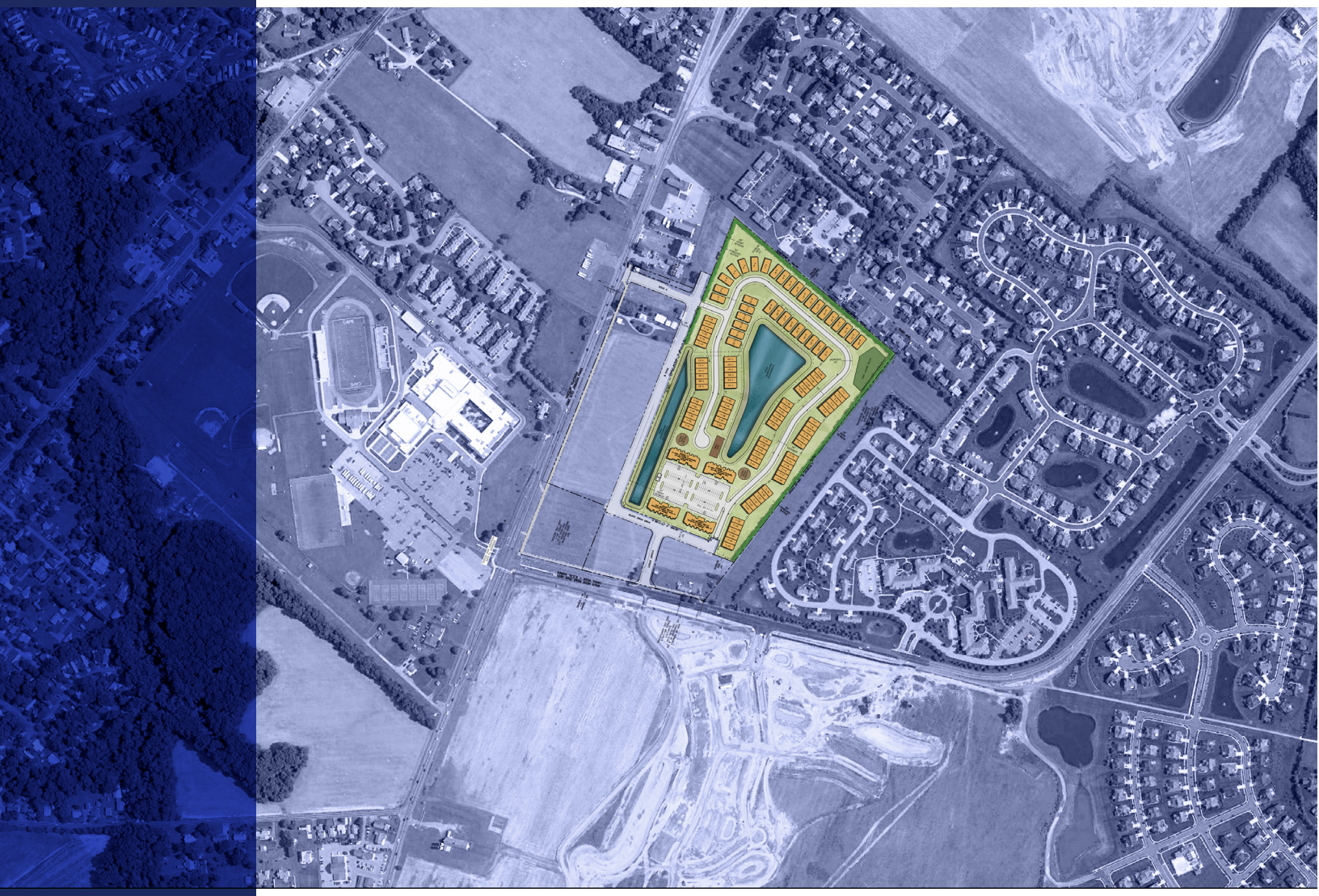
www.MineralsEducationCoalition.org
Society for Mining, Metallurgy & Exploration Foundation

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS · ENGINEERS · PLANNERS · SURVEYORS



Borrow Pit Expansion

LEWES & REHOBOTH HUNDRED

CU #1741

Sussex County, Delaware

0700A035

May 2022

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2. Conditional Use 1741 (Ordinance No. 2021) – May 8, 2008

3. Time Extension (Ordinance No. 2208) – August 9, 2011

4. Record Site Plan for Conditional Use 1741

5. DelDOT Approval – only have plans – approved 9-17-2012

6. DelDOT SFR Response

7. 2021 Minerals Education Coalition

Executive Summary

A. Land Use & Zoning

1. The project is an expansion of an existing Borrow Pit.

2. The property is located north of Hardscrabble Road / SR-20 (SCR 20) and the intersection of Messick Road (SCR 473). The property is bounded on the north and east by agricultural lands and Asbury Road to the west. The property is bounded on the south by the existing borrow pit. (conditional use 1741)

3. The Owner of the parcels existing and expansion area is Horsey Family, LLC.

4. The property is currently zoned AR-1 (Agricultural Residential) in Sussex County.

5. The property is in Investment Level Area 4 of the 2020 State Strategies Map.

6. The property is located in the Low-Density Area of the 2045 Future Land Use Map.

B. Land Utilization

1. The total acreage of the expansion is 62.201 ± acres of land.

2. The expanded borrow pit will include a 200-foot buffer from Asbury Road and a 100-foot buffer from wetlands.

3. The expanded borrow pit will utilize the existing entrance off of Hardscrabble Road.

C. Environmental

1. The property does contain wetlands and a 100-foot buffer is proposed.

2. There are no known archaeological sites within the project boundaries. There are no national historic listed properties within the project boundaries.

3. The proposed project is not located within a Source Water Protection Area, it is not within an excellent Groundwater Recharge Area nor is it within a Wellhead Protection Area.

4. The existing property is located within the Chesapeake Bay Watershed. The Watershed has an established Total Maximum Daily Load (TMDL) and a watershed implementation plan. The proposed project will not discharge stormwater and will comply in all respects with the requirements of the watershed.

D. Traffic

1. A Support Facilities Report was completed for this project. DelDOT found that the development's proposed traffic impact would be diminutive.

E. Civil Engineering

1. Additional roads or accesses are not required for the proposed expansion.

2. The grading of the site will be designed to prevent runoff from the site and meet all applicable regulations.

3. There will be no water or sewer service provided to the site.

4. The expansion area is centrally located between Seaford, Laurel, and Georgetown Fire Departments.

Hardscrabble Borrow Pit Extension
Data Sheet

Owner/Developer:	Horsey Family, LLC
Engineer:	Davis, Bowen & Friedel, Inc.
Legal Services:	Morris James, LLP

Project Description

Physical Location:	Asbury Road, Seaford South of Route 9, north of Hardscrabble Road
Tax Parcel #:	231-21.00-21.00 (Expansion area) & 231-21.00-22.00 (Existing area)
Acreage:	62.204 / 199.500± Acres
Current Zoning:	AR-1 (Agricultural Residential)
Proposed Zoning:	AR-1 (Agricultural Residential)– Conditional Use
Existing Use:	Agricultural (Expansion area) / Borrow Pit (Existing area)
Proposed Use:	Borrow Pit

Areas:

Existing Site

Site Area:	199.500 acres
Wetlands (included in site area):	8.523 acres

Expansion Area:

Site Area:	62.204 acres
Wetlands (included in site area):	13.909 acres

Combined Site

Site Area:	261.704 acres
Wetlands (included in site area):	22.432 acres

Forested Area:

Existing:	37.049± acres
Removed:	17.049± acres
Preserved:	20.000± acres

File #: _____

Planning & Zoning Commission Application
Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

Type of Application: (please check applicable)
Conditional Use ✓
Zoning Map Amendment ___

Site Address of Conditional Use/Zoning Map Amendment

Asbury Road, Seaford, South of Route 9 and east of Hardscrabble Road

Type of Conditional Use Requested:

Extension of an existing borrow pit by adding 62.204+/- acres and modifying the conditions of CU 1741 (Ordinance No. 2021)(copy attached) for the existing borrow pit on an adjacent property.

Tax Map #: 231-21.00-21.00 **Size of Parcel(s):** 62.204+/-

Current Zoning: AR **Proposed Zoning:** AR **Size of Building:** _____

Land Use Classification: Agricultural

Water Provider: None **Sewer Provider:** None

Applicant Information

Applicant Name: Horsey Family, LLC
Applicant Address: 28107 Beaver Dam Branch Road
City: Laurel State: DE ZipCode: 19956
Phone #: (302) 875-3033 E-mail: rcerklefsk@aol.com

Owner Information

Owner Name: Horsey Family, LLC
Owner Address: 28107 Beaver Dam Branch Road
City: Laurel State: DE Zip Code: 19956
Phone #: (302) 875-3033 E-mail: rcerklefsk@aol.com

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: Ring W. Lardner, c/o Davis, Bowen & Friedel,Inc.
Agent/Attorney/Engineer Address: 1 Park Ave
City: Milford State: DE Zip Code: 19963
Phone #: (302) 424-1441 E-mail: rwl@dbfinc.com

EQUAL HOUSING OPPORTUNITY

Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

✓ **Completed Application**

✓ **Provide eight (8) copies of the Site Plan or Survey of the property**

- Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
- Provide a PDF of Plans (may be e-mailed to a staff member)
- Deed or Legal description

✓ **Provide Fee $500.00**

___ **Optional - Additional information for the Commission/Council to consider** (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

✓ **Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.**

✓ **DelDOT Service Level Evaluation Request Response**

___ **PLUS Response Letter** (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on by behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

_____ Date: 6/22/2021

Signature of Owner

Robert E Hagy Date: 6/20/2021

For office use only:

Date Submitted: _____ Fee: $500.00 Check #: _____

Staff accepting application: _____ Application & Case #: _____

Location of property: _____

_____

Subdivision: _____

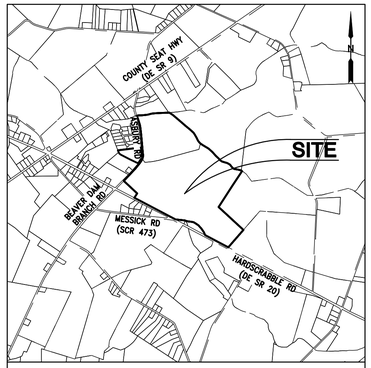
Date of PC Hearing: _____ Recommendation of PC Commission: _____

Date of CC Hearing: _____ Decision of CC: _____

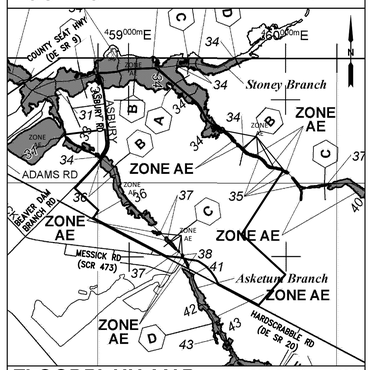
BORROW PIT EXPANSION

GEORGETOWN
NANTICOKE HUNDRED, SUSSEX COUNTY, DELAWARE
DBF # 0700A035
PRELIMINARY PLAN
JUNE, 2021

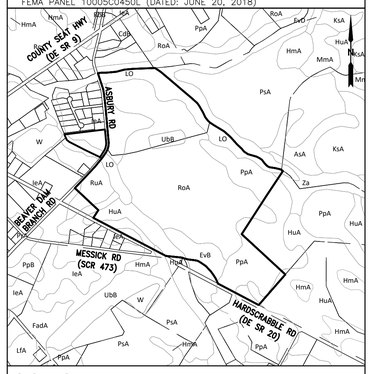
SHEET INDEX	
TITLE SHEET	PRE-01
PRELIMINARY PLAN	PRE-02



LOCATION MAP SCALE: 1" = 1/2-MILE



FLOODPLAIN MAP SCALE: 1" = 1500'
FEMA PANEL 10005C0450L (DATED: JUNE 20, 2018)



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EvB: EVESBORO LOAMY SAND, 0 TO 5 PERCENT SLOPES
HmA: HAMMONTON SANDY LOAM, 0 TO 2 PERCENT SLOPES
HuA: HURLOCK SANDY LOAM, 0 TO 2 PERCENT SLOPES
IeA: INGLESIDE LOAMY SAND, 0 TO 2 PERCENT SLOPES
LO: LONGMARSH AND INDIANTOWN SOILS, FREQUENTLY FLOODED
PpA: PEPPERBOX LOAMY SAND, 0 TO 2 PERCENT SLOPES
RoA: ROSEDALE LOAMY SAND, 0 TO 2 PERCENT SLOPES
RuA: RUNCLINT LOAMY SAND, 0 TO 2 PERCENT SLOPES
UbB: UDORTHENTS, BORROW AREA 0 TO 5 PERCENT SLOPES
W: WATER

DATA COLUMN

TAX MAP ID: 2-31-21.00-21.00, 2-31-21.00-22.00

DATUM:
VERTICAL: NAVD 88
HORIZONTAL: NAD 83 (DE STATE PLANE)
PLUS #: 2017-06-04

LAND USE
EXISTING: AGRICULTURAL
PROPOSED: BORROW PIT

ZONING
EXISTING: AR

AREAS:
EXISTING SITE
SITE AREA: 199.500 AC.
WETLANDS (INCLUDED IN SITE AREA): 8.523 AC. (4.27%)

PROPOSED SITE EXPANSION
SITE AREA: 62.204 AC.
WETLANDS (INCLUDED IN SITE AREA): 13.909 AC. (22.36%)

TOTAL COMBINED SITE AREA 261.704 AC.

FORESTED AREAS
EXISTING: 37.049 AC.
REMOVED: 29.469 AC.
TOTAL PRESERVED: 7.580 AC.

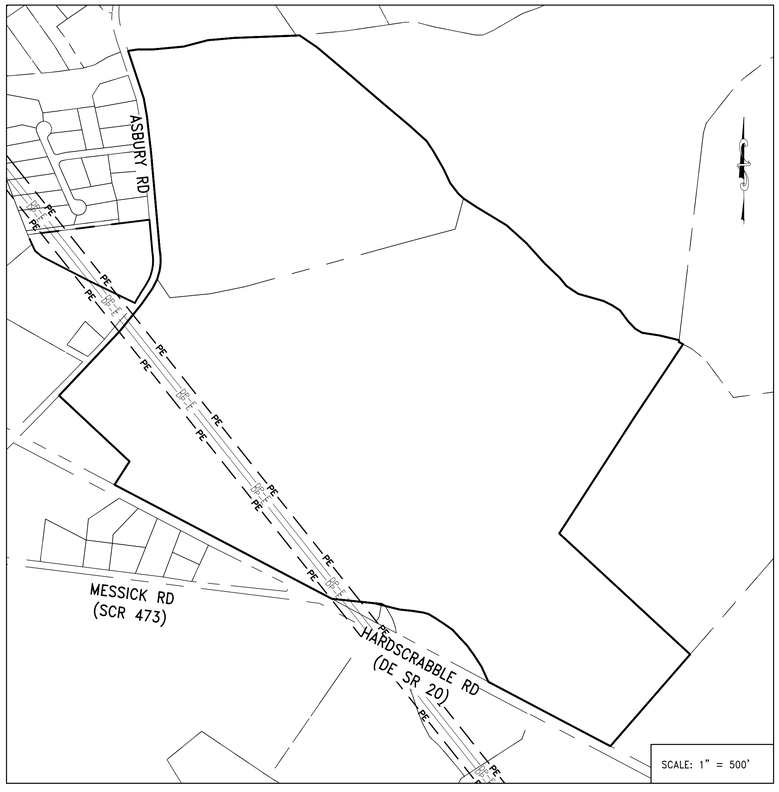
WETLANDS - THIS PROPERTY IS IMPACTED BY WETLANDS.

FLOODPLAIN - THE PROPERTY IS IMPACTED BY THE 100 YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0450L DATED JUNE 20, 2018.

THIS PROPERTY IS LOCATED SOUTHEAST OF THE INTERSECTION OF ASBURY ROAD AND HARDSCRABBLE ROAD (DE SR 20).

PROPERTY OWNER/DEVELOPER:
HORSEY FAMILY LLC.
28107 BEAVER DAM ROAD
LAUREL, DE. 19956
PHONE: 302-875-3033

ENGINEER:
DAVIS, BOWEN, & FRIEDEL, INC.
RING LARDNER, P.E.
1 PARK AVENUE
MILFORD, DE 19963
PHONE: 302-424-1441
FAX: 302-424-0430



GENERAL NOTES:

1. BOUNDARY INFORMATION, EXISTING UTILITIES, AND TOPOGRAPHICAL INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD RUN SURVEY PERFORMED BY DAVIS, BOWEN AND FRIEDEL, INC. (DBF) MARCH 22, 2021 AND INFORMATION FOUND AT THE RECORDER OF DEEDS OFFICE FOR SUSSEX COUNTY.
2. THIS SITE IS IMPACTED BY THE 100-YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0450L DATED JUNE 20, 2018.
3. THIS PLAN DOES NOT VERIFY THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF EASEMENTS OR RIGHT-OF-WAYS CROSSING THE SUBJECT PROPERTY AS NO TITLE SEARCH WAS PERFORMED OR PROVIDED.
4. EXISTING UTILITIES ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THROUGH TEST PITTING, THE LOCATIONS, SIZE AND INVERT ELEVATIONS OF ALL UNDERGROUND UTILITIES AS REQUIRED TO GIVE TIMELY ADVANCE NOTICE TO ENGINEERS ANY CONFLICT BETWEEN EXISTING AND NEW WORK.
5. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-282-8555) AND SUSSEX COUNTY 48 HOURS PRIOR TO EXCAVATION TO HAVE UNDERGROUND UTILITIES MARKED. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS PRIOR TO EXCAVATION.
6. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT, LATEST EDITION, AND ALL RULES AND REGULATIONS THERETO.
7. PROPOSED PROJECT SITE WITHIN FLOOD ZONE X. INFORMATION OBTAINED FROM FEMA FIRM MAPS. MAP #10005C0450J DATED 1-6-2005.

CONDITIONAL USE #1741 CONDITIONS OF APPROVAL

1. NO MATERIAL.S MAY BE BROUGHT FROM OFF THE SITE FOR PROCESSING, MIXING OR SIMILAR PURPOSES.
2. THE OPERATION OF THE BORROW PIT SHALL BE CONTROLLED TO PROVIDE REASONABLE PROTECTION SURROUNDING PROPERTIES AS FOLLOWS:
   a. A 200 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG THAT PORTION OF THE SITE WHICH ABUTS THE STATE ROUTE 20 (HARDSCRABBLE ROAD) AND THE ROUTE 446 (ASBURY ROAD) RIGHTS-OF-WAY. EXISTING VEGETATION AND TREES WITHIN THE BUFFER AREA BETWEEN THE PROPERTY LINE AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   b. A 100 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG ALL OTHER PERIMETER PROPERTY LINES WITHIN THE SITE. EXISTING VEGETATION BETWEEN THE PROPERTY LINES AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   c. A WATER TRUCK WILL BE AVAILABLE TO CONTROL OUST FROM INTERIOR TRUCKING TRAFFIC WHEN CONDITIONS REQUIRE.
3. HOURS OF OPERATION OF TRUCKING ACTIVITIES SHALL BE FROM 6:00 A.M. TO 6:00 P.M., MONDAY THROUGH FRIDAY, AND 6:00 A.M. TO 2:00 P.M. ON SATURDAY. THERE SHALL BE NO TRUCKING ACTIVITIES ON SUNDAY.
4. ENTRANCE IMPROVEMENTS REQUIRED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION IN CONNECTION WITH THIS LAND USE WILL BE COMPLETED BY THE APPLICANT.
5. THE BORROW PIT ENTRANCE SHALL HAVE A FENCED GATE, WHICH SHALL BE SECURED WHEN THE OPERATION IS CLOSED.
6. NO MATERIALS WILL BE STORED ON ANY ACCESS ROADS OR WITHIN ANY BUFFER AREAS.
7. SIGNAGE WILL BE PLACED AT APPROPRIATE LOCATIONS TO DESIGNATE PIT AREAS.
8. FUEL SHALL BE STORED IN STORAGE TANKS WITH CONFINEMENT AREAS AS REQUIRED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC) AND THE OFFICE OF THE STATE FIRE MARSHAL.
9. NO STUMPS, BRANCHES, DEBRIS OR SIMILAR ITEMS WILL BE BURIED ON THE SITE.
10. A FINAL SITE PLAN SHALL BE REVIEWED AND APPROVED BY THE. PLANNING AND ZONING COMMISSION PRIOR TO COMMENCEMENT OF OPERATIONS.
11. BEFORE ANY EXCAVATION OPERATIONS BEGIN, A COMPLETE ENVIRONMENTAL IMPACT STUDY AS DEFINED IN CONNECTION WITH ORDINANCE NO. 1310 WILL BE CONDUCTED AND PRESENTED WITH THE FINAL SITE PLAN.
12. OWNER SHALL COMPLY WITH ALL STATE AND COUNTY EROSION AND SEDIMENT CONTROL REGULATIONS.
13. OWNER SHALL BE RESPONSIBLE FOR MONITORING GROUND WATER QUALITY. SPECIFICALLY, OWNER SHALL INSTALL THREE WELLS, ONE ABOVE THE EXCAVATION, AND TWO BELOW THE EXCAVATION. MONITORING SHALL BE PERFORMED BY A LICENSED GEOLOGIST, AND THE RESULTS FILED ON AN ANNUAL BASIS WITH SUSSEX COUNTY AND THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, (DNREC). OWNER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WATER QUALITY MONITORING. OWNER SHALL ALSO BE RESPONSIBLE FOR THE COST OF CORRECTING ADVERSE IMPACTS ON WATER QUALITY WHICH MAY BE OCCASIONED BY THE EXCAVATION OPERATION. NECESSARY REMEDIATION SHALL BE DETERMINED BY SUSSEX COUNTY, WITH GUIDANCE FROM THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL.
14. RECLAMATION PLANS SHALL INDICATE FINISHED GRADING, SEEDING, AND PLANTING SCHEDULES DESIGNED TO CREATE A PLEASING APPEARANCE. RECLAMATION WILL BE COMPLETED IN PHASES AS EXCAVATION OPERATIONS IN A SECTION ARE COMPLETED. APPLICANT WILL NOTIFY THE PLANNING AND ZONING DEPARTMENT IN WRITING ON OR ABOUT APRIL 1 ST OF EACH YEAR AS TO THE STATUS OF THE RECLAMATION AND RECLAMATION PLANS FOR THE FOLLOWING YEAR.
15. THE 199.5 ACRE PARCEL SHALL BE DIVIDED INTO THREE (3) PHASES OF 45 ACRES EACH. PHASE TWO WILL NOT BE STARTED UNTIL 75% OF PHASE ONE IS COMPLETED. PHASE THREE WILL NOT BE STARTED UNTIL 75% OF PHASE TWO IS COMPLETED. THE EXCAVATED AREA SHALL NOT EXCEED 135 ACRES.
16. THE DREDGE MAY OPERATE 24 HOURS PER DAY, BUT NO FRONT-END LOADERS, BACKHOES, OR OTHER CONSTRUCTION EQUIPMENT WITH SAFETY BUZZERS WILL OPERATE AFTER 10:00 P.M.
17. EVERY FIVE (5) YEARS AFTER THE START OF DIGGING, THE PLANNING AND ZONING DEPARTMENT SHALL PERFORM AN INSPECTION OF THE SITE, AND SHALL REQUEST WRITTEN COMMENTS FROM ALL APPROPRIATE STATE AGENCIES SO THAT THE PLANNING AND ZONING COMMISSION CAN REVIEW THE COMMENTS TO VERIFY COMPLIANCE WITH ALL THEN-EXISTING REGULATIONS. AFTER TWENTY (20) YEARS, THE PROPERTY OWNER SHALL COMPLETE AND PAY FOR AN ENVIRONMENTAL IMPACT STUDY, AS THE PHASE IS DEFINED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, OR ANY SUCCESSOR. UPON CERTIFICATION BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL OF THE OWNERS' COMPLIANCE WITH THEN-EXISTING REGULATIONS, THE PERMIT SHALL BE EXTENDED FOR AN ADDITIONAL TEN (10) YEARS. THE PERMIT SHALL TERMINATE UPON THE EXPIRATION OF FORTY (40) YEARS FROM THE DATE OF ENACTMENT.
18. TRUCKING VEHICLES SHALL BE PROHIBITED FROM USING ROAD 446 (ASBURY ROAD). THE ENTRANCE TO THE BORROW PIT SHALL BE FROM ROUTE 20 (HARDSCRABBLE ROAD).
19. NO DEWATERING ACTIVITIES WILL OCCUR ON SITE.

OWNER'S STATEMENT

I, THE UNDERSIGNED, CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, AND THAT I ACKNOWLEDGE THE SAME TO BE ACT AND DESIRE THE PLAN TO BE RECORDED TO ORDINANCE.

HORSEY FAMILY LLC
28107 BEAVER DAM BRANCH RD
LAUREL, DE 19956

DATE

ENGINEER'S STATEMENT

I, RING W. LARDNER, HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

RING W. LARDNER
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DELAWARE, 19963

DATE

LEGEND

EXISTING		PROPOSED	
RIGHT-OF-WAY	EX-RW	RIGHT-OF-WAY / BOUNDARY LINE	
ADJACENT PROPERTY OWNER		PROPERTY LINE	
EASEMENT		SETBACK	
CONTOUR	33	EASEMENT	
CATCH BASIN, STORM PIPE		BUFFER	
DELMARVA POWER LINES	DP-E	SANITARY SEWER IDENTIFICATION, MANHOLE, PIPE, FLOW ARROW, PIPE SIZE	8SS
SANITARY SEWER MANHOLE, PIPE	EX-SS	WATER MAIN, TEE W/ VALVES, PIPE SIZE	8W
WATER MAIN	EX-W	FIRE HYDRANT ASSEMBLY	
FIRE HYDRANT ASSEMBLY		TREE LINE	
UTILITY POLE		PAVEMENT	
SIGN		SIDEWALK	
FENCE			
TREE			
TREE LINE			
WETLANDS	WET		
PAVEMENT			

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS, ENGINEERS & SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

REVISIONS:
2022-05-15: UPDATE DATA COLUMN

PRE-01

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

PRELIMINARY SITE PLAN

BORROW PIT EXPANSION

NANTICOKE HUNDRED
GEORGETOWN, SUSSEX COUNTY, DELAWARE

Revisions:

Date:	JUNE 2021
Scale:	1" = 300'
Dwn.By:	DEG
Proj.No.:	0700A035
Dwg.No.:	PRE-02

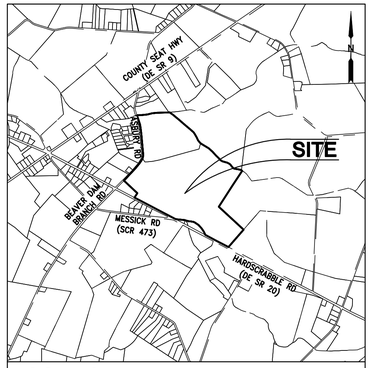
P:\Horsey\700A035 Borrow Pit Expansion\Design\Prelim\700A035 Preliminary Site Plan.dwg Jun 21, 2021 - 7:08am GRED

THIS DRAWING, THE DESIGN AND CONSTRUCTION FEATURES DISCLOSED ARE PROPRIETARY TO DAVIS, BOWEN & FRIEDEL, INC., AND SHALL NOT BE ALTERED OR REUSED WITHOUT WRITTEN PERMISSION. COPYRIGHT ©2021

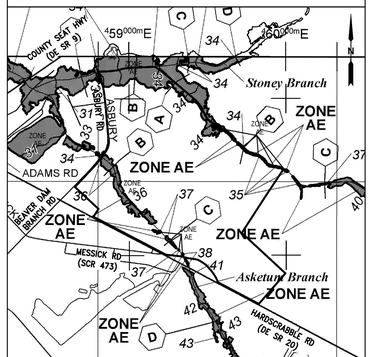
BORROW PIT EXPANSION

GEORGETOWN
NANTICOKE HUNDRED, SUSSEX COUNTY, DELAWARE
DBF # 0700A035
PRELIMINARY PLAN
JUNE, 2021

SHEET INDEX	
TITLE SHEET	PRE-01
PRELIMINARY PLAN	PRE-02



LOCATION MAP SCALE: 1" = 1/2-MILE



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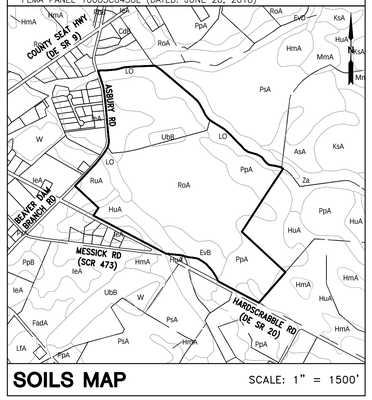

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DATA COLUMN

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2-31-21.00-22.00

DATUM:
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PLUS #: 2017-06-04

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PROPOSED: BORROW PIT

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EXISTING: AR

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PROPERTY OWNER/DEVELOPER:
HORSEY FAMILY LLC.
28107 BEAVER DAM ROAD
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ENGINEER:
DAVIS, BOWEN, & FRIEDEL, INC.
RING LARDNER, P.E.
1 PARK AVENUE
MILFORD, DE 19963
PHONE: 302-424-1441
FAX: 302-424-0430

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3. THIS PLAN DOES NOT VERIFY THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF EASEMENTS OR RIGHT-OF-WAYS CROSSING THE SUBJECT PROPERTY AS NO TITLE SEARCH WAS PERFORMED OR PROVIDED.
4. EXISTING UTILITIES ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THROUGH TEST PITTING, THE LOCATIONS, SIZE AND INVERT ELEVATIONS OF ALL UNDERGROUND UTILITIES AS REQUIRED TO GIVE TIMELY ADVANCE NOTICE TO ENGINEERS ANY CONFLICT BETWEEN EXISTING AND NEW WORK.
5. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-282-8555) AND SUSSEX COUNTY 48 HOURS PRIOR TO EXCAVATION TO HAVE UNDERGROUND UTILITIES MARKED. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS PRIOR TO EXCAVATION.
6. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT, LATEST EDITION, AND ALL RULES AND REGULATIONS THERETO.
7. PROPOSED PROJECT SITE WITHIN FLOOD ZONE X. INFORMATION OBTAINED FROM FEMA FIRM MAPS. MAP #10005C0450J DATED 1-6-2005.

CONDITIONAL USE #1741 CONDITIONS OF APPROVAL

1. NO MATERIAL.S MAY BE BROUGHT FROM OFF THE SITE FOR PROCESSING, MIXING OR SIMILAR PURPOSES.
2. THE OPERATION OF THE BORROW PIT SHALL BE CONTROLLED TO PROVIDE REASONABLE PROTECTION SURROUNDING PROPERTIES AS FOLLOWS:
   a. A 200 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG THAT PORTION OF THE SITE WHICH ABUTS THE STATE ROUTE 20 (HARDSCRABBLE ROAD) AND THE ROUTE 446 (ASBURY ROAD) RIGHTS-OF-WAY. EXISTING VEGETATION AND TREES WITHIN THE BUFFER AREA BETWEEN THE PROPERTY LINE AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   b. A 100 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG ALL OTHER PERIMETER PROPERTY LINES WITHIN THE SITE. EXISTING VEGETATION BETWEEN THE PROPERTY LINES AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   c. A WATER TRUCK WILL BE AVAILABLE TO CONTROL OUST FROM INTERIOR TRUCKING TRAFFIC WHEN CONDITIONS REQUIRE.
3. HOURS OF OPERATION OF TRUCKING ACTIVITIES SHALL BE FROM 6:00 A.M. TO 6:00 P.M., MONDAY THROUGH FRIDAY, AND 6:00 A.M. TO 2:00 P.M. ON SATURDAY. THERE SHALL BE NO TRUCKING ACTIVITIES ON SUNDAY.
4. ENTRANCE IMPROVEMENTS REQUIRED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION IN CONNECTION WITH THIS LAND USE WILL BE COMPLETED BY THE APPLICANT.
5. THE BORROW PIT ENTRANCE SHALL HAVE A FENCED GATE, WHICH SHALL BE SECURED WHEN THE OPERATION IS CLOSED.
6. NO MATERIALS WILL BE STORED ON ANY ACCESS ROADS OR WITHIN ANY BUFFER AREAS.
7. SIGNAGE WILL BE PLACED AT APPROPRIATE LOCATIONS TO DESIGNATE PIT AREAS.
8. FUEL SHALL BE STORED IN STORAGE TANKS WITH CONFINEMENT AREAS AS REQUIRED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC) AND THE OFFICE OF THE STATE FIRE MARSHAL.
9. NO STUMPS, BRANCHES, DEBRIS OR SIMILAR ITEMS WILL BE BURIED ON THE SITE.
10. A FINAL SITE PLAN SHALL BE REVIEWED AND APPROVED BY THE. PLANNING AND ZONING COMMISSION PRIOR TO COMMENCEMENT OF OPERATIONS.
11. BEFORE ANY EXCAVATION OPERATIONS BEGIN, A COMPLETE ENVIRONMENTAL IMPACT STUDY AS DEFINED IN CONNECTION WITH ORDINANCE NO. 1310 WILL BE CONDUCTED AND PRESENTED WITH THE FINAL SITE PLAN.
12. OWNER SHALL COMPLY WITH ALL STATE AND COUNTY EROSION AND SEDIMENT CONTROL REGULATIONS.
13. OWNER SHALL BE RESPONSIBLE FOR MONITORING GROUND WATER QUALITY. SPECIFICALLY, OWNER SHALL INSTALL THREE WELLS, ONE ABOVE THE EXCAVATION, AND TWO BELOW THE EXCAVATION. MONITORING SHALL BE PERFORMED BY A LICENSED GEOLOGIST, AND THE RESULTS FILED ON AN ANNUAL BASIS WITH SUSSEX COUNTY AND THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC). OWNER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WATER QUALITY MONITORING. OWNER SHALL ALSO BE RESPONSIBLE FOR THE COST OF CORRECTING ADVERSE IMPACTS ON WATER QUALITY WHICH MAY BE OCCASIONED BY THE EXCAVATION OPERATION. NECESSARY REMEDIATION SHALL BE DETERMINED BY SUSSEX COUNTY, WITH GUIDANCE FROM THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL.
14. RECLAMATION PLANS SHALL INDICATE FINISHED GRADING, SEEDING, AND PLANTING SCHEDULES DESIGNED TO CREATE A PLEASING APPEARANCE. RECLAMATION WILL BE COMPLETED IN PHASES AS EXCAVATION OPERATIONS IN A SECTION ARE COMPLETED. APPLICANT WILL NOTIFY THE PLANNING AND ZONING DEPARTMENT IN WRITING ON OR ABOUT APRIL 1 ST OF EACH YEAR AS TO THE STATUS OF THE RECLAMATION AND RECLAMATION PLANS FOR THE FOLLOWING YEAR.
15. THE 199.5 ACRE PARCEL SHALL BE DIVIDED INTO THREE (3) PHASES OF 45 ACRES EACH. PHASE TWO WILL NOT BE STARTED UNTIL 75% OF PHASE ONE IS COMPLETED. PHASE THREE WILL NOT BE STARTED UNTIL 75% OF PHASE TWO IS COMPLETED. THE EXCAVATED AREA SHALL NOT EXCEED 135 ACRES.
16. THE DREDGE MAY OPERATE 24 HOURS PER DAY, BUT NO FRONT-END LOADERS, BACKHOES, OR OTHER CONSTRUCTION EQUIPMENT WITH SAFETY BUZZERS WILL OPERATE AFTER 10:00 P.M.
17. EVERY FIVE (5) YEARS AFTER THE START OF DIGGING, THE PLANNING AND ZONING DEPARTMENT SHALL PERFORM AN INSPECTION OF THE SITE, AND SHALL REQUEST WRITTEN COMMENTS FROM ALL APPROPRIATE STATE AGENCIES SO THAT THE PLANNING AND ZONING COMMISSION CAN REVIEW THE COMMENTS TO VERIFY COMPLIANCE WITH ALL THEN-EXISTING REGULATIONS. AFTER TWENTY (20) YEARS, THE PROPERTY OWNER SHALL COMPLETE AND PAY FOR AN ENVIRONMENTAL IMPACT STUDY, AS THE PHASE IS DEFINED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, OR ANY SUCCESSOR. UPON CERTIFICATION BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL OF THE OWNERS' COMPLIANCE WITH THEN-EXISTING REGULATIONS, THE PERMIT SHALL BE EXTENDED FOR AN ADDITIONAL TEN (10) YEARS. THE PERMIT SHALL TERMINATE UPON THE EXPIRATION OF FORTY (40) YEARS FROM THE DATE OF ENACTMENT.
18. TRUCKING VEHICLES SHALL BE PROHIBITED FROM USING ROAD 446 (ASBURY ROAD). THE ENTRANCE TO THE BORROW PIT SHALL BE FROM ROUTE 20 (HARDSCRABBLE ROAD).
19. NO DEWATERING ACTIVITIES WILL OCCUR ON SITE.

OWNER'S STATEMENT

I, THE UNDERSIGNED, CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, AND THAT I ACKNOWLEDGE THE SAME TO BE ACT AND DESIRE THE PLAN TO BE RECORDED TO ORDINANCE.

HORSEY FAMILY LLC
28107 BEAVER DAM BRANCH RD
LAUREL, DE 19956

DATE

ENGINEER'S STATEMENT

I, RING W. LARDNER, HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

RING W. LARDNER
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DELAWARE, 19963

DATE

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS, ENGINEERS & SURVEYORS

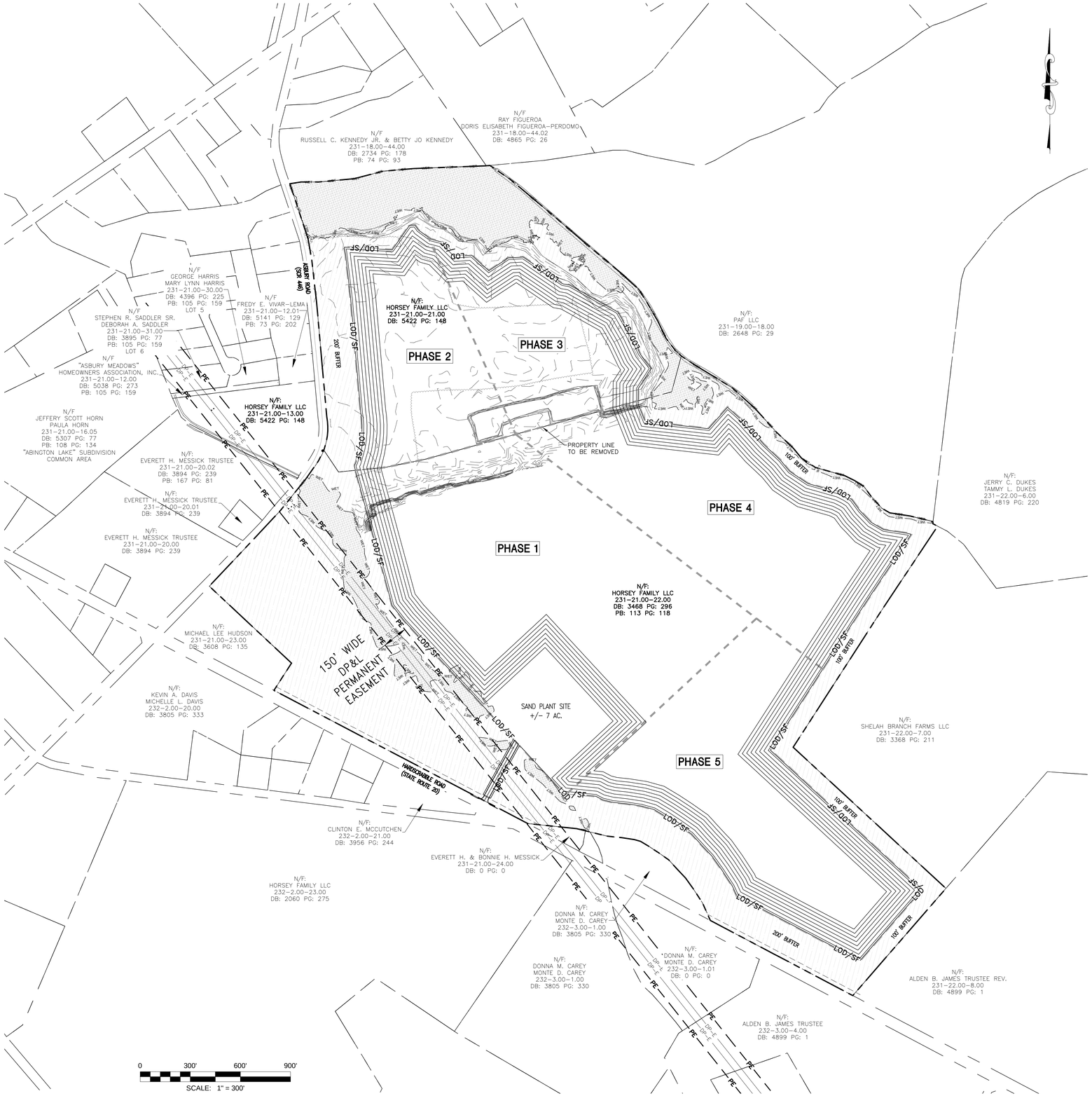
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

LEGEND

EXISTING		PROPOSED	
RIGHT-OF-WAY	EX-RW	RIGHT-OF-WAY / BOUNDARY LINE	
ADJACENT PROPERTY OWNER		PROPERTY LINE	
EASEMENT		SETBACK	
CONTOUR	33	EASEMENT	
CATCH BASIN, STORM PIPE		BUFFER	
DELMARVA POWER LINES	DP-E	SANITARY SEWER IDENTIFICATION, MANHOLE, PIPE, FLOW ARROW, PIPE SIZE	8SS
SANITARY SEWER MANHOLE, PIPE	EX-SS	WATER MAIN, TEE W/ VALVES, PIPE SIZE	8W
WATER MAIN	EX-W	FIRE HYDRANT ASSEMBLY	
FIRE HYDRANT ASSEMBLY		TREE LINE	
UTILITY POLE		PAVEMENT	
SIGN		SIDEWALK	
FENCE	X X X		
TREE			
TREE LINE			
WETLANDS	WET WET WET WET		
PAVEMENT			

REVISIONS:
2022-05-15: UPDATE DATA COLUMN
2022-06-01: UPDATE DATA COLUMN

PRE-01



DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
GLEN BURNIE, MARYLAND (410) 841-3441
EASTON, MARYLAND (410) 770-4744

PRELIMINARY SITE PLAN

BORROW PIT EXPANSION
NANTICOKE HUNDRED
GEORGETOWN, SUSSEX COUNTY, DELAWARE

Revisions:
2022-05-15: UPDATE DATA COLUMN
2022-06-01: UPDATE DATA COLUMN

Date:	JUNE 2021
Scale:	1" = 300'
Dwn.By:	DEG
Proj.No.:	0700A035
Dwg.No.:	PRE-02

P:\Horsey\700A035 Borrow Pit Expansion\Design\Prelim\700A035 Preliminary Site Plan.dwg Jun 01, 2022 - 3:02pm GRED

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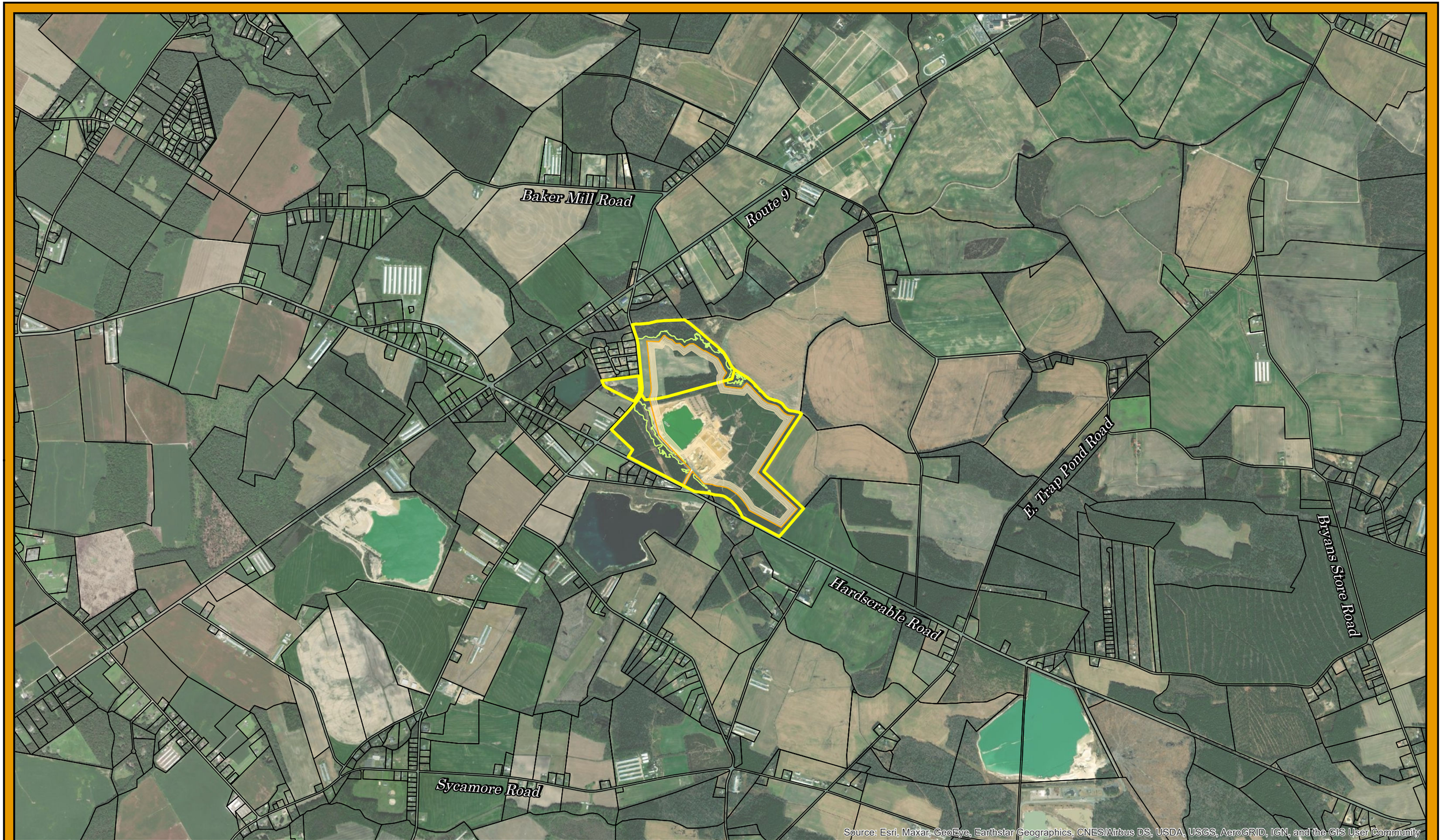

Sources:
Tax Parcels per Sussex County

N
W E
S

February 2022

Surrounding Communities Map

Borrow Pit Expansion

Sussex County, Delaware

0 2,000 4,000 Feet

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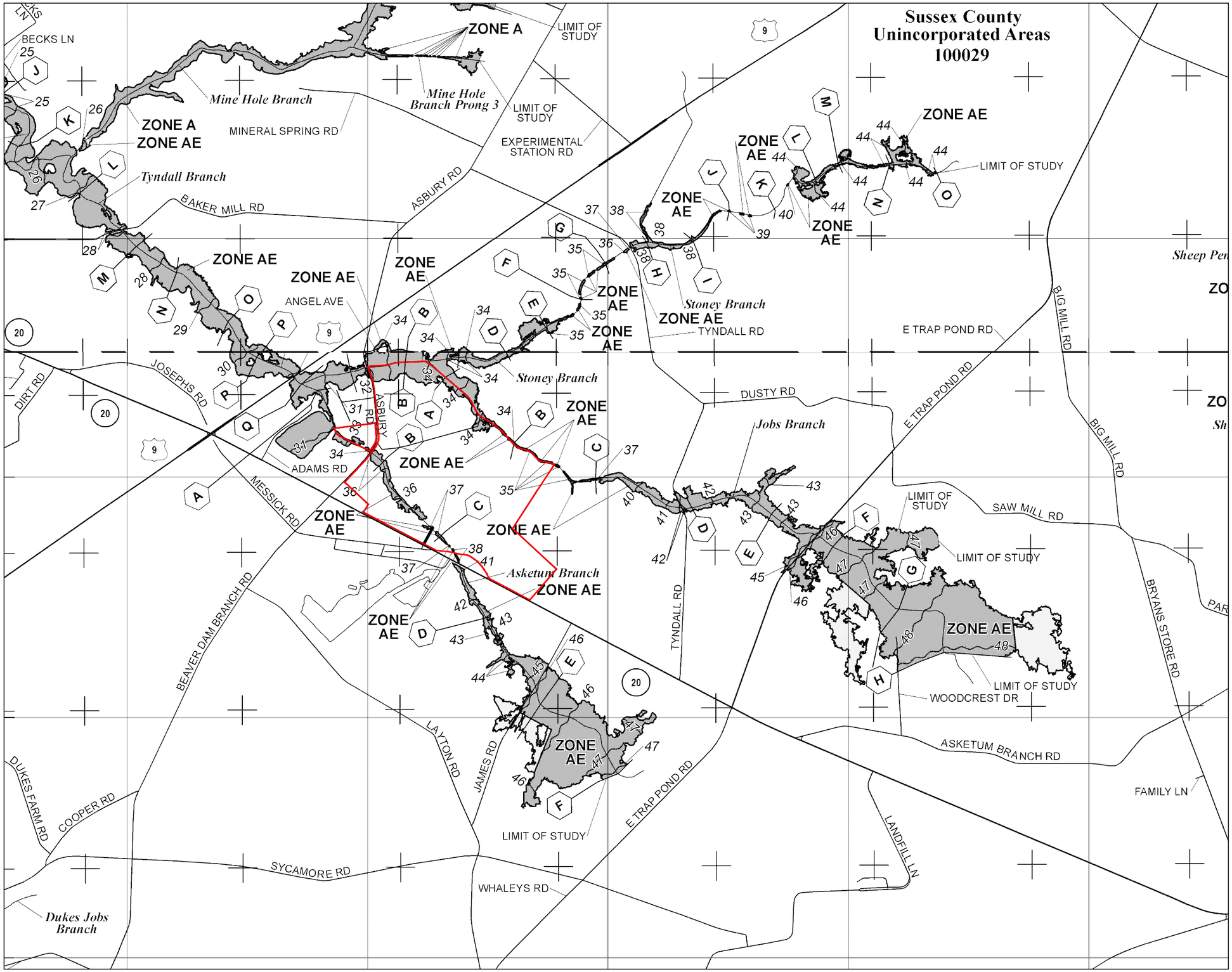


NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0450L

FIRM

FLOOD INSURANCE RATE MAP

SUSSEX COUNTY, DELAWARE

AND INCORPORATED AREAS

PANEL 450 OF 660

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

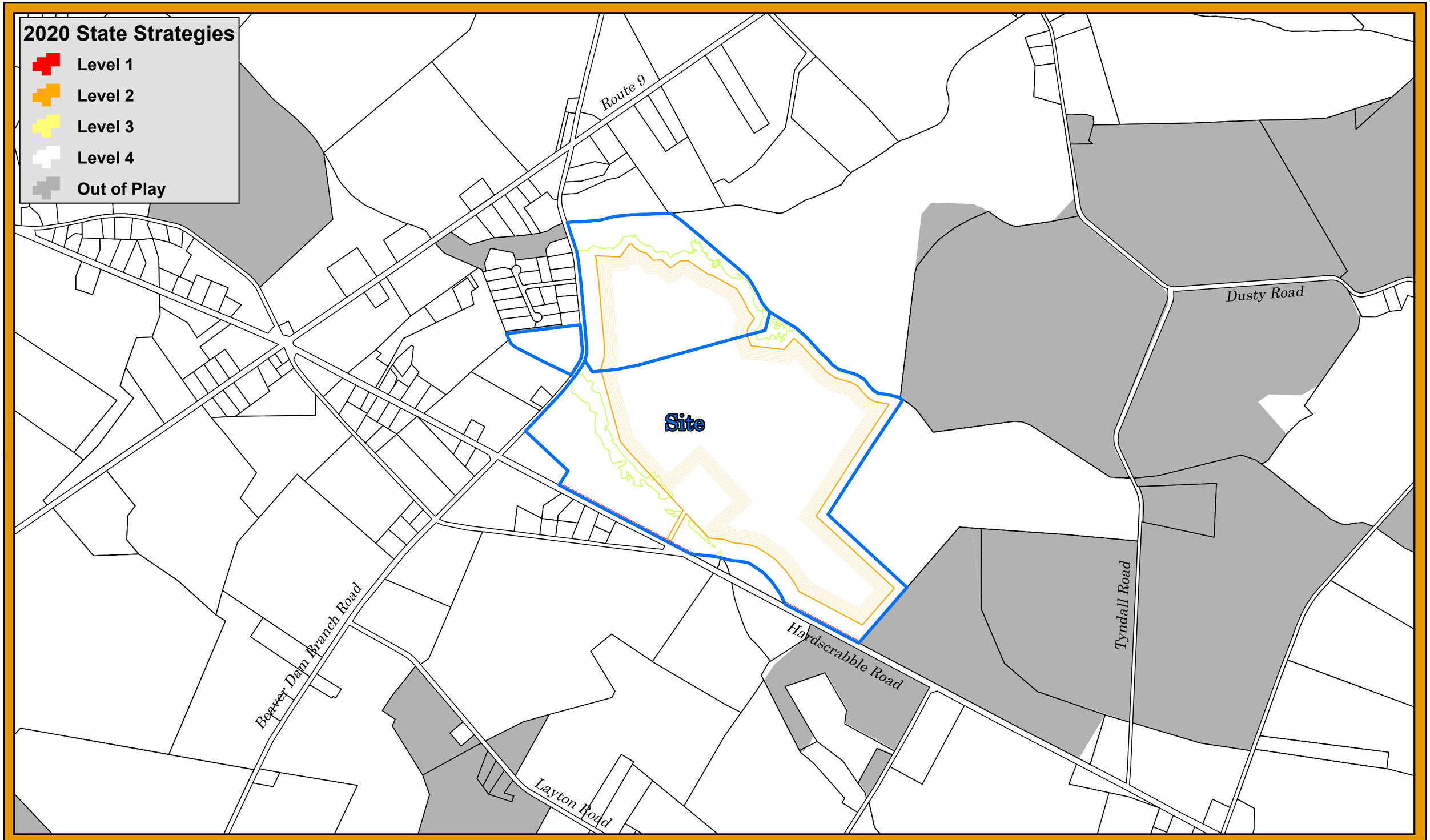
COMMUNITY	NUMBER	PANEL	SUFFIX
SUSSEX COUNTY	100029	0450	L

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
10005C0450L

MAP REVISED
JUNE 20, 2018

Federal Emergency Management Agency



Sources:
Tax Parcels per Sussex County

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February 2022

2020 State Strategies

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

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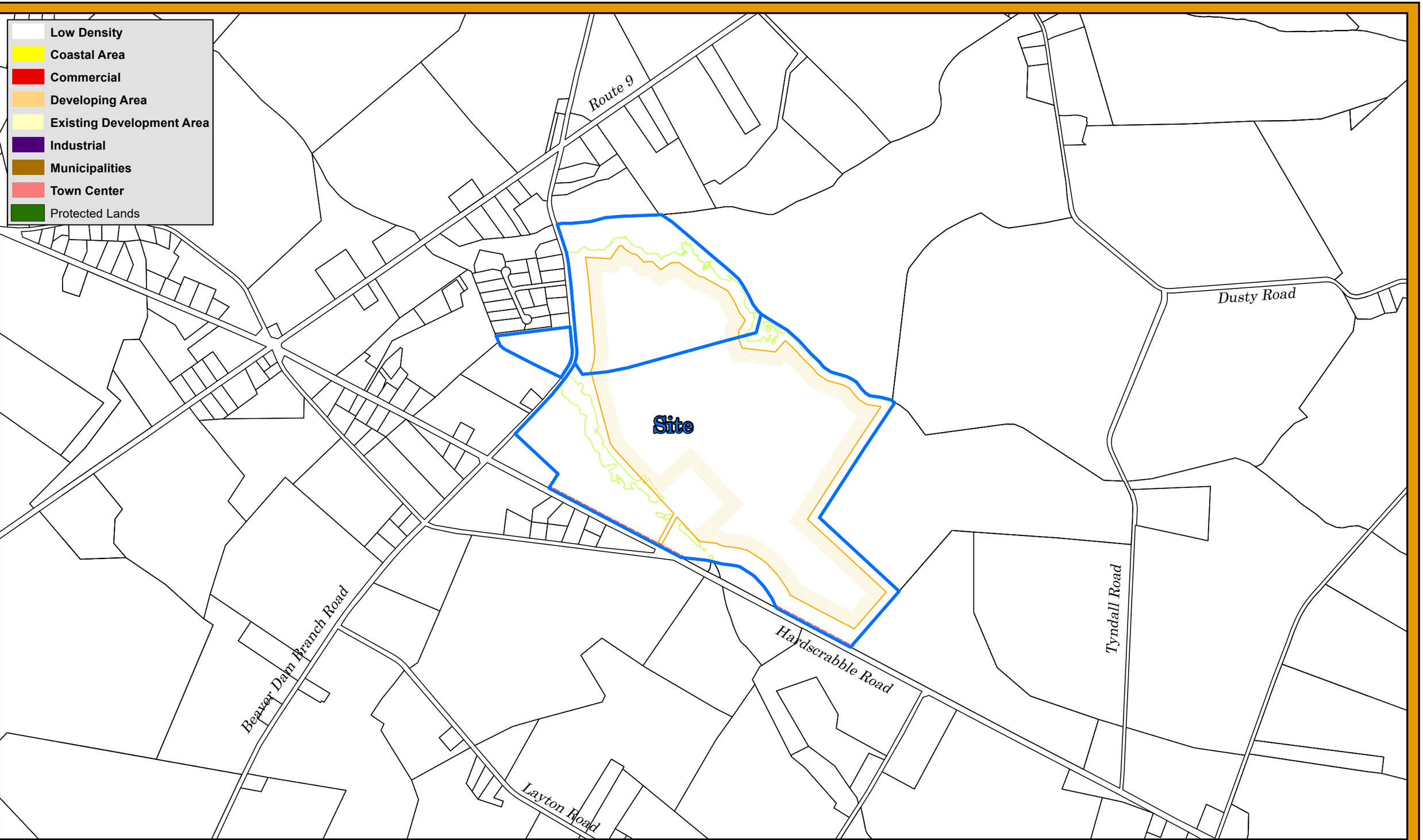

Sources:
Tax Parcels per Sussex County

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February 2022

Sussex County 2045 Future Land Use Map

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

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- Agricultural - AR-1
- Agricultural - AR-2
- Medium Residential - MR
- General Residential - GR
- High Density Residential - HR2
- Vacation, Retire, Resident - VRP
- Neighborhood Business - B-1
- Business Community -B-2
- General Commercial - C-1
- Heavy Commercial - C-3
- Commercial Residential
- Marine - M
- Limited Industrial-LI1
- Light Industrial - LI-2
- Heavy Industrial - HI-1

Route 9

Dusty Road

Site

Beaver Dam Branch Road

Hardscrabble Road

Tyndall Road

Layton Road

Sources:
Tax Parcels per Sussex County

N
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February 2022

Sussex County Zoning Map

Borrow Pit Expansion

Sussex County, Delaware

0 800 1,600 Feet

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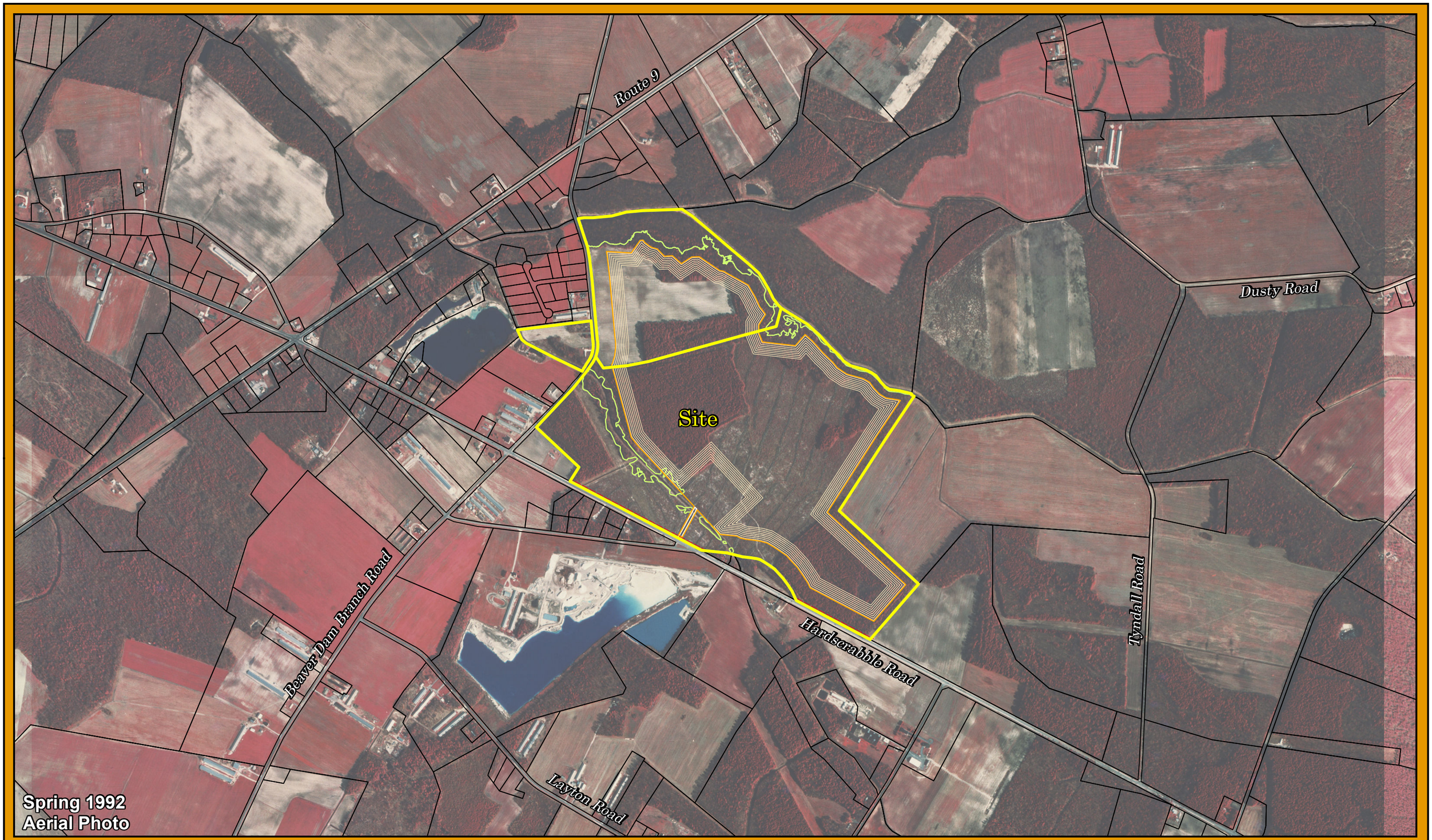

Sources:
Tax Parcels per Sussex County

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February 2022

1992 Aerial Photo

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

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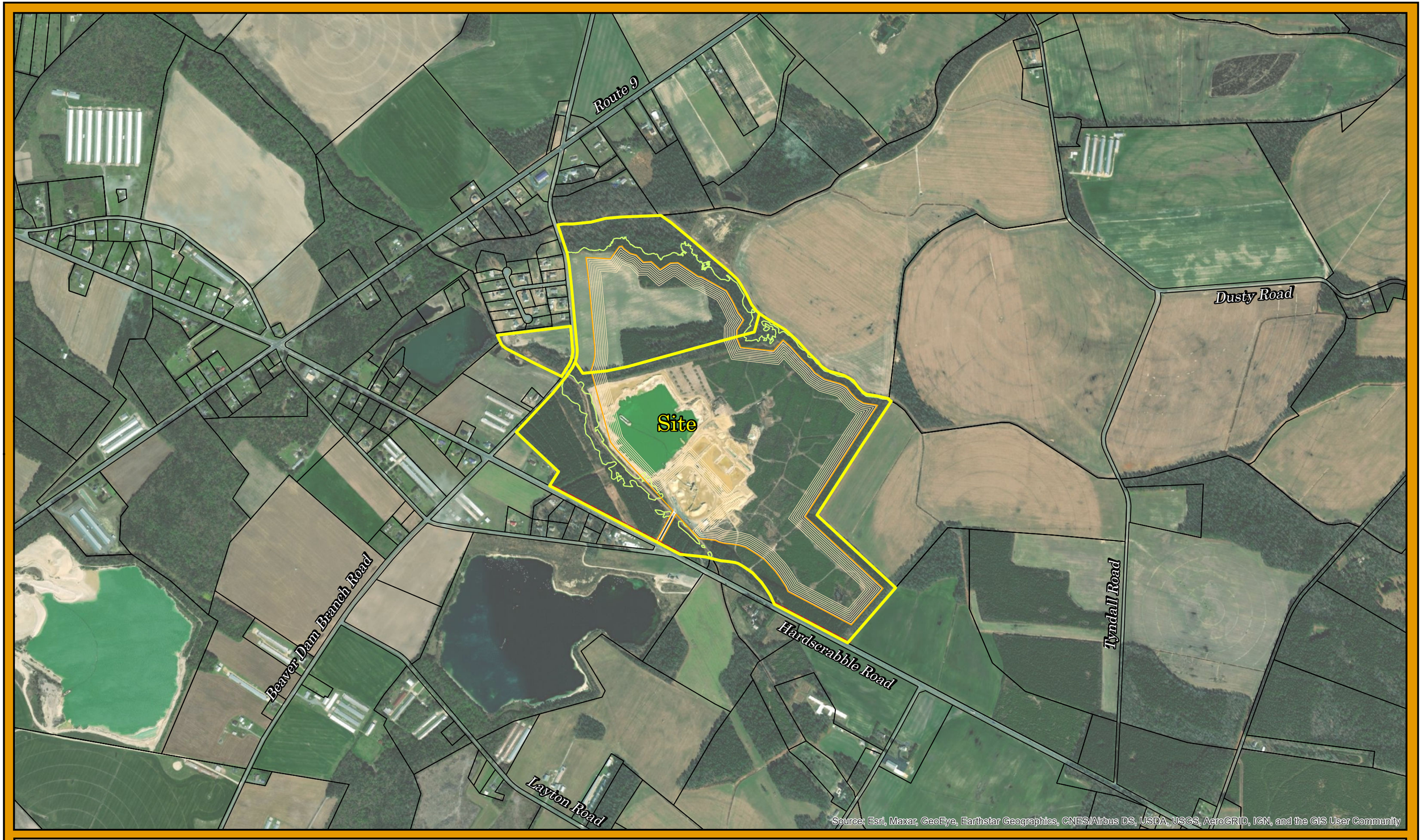

Sources:
Tax Parcels per Sussex County

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February 2022

Current Aerial Photo

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS • ENGINEERS • SURVEYORS

100-YR Flood Plain
NWI Wetlands
1' Contours

Route 9
Dusty Road
Beaver Dam Branch Road
Hardscrabble Road
Tyndall Road
Layton Road

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Sources:
Tax Parcels per Sussex County

N
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February 2022

Environmental Map

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

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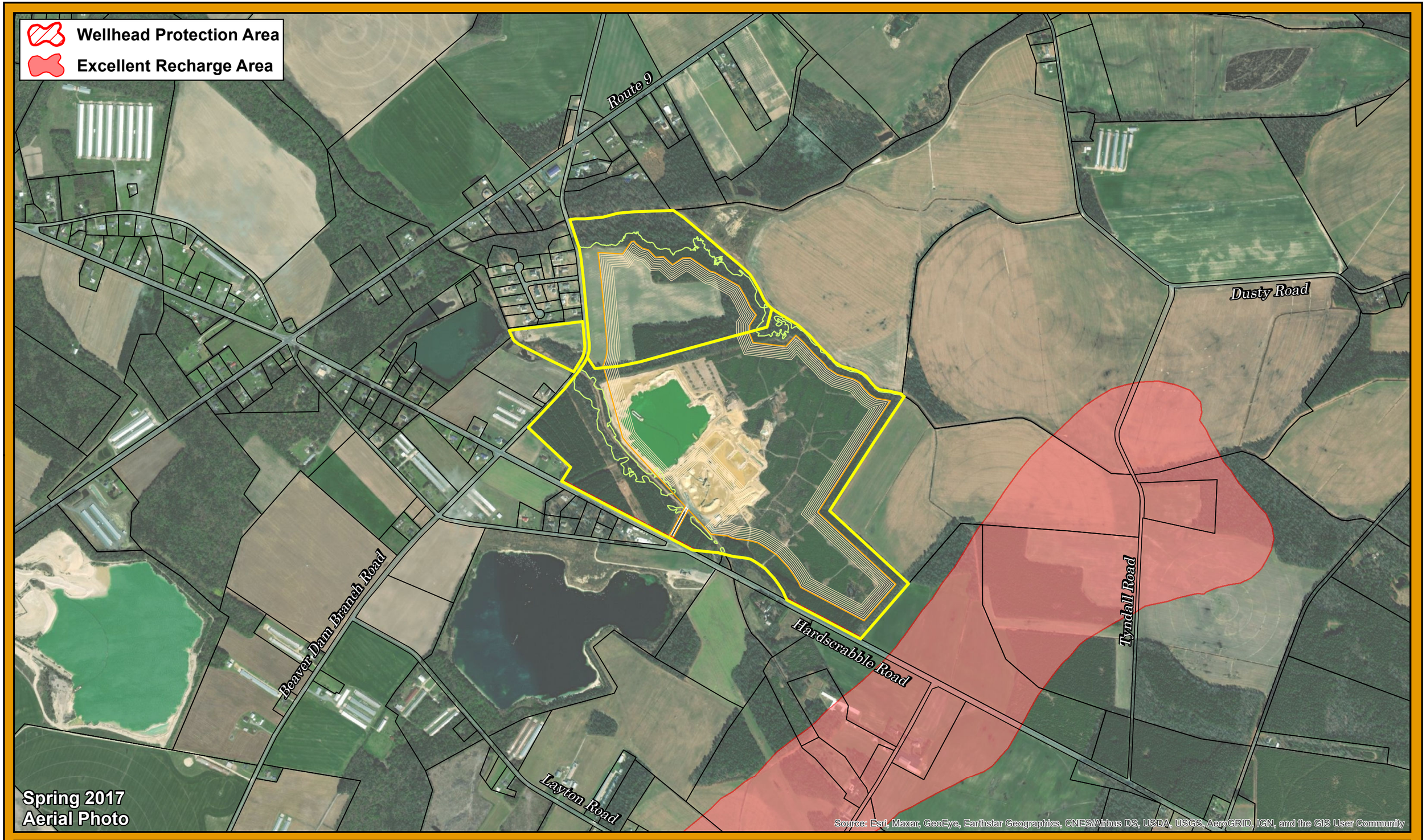

Sources:
Tax Parcels per Sussex County

N
W E
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February 2022

Source Water Protection Areas

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

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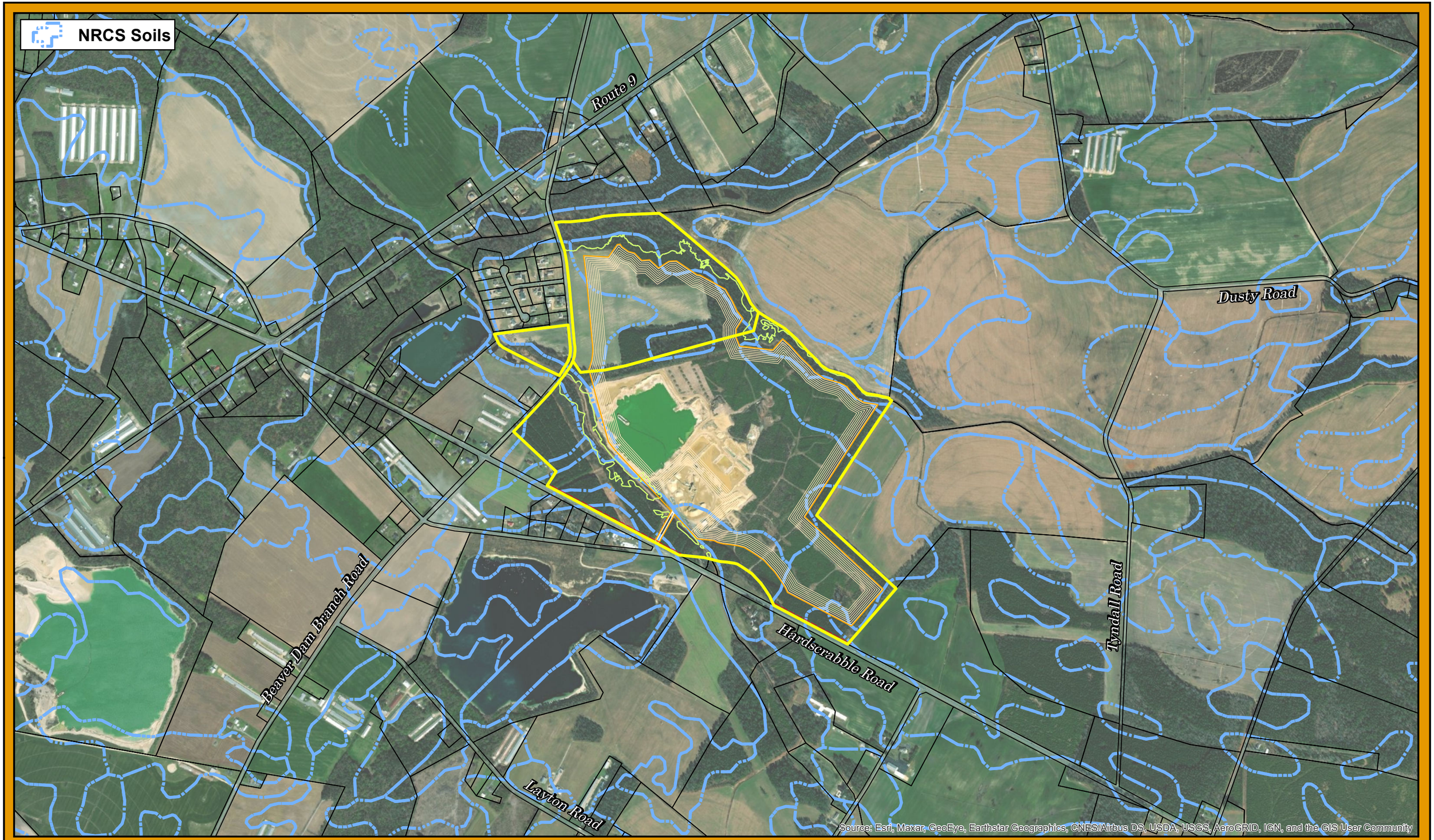

Sources:
Tax Parcels per Sussex County

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February 2022

NCRS Soil Survey

Borrow Pit Expansion

Sussex County, Delaware

0 1,000 2,000 Feet

DAVIS BOWEN & FRIEDEL, INC.
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ORDINANCE NO. 2021

With Conditions

AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR BORROW PIT EXCAVATION TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN NANTICOKE HUNDRED, SUSSEX COUNTY, CONTAINING 199.50 ACRES, MORE OR LESS

WHEREAS, on the 15th day of December 2006, a conditional use application, denominated Conditional Use No. 1741, was filed on behalf of David G. Horsey & Sons, Inc.; and

WHEREAS, on the 8th day of May 2008, a public hearing was held, after notice, before the Planning and Zoning Commission of Sussex County and said Planning and Zoning Commission recommended that Conditional Use No. 1741 be approved with conditions; and

WHEREAS, on the 3rd day of June 2008, a public hearing was held, after notice, before the County Council of Sussex County and the County Council of Sussex County determined, based on the findings of facts, that said conditional use is in accordance with the Comprehensive Development Plan and promotes the health, safety, morals, convenience, order, prosperity and welfare of the present and future inhabitants of Sussex County, and that the conditional use is for the general convenience and welfare of the inhabitants of Sussex County;

NOW, THEREFORE,

THE COUNTY OF SUSSEX HEREBY ORDAINS:

Section 1. That Chapter 115, Article IV, Subsection 115-22, Code of Sussex County, be amended by adding the designation of Conditional Use No. 1741 as it applies to the property hereinafter described.

Section 2. The subject property is described as follows:

ALL that certain tract, piece or parcel of land lying and being situate in Nanticoke Hundred, Sussex County, Delaware, and lying north of Route 20 (Hardscrabble Road) and east of Road 446 (Asbury Road), and being more particularly described as follows:

BEGINNING at a concrete monument on the easterly right of way of Road 446 (Asbury Road), a corner for these lands and lands of Betty Ann Turner; thence northerly by and along the easterly right of way of Road 446, 1,058.10 feet to a point; thence by and along lands of Mary and Gail Wilson the following four courses: S 18°07'40" E 223.18 feet, N 71°40'30" E 165.21 feet, N 74°38'27" E 1,810.79 feet, and N 14°23'27" E 384.03 feet to the centerline of Jobs Branch; thence easterly with the meandering of the centerline of Jobs Branch 1,872.73 feet to a point; thence S 26°57'12" W 1,596.79 feet and S 49°26'48" E 1,169.80 feet along lands of Elwood Workman & Sons to a point; thence S 39°58'08" W 854.74 feet along lands of Alden James to a rebar on the northerly right of way of Route 20 (Hardscrabble Road); thence N 64°02'22" W 823.70 feet along the northerly right of way of Route 20 to a point; thence by and along the centerline of an abandoned road and lands of Lillian Blackson and lands of Everett Messick 1,335.10 feet to a point on the northerly right of way of Route 20; thence N 64°02'22" W 1,743.65 feet along the northerly right of way of Route 20 to a point; thence N 39°00'13" E 213.86 feet and N 49°30'00" W 694.69 feet along lands of Betty Ann Turner to the point and place of beginning, said parcel containing 199.50 acres, more or less, per survey by Meridian Architects and Engineers.

This Ordinance shall take effect immediately upon its adoption by majority vote of all members of the County Council of Sussex County, Delaware.

This Ordinance was adopted subject to the following conditions:

1. No materials may be brought from off the site for processing, mixing or similar purposes.
2. The operation of the borrow pit shall be controlled to provide reasonable protection to surrounding properties, as follows:
    a. A 200 foot vegetation/forested buffer shall be maintained along that portion of the site which abuts the State Route 20 (Hardscrabble Road) and the Route 446 (Asbury Road) rights-of-way. Existing vegetation and trees within the buffer area between the property line and the perimeter dike shall remain undisturbed.

b. A 100 foot vegetation/forested buffer shall be maintained along all other perimeter property lines within the site. Existing vegetation between the property lines and the perimeter dike shall remain undisturbed.

c. A water truck will be available to control dust from interior trucking traffic when conditions require.

3. Hours of operation of trucking activities shall be from 6:00 a.m. to 6:00 p.m., Monday through Friday, and 6:00 a.m. to 2:00 p.m. on Saturday. There shall be no trucking activities on Sunday.

4. Entrance improvements required by the Delaware Department of Transportation in connection with this land use will be completed by the applicant.

5. The borrow pit entrance shall have a fenced gate, which shall be secured when the operation is closed.

6. No materials will be stored on any access roads or within any buffer areas.

7. Signage will be placed at appropriate locations to designate pit areas.

8. Fuel shall be stored in storage tanks with confinement areas as required by the Department of Natural Resources and Environmental Control (DNREC) and the Office of the State Fire Marshal.

9. No stumps, branches, debris or similar items will be buried on the site.

10. A Final Site Plan shall be reviewed and approved by the Planning and Zoning Commission prior to commencement of operations.

11. Before any excavation operations begin, a complete Environmental Impact Study as defined in connection with Ordinance No. 1310 will be conducted and presented with the Final Site Plan.

12. Owner shall comply with all State and County erosion and sediment control regulations.

13. Owner shall be responsible for monitoring ground water quality. Specifically, owner shall install three wells, one above the excavation, and two below the excavation. Monitoring shall be performed by a licensed geologist, and the results filed on an annual basis with Sussex County and the Department of Natural Resources and Environmental Control (DNREC). Owner shall be responsible for all costs associated with the water quality monitoring. Owner shall also be responsible for the

cost of correcting any adverse impacts on water quality which may be occasioned by the excavation operation. Necessary remediation shall be determined by Sussex County, with guidance from the Department of Natural Resources and Environmental Control.

14. Reclamation plans shall indicate finished grading, seeding, and planting schedules designed to create a pleasing appearance. Reclamation will be completed in phases as excavation operations in a section are completed. Applicant will notify the Planning and Zoning Department in writing on or about April 1st of each year as to the status of the reclamation and reclamation plans for the following year.

15. The 199.5 acre parcel shall be divided into three (3) phases of 45 acres each. Phase Two will not be started until 75% of Phase One is completed. Phase Three will not be started until 75% of Phase Two is completed. The excavated area shall not exceed 135 acre.

16. The dredge may operate 24 hours per day, but no front-end loaders, backhoes, or other construction equipment with safety buzzers will operate after 10:00 p.m.

17. Every five (5) years after the start of digging, the Planning and Zoning Department shall perform an inspection of the site, and shall request written comments from all appropriate State agencies so that the Planning and Zoning Commission can review the comments to verify compliance with all then-existing regulations. After twenty (20) years, the property owner shall complete and pay for an Environmental Impact Study, as the phase is defined by the Department of Natural Resources and Environmental Control, or any successor. Upon certification by the Department of Natural Resources and Environmental Control of the owners' compliance with then-existing regulations, the permit shall be extended for an additional ten (10) years. The permit shall terminate upon the expiration of forty (40) years from the date of enactment.

18. Trucking vehicles shall be prohibited from using Road 446 (Asbury Road). The entrance to the borrow pit shall be from Route 20 (Hardscrabble Road).

19. No dewatering activities will occur on site.

20. The Applicant shall delay the sale of materials from off-site until January 1, 2011.

21. No hauling of materials shall occur from the site prior to January 1, 2011.

I DO HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF ORDINANCE NO. 2021 ADOTPED BY THE SUSSEX COUNTY COUNCIL ON THE 16TH DAY OF DECEMBER 2008.

ROBIN A. GRIFFITH
CLERK OF THE COUNCIL

The Council found that the Conditional Use was appropriate legislative action based on the following findings of fact:

1. This application is for a borrow pit excavation to be located on 199.50 acres lying on the north side of State Route 20 (Hardscrabble Road) and on the east side of County Road 446 (Asbury Road) in Nanticoke Hundred, Sussex County, Delaware.
2. DelDOT reported that a Traffic Impact Study was not recommended and that the existing Level of Service "A" on State Route 20 may change to a Level of Service "B" if the Conditional Use is approved.
3. The County Engineer's Office reported that the borrow pit site is not in an area where the County has current plans to provide sewer service and that an on-site septic system must be used.
4. No storm flood hazard areas would be affected and it may not be necessary for any off-site drainage improvements. The Applicant will be required to comply with sediment, erosion and stormwater management requirements. Stoney Branch and Asketum Branch tax ditches could be affected.
5. The dirt proposed to be excavated from the borrow pit will be used as fill dirt in residential, commercial and road construction projects.
6. The use is of a public or semi-public character in that it will provide a source of fill dirt which will be used by the entire County. The use is essential and desirable for the general convenience, health, safety, morals and welfare of the current and future citizens of Sussex County.
7. The site is similar to a borrow pit located on the south side of State Route 20 that has terminated its use after 20 years.
8. The approval of the application will not have an adverse affect on nearby properties, public facilities or public highways.

9. **The use will be subject to and comply with the requirements of Section 115-172(B) of the Sussex County Comprehensive Zoning Ordinance.**

10. **Based on the record and recommendation of the Planning and Zoning Commission, which was adopted by Council, and based on the record created before Council, the Conditional Use was approved subject to 21 conditions, which will serve to minimize any potential impacts on the surrounding area and adjoining properties.**

ORDINANCE NO. 2208

AN ORDINANCE PROVIDING FOR THE TEMPORARY EXTENSION OF TIME FOR SUBDIVISION APPLICATIONS, CONDITIONAL USE APPLICATIONS, AND RESIDENTIAL PLANNED COMMUNITY DISTRICTS

WHEREAS, the Sussex County Council has the power to develop, adopt, amend, and revise its Subdivision and Zoning Ordinances as it shall deem necessary in order to preserve and protect the public health, safety, morals, beauty and good appearance of Sussex County and to provide for the orderly growth thereof; and

WHEREAS, the Sussex County Council has adopted Subdivision and Zoning Ordinances and a Comprehensive Land Use Plan in order to provide for the regulation and orderly approval of residential, commercial, and industrial uses within Sussex County; and

WHEREAS, the Sussex County Council is concerned that the approvals and/or permits that have been granted by it and the County Planning and Zoning Commission may lapse due to the current economic crisis, and drastic recession affecting this County, the State and the United States, and severely impacting the County's banking, real estate, construction, and building materials businesses and employment in Sussex County; and

WHEREAS, the process of obtaining approvals and/or permits can be difficult, time consuming, and expensive for both the applicants and the County Government; and

WHEREAS, approvals and/or permits could be difficult to extend, renew, or re-obtain once lapsed or expired; and

WHEREAS, the Sussex County Council deems it appropriate to implement a general extension of approvals and/or permits for Subdivision and Residential Planned Community approvals, and Conditional Uses until economic conditions improve; and

WHEREAS, the Sussex County Council is of the opinion that the granting of a general extension is appropriate in order to avoid unnecessary administrative issues related to repetitive applications for extensions of time for approvals and/or permits or rehearing previously approved applications, and to otherwise provide for the orderly growth of Sussex County.

NOW, THEREFORE, THE SUSSEX COUNTY COUNCIL HEREBY ORDAINS:

Section 1. Notwithstanding the time limits for validity set out in Chapter 99 of the Sussex County Code, any preliminary subdivision plat under § 99-9 B, and any recorded subdivision plat valid under § 99-11 and § 99-40, with a date of approval of January 1, 2009 or later shall be valid until January 1, 2013 or the expiration of the current approval, whichever is later.

Section 2. Notwithstanding any other provisions of Chapter 115 of the Sussex County Code for any Residential Planned Community valid under Article XVI and outstanding as of January 1, 2009 or later shall be valid until January 1, 2013 or the expiration of the current approval, whichever is later.

Section 3. Notwithstanding any other provisions of Chapter 115 of the Sussex County Code for any Conditional Use action approved pursuant to the provision of Article XVI, Article XXIV, and Article XXVIII of Chapter 115 of the Sussex County Code valid and outstanding as of January 1, 2009 or later, and relating to new residential, commercial, or industrial developments, shall be valid until January 1, 2013 or the expiration of the current approval, whichever is later.

Section 4. This Ordinance shall become effective upon its adoption by a majority of all members elected to the County Council of Sussex County.

I DO HEREBY CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF ORDINANCE NO. 2208 ADOPTED BY THE SUSSEX COUNTY COUNCIL ON THE 9TH DAY OF AUGUST 2011.

ROBIN A. GRIFFITH
CLERK OF THE COUNCIL

CONDITIONAL USE #1741

CONDITIONS OF APPROVAL

1. NO MATERIALS MAY BE BROUGHT FROM OFF THE SITE FOR PROCESSING, MIXING OR SIMILAR PURPOSES.
2. THE OPERATION OF THE BORROW PIT SHALL BE CONTROLLED TO PROVIDE REASONABLE PROTECTION SURROUNDING PROPERTIES AS FOLLOWS:
   a. A 200 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG THAT PORTION OF THE SITE WHICH ABUTS THE STATE ROUTE 20 (HARDSCRABBLE ROAD) AND THE ROUTE 446 (ASBURY ROAD) RIGHTS-OF-WAY. EXISTING VEGETATION AND TREES WITHIN THE BUFFER AREA BETWEEN THE PROPERTY LINE AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   b. A 100 FOOT VEGETATION/FORESTED BUFFER SHALL BE MAINTAINED ALONG ALL OTHER PERIMETER PROPERTY LINES WITHIN THE SITE. EXISTING VEGETATION BETWEEN THE PROPERTY LINES AND THE PERIMETER DIKE SHALL REMAIN UNDISTURBED.
   c. A WATER TRUCK WILL BE AVAILABLE TO CONTROL DUST FROM INTERIOR TRUCKING TRAFFIC WHEN CONDITIONS REQUIRE.
3. HOURS OF OPERATION OF TRUCKING ACTIVITIES SHALL BE FROM 6:00 A.M. TO 6:00 P.M., MONDAY THROUGH FRIDAY, AND 6:00 A.M. TO 2:00 P.M. ON SATURDAY. THERE SHALL BE NO TRUCKING ACTIVITIES ON SUNDAY.
4. ENTRANCE IMPROVEMENTS REQUIRED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION IN CONNECTION WITH THIS LAND USE WILL BE COMPLETED BY THE APPLICANT.
5. THE BORROW PIT ENTRANCE SHALL HAVE A FENCED GATE, WHICH SHALL BE SECURED WHEN THE OPERATION IS CLOSED.
6. NO MATERIALS WILL BE STORED ON ANY ACCESS ROADS OR WITHIN ANY BUFFER AREAS.
7. SIGNAGE WILL BE PLACED AT APPROPRIATE LOCATIONS TO DESIGNATE PIT AREAS.
8. FUEL SHALL BE STORED IN STORAGE TANKS WITH CONFINEMENT AREAS AS REQUIRED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC) AND THE OFFICE OF THE STATE FIRE MARSHAL.
9. NO STUMPS, BRANCHES, DEBRIS OR SIMILAR ITEMS WILL BE BURIED ON THE SITE.
10. A FINAL SITE PLAN SHALL BE REVIEWED AND APPROVED BY THE PLANNING AND ZONING COMMISSION PRIOR TO COMMENCEMENT OF OPERATIONS.
11. BEFORE ANY EXCAVATION OPERATIONS BEGIN, A COMPLETE ENVIRONMENTAL IMPACT STUDY AS DEFINED IN CONNECTION WITH ORDINANCE NO. 1310 WILL BE CONDUCTED AND PRESENTED WITH THE FINAL SITE PLAN.
12. OWNER SHALL COMPLY WITH ALL STATE AND COUNTY EROSION AND SEDIMENT CONTROL REGULATIONS.
13. OWNER SHALL BE RESPONSIBLE FOR MONITORING GROUND WATER QUALITY. SPECIFICALLY, OWNER SHALL INSTALL THREE WELLS, ONE ABOVE THE EXCAVATION, AND TWO BELOW THE EXCAVATION. MONITORING SHALL BE PERFORMED BY A LICENSED GEOLOGIST, AND THE RESULTS FILED ON AN ANNUAL BASIS WITH SUSSEX COUNTY AND THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC). OWNER SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE WATER QUALITY MONITORING. OWNER SHALL ALSO BE RESPONSIBLE FOR THE COST OF CORRECTING ANY ADVERSE IMPACTS ON WATER QUALITY WHICH MAY BE OCCASIONED BY THE EXCAVATION OPERATION. NECESSARY REMEDIATION SHALL BE DETERMINED BY SUSSEX COUNTY, WITH GUIDANCE FROM THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL.
14. RECLAMATION PLANS SHALL INDICATE FINISHED GRADING, SEEDING, AND PLANTING SCHEDULES DESIGNED TO CREATE A PLEASING APPEARANCE. RECLAMATION WILL BE COMPLETED IN PHASES AS EXCAVATION OPERATIONS IN A SECTION ARE COMPLETED. APPLICANT WILL NOTIFY THE PLANNING AND ZONING DEPARTMENT IN WRITING ON OR ABOUT APRIL 1ST OF EACH YEAR AS TO THE STATUS OF THE RECLAMATION AND RECLAMATION PLANS FOR THE FOLLOWING YEAR.
15. THE 199.5 ACRE PARCEL SHALL BE DIVIDED INTO THREE (3) PHASES OF 45 ACRES EACH. PHASE TWO WILL NOT BE STARTED UNTIL 75% OF PHASE ONE IS COMPLETED. PHASE THREE WILL NOT BE STARTED UNTIL 75% OF PHASE TWO IS COMPLETED. THE EXCAVATED AREA SHALL NOT EXCEED 135 ACRES.
16. THE DREDGE MAY OPERATE 24 HOURS PER DAY, BUT NO FRONT-END LOADERS, BACKHOES, OR OTHER CONSTRUCTION EQUIPMENT WITH SAFETY BUZZERS WILL OPERATE AFTER 10:00 P.M.
17. EVERY FIVE (5) YEARS AFTER THE START OF DIGGING, THE PLANNING AND ZONING DEPARTMENT SHALL PERFORM AN INSPECTION OF THE SITE, AND SHALL REQUEST WRITTEN COMMENTS FROM ALL APPROPRIATE STATE AGENCIES SO THAT THE PLANNING AND ZONING COMMISSION CAN REVIEW THE COMMENTS TO VERIFY COMPLIANCE WITH ALL THEN-EXISTING REGULATIONS. AFTER TWENTY (20) YEARS, THE PROPERTY OWNER SHALL COMPLETE AND PAY FOR AN ENVIRONMENTAL IMPACT STUDY, AS THE PHASE IS DEFINED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, OR ANY SUCCESSOR. UPON CERTIFICATION BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL OF THE OWNERS' COMPLIANCE WITH THEN-EXISTING REGULATIONS, THE PERMIT SHALL BE EXTENDED FOR AN ADDITIONAL TEN (10) YEARS. THE PERMIT SHALL TERMINATE UPON THE EXPIRATION OF FORTY (40) YEARS FROM THE DATE OF ENACTMENT.
18. TRUCKING VEHICLES SHALL BE PROHIBITED FROM USING ROAD 446 (ASBURY ROAD). THE ENTRANCE TO THE BORROW PIT SHALL BE FROM ROUTE 20 (HARDSCRABBLE ROAD).
19. NO DEWATERING ACTIVITIES WILL OCCUR ON SITE.
20. THE APPLICANT SHALL DELAY THE SALE OF MATERIALS FROM OFF-SITE UNTIL JANUARY 1, 2011.
21. NO HAULING OF MATERIALS SHALL OCCUR FROM THE SITE PRIOR TO JANUARY 1, 2011.

"I JAMES H. WILLEY, JR. P.E.. HEREBY CERTIFY THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HERE HAS BEEN PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEVE REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE."

JH Willey 8-15-12

JAMES H. WILLEY, Jr. P.E. — DATE
GEORGE, MILES & BUHR, LLC
206 W. MAIN ST.
SALISBURY, MD 21801

G:\Projects\2011\110113 Route 20 Borrow Pit\Drawings\Working Sets\Prelminary Site Plans\G1 Cover Sheet.dwg, 8/15/2012 2:14 PM, Doug L. Bolner, Jr.

PLOT CODE

PEN1-RED	PEN2-YELLOW	PEN3-GREEN	PEN4-CYAN	PEN5-BLUE	PEN6-MAGENTA	PEN7-WHITE
.006 INCHES (.15mm)	.007 INCHES (.18mm)	.010 INCHES (.25mm)	.014 INCHES (.35mm)	.020 INCHES (.50mm)	.027 INCHES (.70mm)	.039 INCHES (1.00mm)

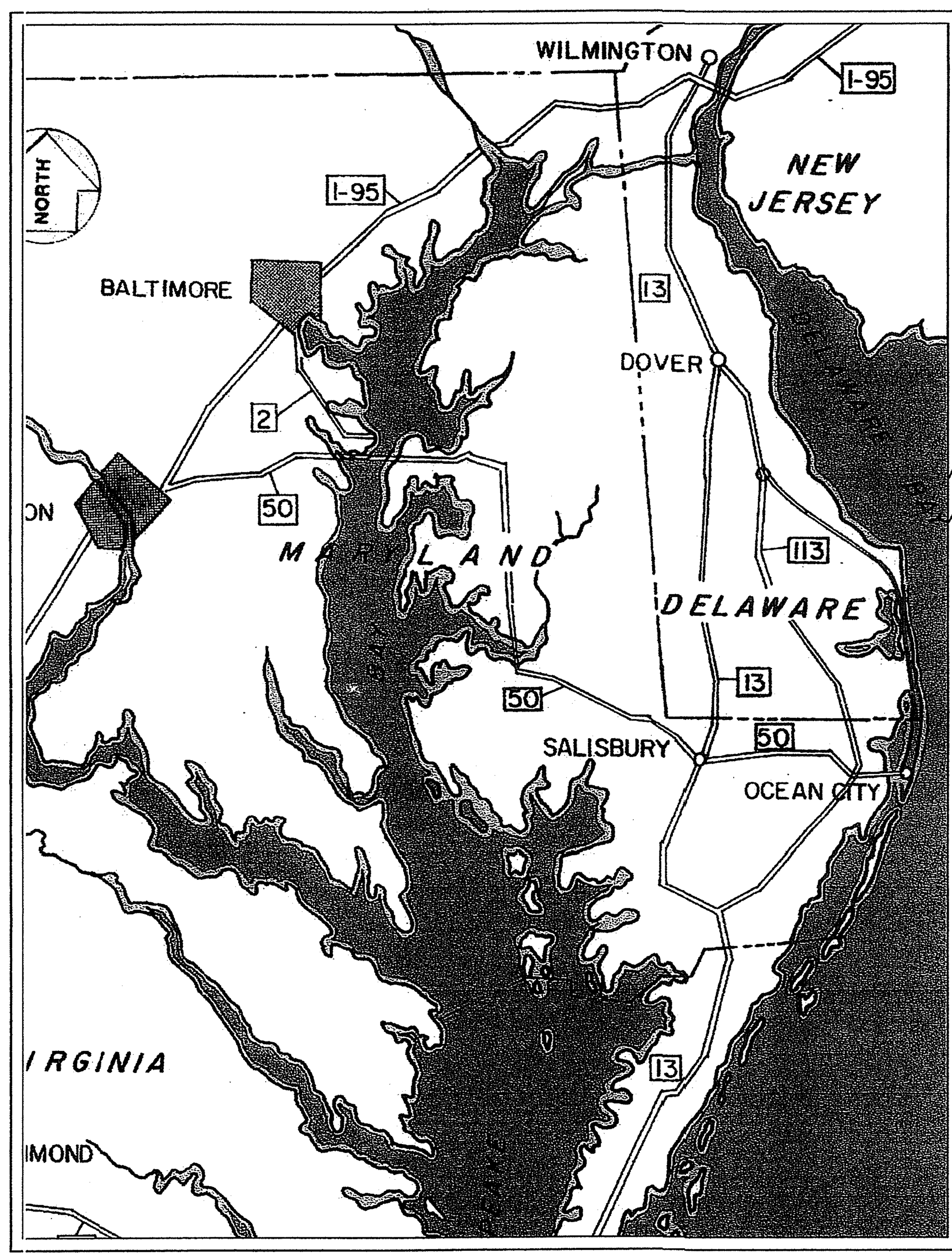
vm 8

ROUTE #20 BORROW PIT

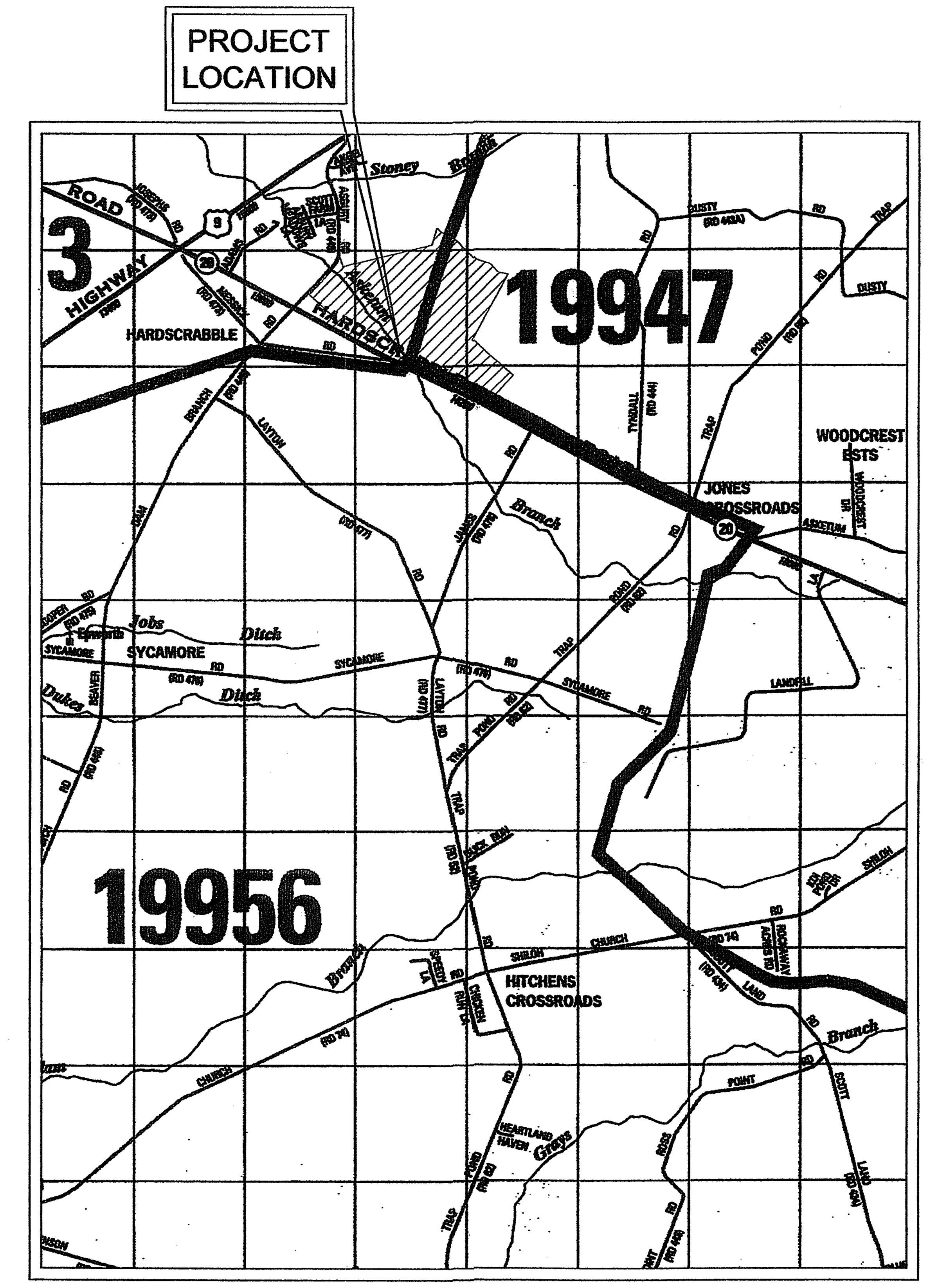
SUSSEX COUNTY, DELAWARE
APPROVED CONDITIONAL USE #1741
PRELIMINARY SITE PLANS

GMB FILE NO. 110113

26159
BK: 218 PG: 36



VICINITY MAP
SCALE: 1" = 20 MILES



LOCATION MAP
SCALE: 1" = 2000'

GENERAL NOTES

1. EXISTING UTILITIES ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THROUGH TEST PITTING, THE LOCATIONS, SIZE, AND INVERT ELEVATIONS OF ALL UNDERGROUND UTILITIES AS REQUIRED TO GIVE TIMELY ADVANCE NOTICE TO ENGINEERS OF ANY CONFLICT BETWEEN EXISTING AND NEW WORK.
2. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-282-8555) AND SUSSEX COUNTY 48 HOURS PRIOR TO EXCAVATION TO HAVE UNDERGROUND UTILITIES MARKED. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS PRIOR TO ANY EXCAVATION.
3. THE CONTRACTOR SHALL REPAIR OR REPLACE IN KIND ANY EXISTING FEATURES DAMAGED OR DESTROYED DURING CONSTRUCTION.
4. ALL BACKFILLED AND DISTURBED AREAS TO BE SEEDED AND MULCHED WITH 4" OF TOPSOIL TO BE PLACED IN FILL AREAS.
5. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT, LATEST EDITION, AND ALL RULES AND REGULATIONS THERETO.
6. THE CONTRACTOR SHALL KEEP EXISTING UTILITIES IN OPERATION DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL PERMITS SECURED, WHICH TAKE PRECEDENCE OVER SPECIFICATIONS.
9. THE CONTRACTOR IS RESPONSIBLE FOR SECURING AND PROTECTING UTILITY POLES BEFORE AND DURING CONSTRUCTION ACTIVITIES.
10. ANY DISTURBED AREAS OUTSIDE THE RIGHT-OF-WAY SHALL BE RESTORED TO THEIR ORIGINAL CONDITION IMMEDIATELY.
11. PROPOSED PROJECT SITE WITHIN FLOOD ZONE X. INFORMATION OBTAINED FROM FEMA FIRM MAPS. MAP #10005C0450J DATED 1-6-2005.

REVEGETATION SPECIFICATIONS

I. TEMPORARY

SPECIES (choose one)	SEEDING RATE lbs. / 1000 s.f.	PLANTING DEPTH	OPTIMUM SEEDING DATES
BARLEY	2.8	1" - 2"	2-1 thru 4-30 8-15 thru 11-30
OATS	2.2	1" - 2"	
RYE	3.2	1" - 2"	
MILLET	1.0	1/2"	

APPLY SOIL AMENDMENT AND MULCH AS SPECIFIED BELOW. APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER.

II. PERMANENT

SEEDING MIXTURE	SEEDING RATE	OPTIMUM SEEDING DATES
Kentucky 31 Tall Fescue	5 lbs / 1000 s.f.	2-1 thru 4-30 8-15 thru 10-31

PERMANENT SEEDING MAY OCCUR AT ANY TIME. WHEN SEEDING OCCURS OUTSIDE OF DATES SPECIFIED, THEN 1/2 OF THE SEEDING MIXTURE SHALL BE AN ANNUAL RYE GRASS.

SOIL AMENDMENTS

PERMANENT – Dolomitic limestone – 92 lbs. / 1000 s.f.
Fertilizer (10-10-10 or equivalent) – 46 lbs / 1000 s.f.

TEMPORARY – Dolomitic limestone – 46 – 92 lbs / 1000 s.f.
Fertilizer (10-10-10) – 14 lbs. / 1000 s.f.

LIME AND FERTILIZER TO BE WORKED INTO TOP 3" OF TOPSOIL BY HARROWING OR DISCING PRIOR TO SEEDING.

MULCHING

ALL AREAS THAT HAVE BEEN SEEDED SHALL BE MULCHED WITH UNROTTED STRAW AT A RATE OF 92 lbs. PER 1,000 S.F. STRAW SHALL BE SPREAD EITHER BY HAND OR MECHANICALLY. MULCH SHALL BE ANCHORED BY TRACKING, A MULCH ANCHORING TOOL, OR A SYNTHETIC MULCH BINDER.

ALL DISTURBED AREAS SHALL BE EITHER TEMPORARILY OR PERMANENTLY STABILIZED BY THE END OF THE FALL PLANTING SEASON.

OWNERS CERTIFICATION:

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN AND THAT THE PLAN WAS MADE AT MY DIRECTION.

Bobby Horsey Robert E Horsey 8-15-12

ROBERT E. HORSEY — Date
DAVID G. HORSEY AND SONS, INC.
28107 BEAVER DAM BRANCH
LAUREL, DE 19956

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
G1	COVER SHEET
C1.0	SITE PLAN

PROJECT TEAM

OWNER / DEVELOPER:
HORSEY FAMILY, LLC
28107 BEAVER DAM BRANCH
LAUREL, DE 19956
CONTACT: ROBERT E. HORSEY
302-644-7777
EMAIL bobbydgh@aol.com

CIVIL ENGINEER:
GEORGE, MILES & BUHR, LLC
206 W. MAIN ST.
SALISBURY, MARYLAND 21801
CONTACT: MICHAEL G. KOBIN, P.E.
410-742-3115
EMAIL mkobin@gmbnet.com

SITE DATA / DESIGN CRITERIA

TAX PARCEL NO. 2-31-21.00-22.00

TOTAL SITE AREA: 199.50± ACRES

AREA TO BE DISTURBED: 140.82 ACRES

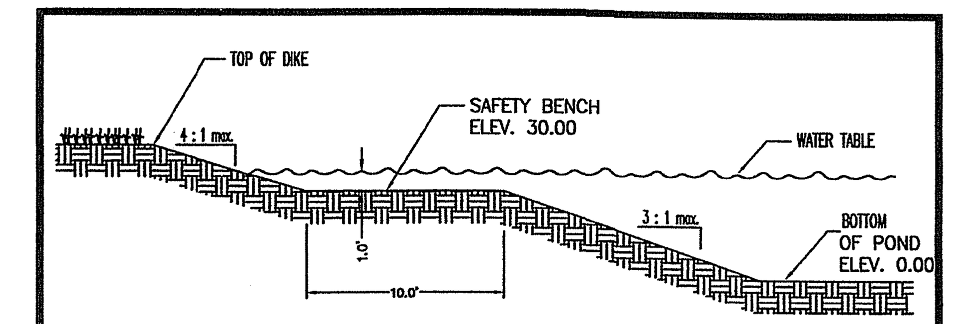
PROPOSED USE: BORROW PIT

EXISTING ZONING: AR-2

PROPOSED ZONING: AR-2

HORIZ. CONTROL: DELAWARE STATE GRID NAD 83

VERT. CONTROL NAVD 88

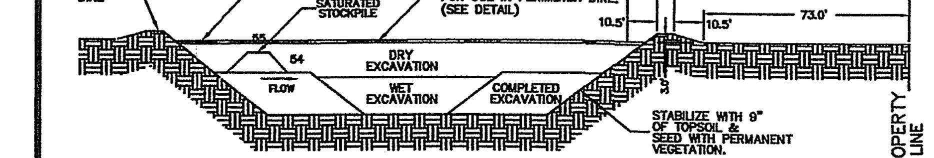


N.T.S.
TYPICAL POND CROSS-SECTION

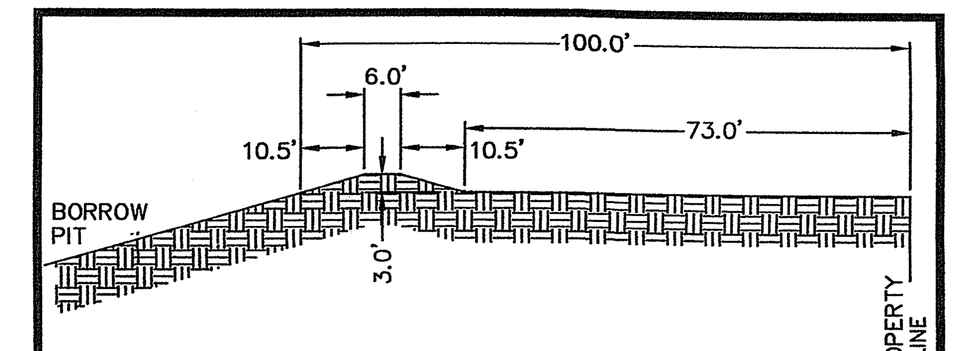
(1) NO STOCKPILE SHALL OCCUR OUTSIDE THE CONFINES OF THE AREA WHICH THE TOPSOIL HAS BEEN REMOVED.

(2) SATURATED STOCKPILES SHALL BE PLACED TO ALLOW SEDIMENT LADEN WATER TO TO DRAIN INTO THE AREA FROM WHICH IT WAS EXCAVATED. UNDER NO CIRCUMSTANCES SHALL SATURATED MATERIAL BE PLACED OUTSIDE THE CONFINES OF THE BORROW PIT.

(3) THE SIDE SLOPES OF THE BORROW PIT WHICH BORDER THE PERIMETER OF THE PROPERTY SHALL BE PERMANENTY VEGETATED UPON COMPLETION OF EXCAVATION OPERATIONS IN EACH AREA BEFORE BEGINNING OPERATION IN A NEW AREA. (IE: PHASES I, II, III)



N.T.S.
STANDARD EXCAVATION PRACTICES



N.T.S.
TYPICAL PERIMETER DIKE

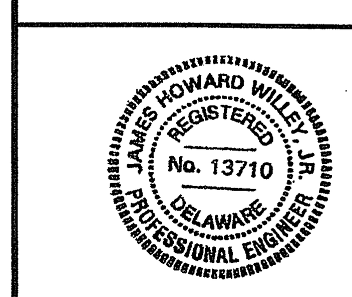
PRINTS ISSUED FOR:
DRAWINGS STAGE

DATE	REVISIONS	NO.

APPROVED
per set as a prel. only @ P&Z Co. 9-13-12 SA
SUSSEX COUNTY
PLANNING & ZONING COMMISSION
2 Sheets

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE



COVER SHEET

SCALE	: NONE	SHEET NO.
DESIGN BY	: DLB	G1
DRAWN BY	: DLB	
CHECKED BY	:	
GMB FILE	: 110113	
DATE	: 8-13-11	

CONSTRUCTION NOTES

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE. SEE DETAIL ON SHEET C2.1.
2. INSTALL SILT FENCE. SEE DETAIL ON SHEET C2.2.
3. INSTALL 108 LF (2) 36" RCP CLASS V ON EXISTING GRADE.
4. INSTALL BORROW PIT POND. SEE DETAIL ON SHEET C2.2 FOR TYPICAL POND CROSS SECTION. STANDARD EXCAVATION PRACTICES ARE SHOWN ON SHEET C2.2.
5. INSTALL PERIMETER DIKE (TYPICAL) AROUND TOP OF BORROW PIT. SEE DETAIL ON SHEET C2.2.

N/F LANDS OF
PAF LLC
D.B. 2645-23
TAX MAP PARCEL
231-19.00-18.06

N/F LANDS OF
JERRY DUKES
D.B. 2190-67
TAX MAP PARCEL
231-22.00-6.00

N/F LANDS OF
MARY AND GAIL WILSON
D.B. 2117-113
TAX MAP PARCEL
231-21.00-21.00

PHASE II

PHASE I

PHASE III

SAND PLANT
SITE
+/- 7 AC.

SCALES

PROPERTY LINE
100' BUFFER
LOD
SF

Recorder of Deeds
Scott Dailey
Aug 12,2015 10:16A
Sussex County
Doc. Surcharge Paid

N/F LANDS OF
ELWOOD WORKMAN & SONS
D.B. 2156-331
TAX MAP PARCEL
231-22.00-7.00

N/F LANDS OF
EVERETT MESSICK
D.B. 1124-54
TAX MAP PARCEL
231-21.00-24.00

N/F LANDS OF
LILLIAN BLACKSON
D.B. 288-52
TAX MAP PARCEL
232-3.00-1.00

HARDSCRABBLE ROAD
STATE ROUTE 20
(60' WIDE RIGHT-OF-WAY)

0 75 150 300 450
SCALE: 1" = 150'

PRINTS ISSUED FOR:
DRAWINGS STAGE

NO.	REVISIONS	DATE

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY, MARYLAND 410-742-3115
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

JAMES HOWARD WILLIAMS
REGISTERED
PROFESSIONAL ENGINEER
8-15-12

APPROVED
CONDITIONAL USE
#1741
PRELIMINARY
SITE PLAN

SCALE : 1" = 150'	SHEET NO.
DESIGN BY : DLB	C1.0
DRAWN BY : DLB	
CHECKED BY :	
GMB FILE : 110113	
DATE : 8-13-11	

PLOT CODE
PEN1-RED 200 INCHES (5mm)
PEN2-YELLOW 200 INCHES (5mm)
PEN3-GREEN 200 INCHES (10mm)
PEN4-BLUE 200 INCHES (10mm)
PEN5-CYAN 200 INCHES (10mm)
PEN6-MAGENTA 200 INCHES (10mm)
PEN7-WHITE 200 INCHES (10mm)

G:\Projects\2011\110113 Route 20 Borrow Pit\Drawings\Working Sets\Preliminary Site Plans\C1.0 Site Plan.dwg, 8/15/2012 10:08 AM, Doug L. Baker, Jr.

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE
ENTRANCE PLANS

GMB FILE NO. 110113

CONDITIONS

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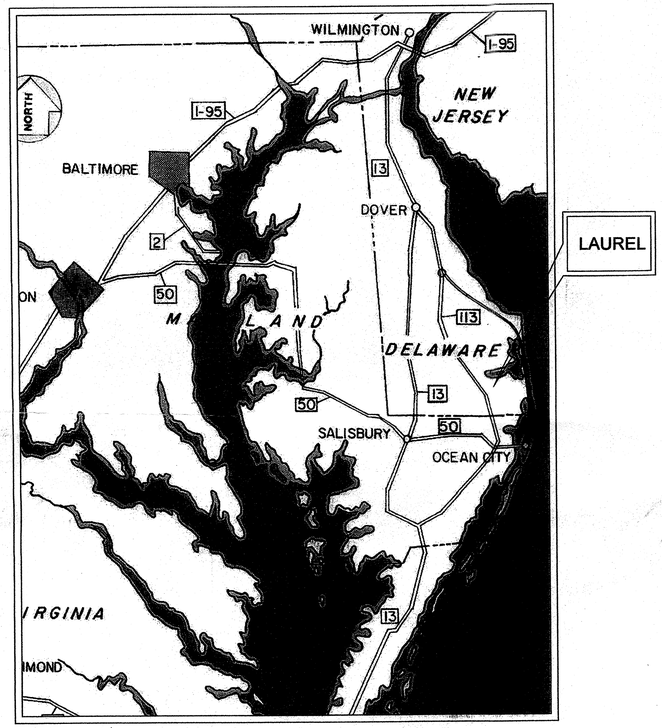
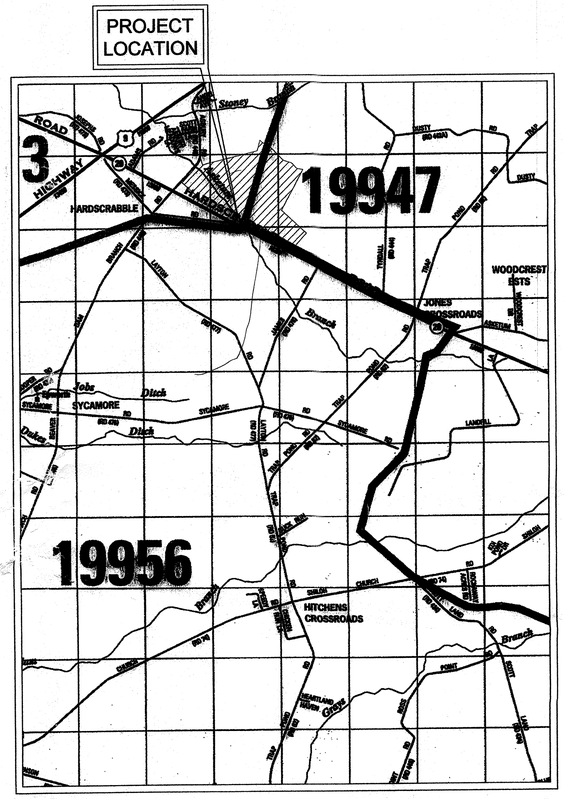
15. THE 199.5 ACRE PARCEL SHALL BE DIVIDED INTO THREE (3) PHASES OF 45 ACRES EACH. PHASE TWO WILL NOT BE STARTED UNTIL 75% OF PHASE ONE IS COMPLETED. PHASE THREE WILL NOT BE STARTED UNTIL 75% OF PHASE TWO IS COMPLETED. THE EXCAVATED AREA SHALL NOT EXCEED 135 ACRES.
16. THE DREDGE MAY OPERATE 24 HOURS PER DAY, BUT NO FRONT-END LOADERS, BACKHOES, OR OTHER CONSTRUCTION EQUIPMENT WITH SAFETY BUZZERS WILL OPERATE AFTER 10:00 P.M.
17. EVERY FIVE (5) YEARS AFTER THE START OF DIGGING, THE PLANNING AND ZONING DEPARTMENT SHALL PERFORM AN INSPECTION OF THE SITE, AND SHALL REQUEST WRITTEN COMMENTS FROM ALL APPROPRIATE STATE AGENCIES SO THAT THE PLANNING AND ZONING COMMISSION CAN REVIEW THE COMMENTS TO VERIFY COMPLIANCE WITH ALL THEN-EXISTING REGULATIONS. AFTER TWENTY (20) YEARS, THE PROPERTY OWNER SHALL COMPLETE AND PAY FOR AN ENVIRONMENTAL IMPACT STUDY, AS THE PHASE IS DEFINED BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, OR ANY SUCCESSOR. UPON CERTIFICATION BY THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL OF THE OWNERS' COMPLIANCE WITH THEN-EXISTING REGULATIONS, THE PERMIT SHALL BE EXTENDED FOR AN ADDITIONAL TEN (10) YEARS. THE PERMIT SHALL TERMINATE UPON THE EXPIRATION OF FORTY (40) YEARS FROM THE DATE OF ENACTMENT.
18. TRUCKING VEHICLES SHALL BE PROHIBITED FROM USING ROAD 446 (ASBURY ROAD). THE ENTRANCE TO THE BORROW PIT SHALL BE FROM ROUTE 20 (HARDSCRABBLE ROAD).
19. NO DEWATERING ACTIVITIES WILL OCCUR ON SITE.
20. THE APPLICANT SHALL DELAY THE SALE OF MATERIALS FROM OFF-SITE UNTIL JANUARY 1, 2011.



VICINITY MAP
SCALE: 1" = 20 MILES



LOCATION MAP
SCALE: 1" = 2000'

LIST OF DRAWINGS

DE1	COVER SHEET
DE2	LEGEND
DE3	NOTES
DE4	CROSS SECTION
DE5	CROSS SECTION
DE6	CONSTRUCTION PLANS
DE7	GRADING PLAN
DE8	SIGNAGE AND STRIPING
DE9	DETAILS

PROJECT TEAM

OWNER / DEVELOPER: HORSEY FAMILY, LLC
28107 BEAVER DAM BRANCH
LAUREL, DE 19956
CONTACT: ROBERT E. HORSEY
302-644-7777
EMAIL bobbydgh@aol.com

CIVIL ENGINEER: GEORGE, MILES & BUHR, LLC
206 W. MAIN ST.
SALISBURY, MARYLAND 21801
CONTACT: MICHAEL G. KOBIN, P.E.
410-742-3115
EMAIL mgkobin@gmbnet.com

SITE DATA / DESIGN CRITERIA

TAX PARCEL NO. 2-31-21.00-22.00

TOTAL SITE AREA: 199.50± ACRES

PROPOSED USE: BORROW PIT

EXISTING ZONING: AR-2

PROPSED ZONING: AR-2

HORIZ. CONTROL: DELAWARE STATE GRID NAD 83

VERT. CONTROL NAVD 88

OWNERS CERTIFICATION:

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN AND THAT THE PLAN WAS MADE AT MY DIRECTION.

9-5-12
Date

ROBERT E. HORSEY
DAVID G. HORSEY AND SONS, INC.
28107 BEAVER DAM BRANCH
LAUREL, DE 19956

"I JAMES H. WILLEY, JR. P.E., HEREBY CERTIFY THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HERE HAS BEEN PREPARED UNDER MY SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEVE REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE."

9.5.12
DATE

JAMES H. WILLEY, Jr. P.E.
GEORGE, MILES & BUHR, LLC
206 W. MAIN ST.
SALISBURY, MD 21801

RECOMMENDED		RECOMMENDED		RECOMMENDED		RECOMMENDED		RECOMMENDED	
SQUAD MANAGER, TRANSPORTATION SOLUTIONS (PROJECT DEVELOPMENT OR BRIDGE DESIGN)		BRIDGE DESIGN ENGINEER		GROUP ENGINEER, PROJECT DEVELOPMENT		ASSISTANT DIRECTOR TRANSPORTATION SOLUTIONS		CHIEF ENGINEER	
DATE	SEAL	DATE	SEAL	DATE	SEAL	DATE	SEAL	DATE	SEAL

PRINTS ISSUED FOR: DRAWINGS STAGE

NO.	REVISIONS	DATE
1	REVISED PER DELDOT REVIEW	2-1-12

REVIEWED FOR GENERAL CONFORMITY
SEP 17 2012
SSP162
SUBDIVISION NUMBER

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY - BALTIMORE - SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

RECEIVED
SEP - 6 2012
DIVISION OF PLANNING

COVER SHEET

SCALE	: NONE
DESIGN BY	: DLB
DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

SHEET NO. DE1

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G:\Projects\2011\110113 Route 20 Borrow Pit\Drawings\Working Sets\Final Site Plans\DE1 Cover Sheet.dwg, 9/5/2012 7:39 AM, Doug L. Bahner, Jr.
PLOT CODE
FISH-RED 200 INCHES (.05mm)
FISH-YELLOW 200 INCHES (.10mm)
FISH-GREEN 200 INCHES (.20mm)
FISH-CYAN 200 INCHES (.30mm)
FISH-BLUE 200 INCHES (.40mm)
FISH-MAGENTA 200 INCHES (.70mm)
FISH-WHITE 200 INCHES (1.00mm)

EXISTING SYMBOLS

DRAINAGE

C.B.	DRAINAGE CATCH BASIN
	STORM DRAIN
	MANHOLE
	STORM DRAIN PIPE
	DRAINAGE PIPE HEADWALL
	RIPRAP – AREA FEATURE
	TURF MATTING

MANMADE ROADSIDE FEATURES

(TYPE LABEL)	CURB
(TYPE LABEL)	CURB AND GUTTER
	CROSS WALK
	TRAFFIC SIGN AND POST
	AMERICANA BAYSIDE SIGN
x x	FENCE

NATURAL ROADSIDE FEATURES

	TREE
	WOODS LINE BOUNDARY
	CONTOUR MAJOR AND MINOR

SURVEY CONTROL & MONUMENTATION

B.M.	SURVEY BENCHMARK LOCATION
T.P.	SURVEY TIE POINT LOCATION
△	SURVEY TRAVERSE POINT
◎	POINT OF CURVATURE OR TANGENCY
◎	POINT OF INTERSECTING TANGENTS
C.M.	PROPERTY MARKER – CONCRETE MON.
I.P.	PROPERTY MARKER – IRON PIPE
○ 7.2	EXISTING SPOT ELEVATION

UTILITY

	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
TV	CABLE TV DISTRIBUTION BOX
E	ELECTRIC MANHOLE
EM	ELECTRIC METER
E	ELECTRIC TRANSFORMER
G	GAS MANHOLE
G.M.	GAS METER
G.V.	GAS VALVE
G.P.	GAS PUMP – SERVICE STATION
○	SANITARY SEWER MANHOLE
S.V.	SANITARY SEWER VALVE
VENT	SANITARY SEWER VENT OR CLEANOUT
B	TELEPHONE BOOTH
T	TELEPHONE MANHOLE
T	TELEPHONE TEST POINT
J.W.	TRAFFIC – CONDUIT JUNCTION WELL
	TRAFFIC – LIGHT POLE AND BASE
	TRAFFIC – PEDESTRIAN POLE & BASE
	TRAFFIC – SIGNAL CABINET & BASE
⊗	TRAFFIC – SIGNAL POLE AND BASE
U	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
F.H.	WATER – FIRE HYDRANT
W.M.	WATER METER
W.V.	WATER VALVE
WELL	WELL HEAD
	POWER POLE
	LIGHT POLE
SW SW	WATER LINE
SS SS	SEWER LINE
SFM	FORCEMAIN LINE

PROPOSED SYMBOLS

CONSTRUCTION

x BFS x	BIOFILTRATION SWALE
	ROTO MILL AND OVERLAY
100+00	CONSTRUCTION BASELINE
	CURB, TYPE 2
	CURB & GUTTER, TYPE 2
CZ	CLEAR ZONE
	DRAINAGE INLET
x x	DITCH
	FLARED END SECTION
HC	HORIZONTAL CLEARANCE
	JUNCTION BOX – DRAINAGE
LOC	LIMIT OF CONSTRUCTION
O	MANHOLE
	PIPE
	RIPRAP
	P.C.C. SIDEWALK @ 4"
7	PROPOSED CONTOURS

LANDSCAPING

	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

EROSION & SEDIMENT CONTROL

DWB	DEWATERING BASIN
	EROSION CONTROL BLANKET
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
RSF	REINFORCED SILT FENCE
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
	STONE CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE
SP-1	SUMP PIT, TYPE 1
SP-2	SUMP PIT, TYPE 2
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN

PAVEMENT SECTION(S)

	NEW PAVING TO BE CONSTRUCTED PER DEL-DOT SPECIFICATIONS. – SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS

RIGHT-OF-WAY SYMBOLS

	PROPOSED RIGHT-OF-WAY MONUMENT
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
RW	EXISTING RIGHT-OF-WAY
PE	PROPOSED PERMANENT EASEMENT
RW	PROPOSED RIGHT-OF-WAY
1+00	PROPOSED RIGHT-OF-WAY BASELINE

TRAFFIC

	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

PRINTS ISSUED FOR:
DRAWINGS STAGE

NO.	REVISIONS	DATE

REVIEWED FOR GENERAL CONFORMITY
SEP 17 2012
SUBDIVISION NUMBER

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

LEONARD D. BUHR III
LICENSED PROFESSIONAL ENGINEER
DELAWARE
9.5.12

LEGEND

SCALE	: NONE
DESIGN BY	: DLB
DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

SHEET NO.
DE2

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PLOT SCALE
PEN#-COLOR
.005 INCHES (.13mm) PEN#-RED
.007 INCHES (.18mm) PEN#-YELLOW
.010 INCHES (.25mm) PEN#-GREEN
.014 INCHES (.35mm) PEN#-CYAN
.020 INCHES (.50mm) PEN#-BLUE
.028 INCHES (.70mm) PEN#-MAGENTA
.039 INCHES (1.00mm) PEN#-WHITE

Q:\Projects\2011\110113 Route 20 Borrow Pit\Drawings\Working Set\Final Site Plans\DE2 Legend.dwg, 9/6/2012 7:38 AM, Doug L. Baker, Jr.

GENERAL NOTES

1. ALL ENTRANCES SHALL CONFORM TO DELDOT'S CURRENT STANDARDS AND REGULATIONS FOR SUBDIVISION STREETS AND STATE HIGHWAY ACCESS AND SHALL BE SUBJECT TO ITS APPROVAL.
2. ALL DISTURBED AREAS WITHIN THE STATE RIGHT-OF-WAY, BUT NOT IN THE PAVEMENT, SHALL BE TOP-SOILED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED.
3. A 72-HOUR (MINIMUM) NOTICE SHALL BE GIVEN TO THE DELDOT DISTRICT PERMIT SUPERVISOR PRIOR TO STARTING ENTRANCE CONSTRUCTION.
4. MISS UTILITY OF DELAWARE SHALL BE NOTIFIED THREE (3) CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-8555
5. ALL SIGNING AND MAINTENANCE OF TRAFFIC IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL FOLLOW THE GUIDELINES SHOWN IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) FOR STREETS AND HIGHWAYS (LATEST EDITION). THE DEVELOPER, OWNER AND/OR MAINTENANCE CORPORATION SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL SIGNS INSTALLED AS PART OF THIS PROJECT.
6. PLAN LOCATION AND DIMENSIONS SHALL BE STRICTLY ADHERED TO UNLESS OTHERWISE DIRECTED BY THE DELDOT DISTRICT PERMIT SUPERVISOR.
7. NO LANDSCAPING SHALL BE PERMITTED WITHIN THE STATE OF DELAWARE RIGHT-OF-WAY.
8. ALL MATERIALS AND WORKMANSHIP, INCLUDING STORM DRAIN PIPING, INLET, MANHOLE AND END SECTION INSTALLATION, WITHIN THE STATE OF DELAWARE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH CURRENT STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SUPPLEMENTAL SPECIFICATIONS, SPECIAL PROVISIONS AND DESIGN GUIDANCE MEMORANDUMS.
9. A COPY OF THE UP TO DATE APPROVED MAINTENANCE OF TRAFFIC PLANS AND APPROVAL LETTER SHALL BE ON THE PROJECT AT ALL TIMES.
10. EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION AND ELEVATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BEGIN WITHOUT NOTIFYING THEIR OWNERS AT LEAST 48-HOURS IN ADVANCE. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE DONE TO THEM DUE TO HIS/HER NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELAWARE (SEE NOTE #4).
11. SHOULD UTILITY RELOCATION BE REQUIRED, THE DEVELOPER MUST SUBMIT A UTILITY RELOCATION PLAN FOR DELDOT REVIEW, ALONG WITH CORRESPONDENCE FROM THE UTILITY COMPANIES STATING PRELIMINARY APPROVAL TO THE RELOCATION AND DESIGN OF THE UTILITIES PRIOR TO THE DELDOT PRE-CONSTRUCTION MEETING. NO PHYSICAL CONSTRUCTION CAN OCCUR UNTIL THE UTILITY PLANS ARE APPROVED, THE INDIVIDUAL UTILITY COMPANIES ISSUE FINAL APPROVAL, AND A DELDOT UTILITY PERMIT IS ISSUED.
12. DESIGN, FABRICATION AND INSTALLATION OF ALL PERMANENT SIGNING SHALL BE AS OUTLINED IN THE DE MUTCD.
13. FOR FINAL PERMANENT PAVEMENT MARKINGS, EPOXY RESIN PAINT SHALL BE REQUIRED FOR LONG LINE STRIPING AND THERMO WILL BE REQUIRED FOR SHORT LINE STRIPING, I.E. SYMBOLS/LEGENDS.
14. BREAKAWAY POSTS SHALL BE USED WHEN INSTALLING ALL SIGNS. REFERENCE DELDOT STANDARD CONSTRUCTION DETAIL T-15.
15. NO ENTRANCE AND/OR ROADWAY CONSTRUCTION ALONG ROUTE XX SHALL OCCUR BEGINNING ON MAY 15TH AT 12:00 P.M. AND ENDING ON SEPTEMBER 15TH AT 12:00 P.M. 17. CONTRACTOR SHALL SUPPLY MESSAGE BOARDS THAT ARE TO BE PLACED TEN (10) DAYS PRIOR TO CONSTRUCTION ALONG ROUTE XXX. THE PROPER WORDING ON THE MESSAGE BOARD WILL NEED TO BE COORDINATED WITH THE DISTRICT SAFETY OFFICER.
16. MAINTENANCE OF THE STREETS WITHIN THIS SUBDIVISION WILL BE THE RESPONSIBILITY OF THE DEVELOPER, THE PROPERTY OWNERS WITHIN THIS SUBDIVISION, OR BOTH. THE STATE OF DELAWARE ASSUMES NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THESE STREETS.
17. A DOUBLE YELLOW CENTERLINE WILL BE REQUIRED ALONG THE PAVED PORTION OF ROUTE X. STRIPING OF THE CENTERLINE SHALL BE 5-INCH WIDE LINE SEPARATED BY A 6-INCH SPACE. THE PURPOSE FOR PROVIDING THIS SPACE IS TO ALLOW FOR THE INSTALLATION OF RAISED PAVEMENT MARKERS (RPM) AND FOR THE MAINTENANCE OF THESE PAVEMENTS MARKINGS.
18. VERIFY IF ANY UTILITIES WILL NEED TO BE RELOCATED DUE TO THE ADDITION OF THE SHOULDER. FOR CLEAR ZONE PURPOSES, ALL UTILITIES ARE TO BE A MINIMUM OF 10-FEET FROM THE EDGE OF TRAVEL LANE OR 5-FEET FROM THE EDGE OF PAVEMENT. ANY UTILITY THAT DOES NOT MEET THIS REQUIREMENT SHALL BE RELOCATED. 25. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT PAVING WITHIN THE STATE OF DELAWARE RIGHT-OF-WAY IS INSTALLED TO THE ELEVATIONS SHOWN AND THAT NO PONDING OF WATER EXISTS AFTER PAVING IS COMPLETE.
19. ALL STORM DRAIN PIPING DESIGNATED AS RCP IS TO BE REINFORCED CONCRETE PIPE, MEETING AASHTO M-170 SPECIFICATIONS. SEE PLANS FOR SPECIFIC CLASS OF PIPE.
20. DRIVEWAYS WILL NOT BE PERMITTED TO BE PLACED AT CATCH BASIN LOCATIONS.
21. ALL STEEL USED IN CATCH BASINS SHALL BE 60 KSI.
22. WARM-MIX SHALL BE PLACED IN ACCORDANCE WITH DELDOT SPECIAL PROVISION(S) 4018XX & 4018XX - WMA SUPERPAVE.
23. THIS PROJECT INCLUDES NON-STATE-MAINTAINED PUBLIC ROADWAYS, AND/OR PRIVATE ROADS OPEN TO PUBLIC TRAVEL. THESE PAVED AREAS AND ROADWAYS ARE ACCESSIBLE TO THE PUBLIC FOR TRAVEL, WITHOUT RESTRICTION AND WOULD ALSO INCLUDE: PARKING AREAS, DRIVING AISLES WITHIN PARKING AREAS, AND PRIVATE GRADE CROSSINGS. UNLESS SPECIFICALLY STATED OTHERWISE, THE DELAWARE DEPARTMENT OF TRANSPORTATION HAS NOT REVIEWED NOR IS RESPONSIBLE FOR THE TRAFFIC CONTROL DEVICES ON THESE ROADS, AND ANY ENTRANCE OR RECORD PLAN APPROVALS SHOULD NOT BE CONSTRUED AS APPROVAL OF THE TRAFFIC CONTROL DEVICES ON THESE ROADS. THE DEVELOPER, LOCAL AGENCY, AND/OR PRIVATE OWNER SHALL ENSURE THAT THE TRAFFIC CONTROL DEVICES ON THE NON-STATE-MAINTAINED ROADWAYS OPEN TO PUBLIC TRAVEL ARE IN COMPLIANCE WITH THE DE MUTCD.
24. ANY TREES WITHIN THE SIGHT TRIANGLE WILL NEED TO BE REMOVED.
25. A TRUCK MOUNTED ATTENUATOR (TMA) "CRASH CUSHION" VEHICLE IS NEEDED IN A WORK ZONE.

SUBDIVISION MANUAL TEMPORARY TRAFFIC CONTROL NOTES

1. ALL WORK SHALL BE PERFORMED IN A MANNER THAT WILL REASONABLY PROVIDE THE LEAST PRACTICABLE OBSTRUCTION TO ROAD USERS, INCLUDING VEHICULAR TRAFFIC, BICYCLE TRAFFIC AND PEDESTRIAN TRAFFIC.
2. ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE CONTRACT DOCUMENTS AND WITH THE LATEST EDITION OF THE MANUAL TITLED "STATE OF DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)," HEREIN AFTER REFERRED TO AS THE "DELAWARE MUTCD", INCLUDING ALL REVISIONS AS OF THE DATE OF THE ENTRANCE PERMIT APPROVAL.
3. THE DEPARTMENT RESERVES THE RIGHT TO STOP THE CONTRACTOR'S OPERATIONS, IF, IN THE OPINION OF THE DEPARTMENT'S REPRESENTATIVE, THE CONTRACTOR'S OPERATIONS ARE NOT IN COMPLIANCE WITH THE DELAWARE MUTCD, THE SPECIFICATIONS OR THE PLANS OR IF THE CONTRACTOR'S OPERATIONS ARE DEEMED UNSAFE.
4. IF THE CONTRACTOR DESIRES TO DEVIATE FROM THE TEMPORARY TRAFFIC CONTROL PLAN (TTCP) PROVIDED IN THE PLAN SET OR DESIRES CHANGES TO THE PHASING OR SCOPE OF THE TTCP, THE CONTRACTOR SHALL SUBMIT A NEW TTCP TO THE DISTRICT SAFETY OFFICER FOR APPROVAL PRIOR TO THE START OF WORK AT EACH AND EVERY LOCATION. THE TTCP SHALL BE PREPARED, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF DELAWARE AND SHALL BE PREPARED IN ACCORDANCE WITH ALL APPLICABLE DELDOT STANDARDS. THE TTCP SHALL BE SUBMITTED 14 CALENDAR DAYS IN ADVANCE OF STARTING WORK.
5. ALL ROADWAY CLOSURES OR LANE CLOSURES BEYOND THOSE SPECIFIED AND APPROVED IN THE PLANS SHALL BE APPROVED BY THE DISTRICT SAFETY OFFICER A MINIMUM OF TWO WEEKS IN ADVANCE OF THE PROPOSED RESTRICTION.
6. TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION IN ACCORDANCE WITH THE BROCHURE ENTITLED "QUALITY GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES", PUBLISHED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA). ANY TEMPORARY TRAFFIC CONTROL DEVICES THAT DO NOT MEET THE QUALITY GUIDELINES SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE DEVICES. FAILURE TO COMPLY WILL RESULT IN WORK STOPPAGE.
7. TEMPORARY TRAFFIC CONTROL DEVICES USED ON ALL ROADWAYS OPEN TO THE PUBLIC IN DELAWARE SHALL CONFORM TO THE DELAWARE MUTCD AND SHALL BE IN NEW OR REFURBISHED CONDITION. ALL DEVICES SHALL BE CRASHWORTHY IN ACCORDANCE WITH THE NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 AND/OR IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO). THE CONTRACTOR SHALL SUBMIT CERTIFICATION FOR ALL TEMPORARY TRAFFIC CONTROL DEVICES USED SPECIFICALLY ON THIS PROJECT TO THE DISTRICT SAFETY OFFICER AT OR PRIOR TO THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL NOT BEGIN WORK OR PLACE ANY TEMPORARY TRAFFIC CONTROL DEVICES UNTIL THE CERTIFICATION OF DEVICES HAS BEEN APPROVED BY THE DISTRICT SAFETY OFFICER.
8. ANY DEFICIENCIES RELATED TO TEMPORARY TRAFFIC CONTROL THAT ARE REPORTED TO THE CONTRACTOR IN WRITING SHALL BE CORRECTED WITHIN 24 HOURS OR AS DIRECTED BY THE DISTRICT SAFETY OFFICER. CORRECTIVE ACTIONS ON SEVERE DEFICIENCIES SHALL BE TAKEN IMMEDIATELY. FAILURE TO COMPLY WILL RESULT IN THE SUSPENSION OF WORK UNTIL DEVICES ARE BROUGHT BACK INTO COMPLIANCE.
9. ACCESS TO ALL BUSINESSES AND RESIDENCES WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THIS CONTRACT. ANY TEMPORARY CLOSURE OF A DRIVEWAY OR ENTRANCE FOR TIE-IN PURPOSES SHALL BE COORDINATED WITH THE ENGINEER AND THE PROPERTY OWNER IN ADVANCE OF THE CLOSURE.
10. ACCESS TO ALL TRANSIT STOPS LOCATED WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED UNLESS OTHERWISE DIRECTED BY THE PLANS OR THE ENGINEER. MAINTAINING ACCESS TO THE TRANSIT STOP SHALL INCLUDE MAINTAINING AN AREA OF THE TRANSIT VEHICLE TO STOP TO PICK-UP AND DISCHARGE PASSENGERS AND ALSO AN ACCESSIBLE PATH FOR PEDESTRIANS TO SAFELY ACCESS THE TRANSIT STOP.
11. THE CONTRACTOR SHALL PROVIDE ALL PROPERTY OWNERS AND RESIDENTS WHO LIVE ADJACENT TO THE WORK ZONE WITH WRITTEN NOTICE, 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION WORK. THIS NOTIFICATION SHALL INCLUDE THE SCOPE OF WORK, WORKING HOURS, ANTICIPATED START AND COMPLETION DATES; A SUMMARY OF CONSTRUCTION ACTIVITIES WHICH MAY INTERFERE WITH ACCESS TO THE PROPERTY INCLUDING A SCHEDULE AND ACCESS COORDINATION PLAN, CONTRACTOR'S NAME AND ADDRESS AND A DELDOT CONTACT PHONE NUMBER. FAILURE TO GIVE PROPER NOTICE WILL RESULT IN A SUSPENSION OF THE WORK REQUIRING NOTICE, UNTIL PROPER NOTICE IS PROVIDED. THE CONTRACTOR SHALL PROVIDE WRITTEN VERIFICATION TO THE ENGINEER THAT THE PROPERTY OWNERS AND RESIDENTS WERE NOTIFIED.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE LOCAL 911 CENTER, LOCAL SCHOOLS AND THE DELDOT PUBLIC INFORMATION CENTER OF ALL ROADS AND LANES TO BE CLOSED A MINIMUM OF SEVEN CALENDAR DAYS BEFORE THE CLOSURE.
13. THE CONTRACTOR SHALL NOTIFY THE LOCAL 911 CENTER IF ACCESS TO A FIRE HYDRANT IS TEMPORARILY RESTRICTED.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE TRANSPORTATION MANAGEMENT CENTER IS NOTIFIED EACH AND EVERY DAY WHEN WORK IS BEING PERFORMED IN STATE RIGHT-OF-WAY. THE CONTRACTOR SHALL IDENTIFY THE TYPE OF WORK, ANY LANE(S) OR SHOULDERS CLOSED, THE LENGTH OF TIME FOR WORK, WHEN THE LANE RESTRICTIONS ARE IN PLACE AND WHEN LANE RESTRICTIONS ARE LIFTED, CONTACT PERSON/PHONE NUMBER AND STATE INSPECTOR. THE TRANSPORTATION MANAGEMENT CENTER CAN BE REACHED AT (302) 659-4600.
15. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL CORRECT ALL VERTICAL DIFFERENCES IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.
16. AT THE END OF EACH DAY'S OPERATION AND BEFORE TRAFFIC IS RETURNED TO UNRESTRICTED ROADWAY USE, TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE DELAWARE MUTCD AND DELDOT'S TEMPORARY PAVEMENT MARKINGS POLICY.
17. WHEN SIDE ROADS INTERSECT THE WORK ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE ERECTED INCLUDING PERMANENT WARNING SIGNS.
18. ALL STORAGE OF EQUIPMENT AND MATERIAL SHALL COMPLY WITH SECTION 6G.22 OF THE DELAWARE MUTCD.
19. ALL FLAGGERS SHALL COMPLY WITH CHAPTER 6E OF THE DELAWARE MUTCD.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER WORK WITH OTHER CONTRACTORS IN THE AREA.
21. ALL PERSONS WORKING WITHIN THE STATE RIGHT-OF-WAY SHALL WEAR A MINIMUM OF AN ANSI CLASS II SAFETY VEST MEETING OR EXCEEDING THE ANSI 107-2004 REQUIREMENTS, AS SPECIFIED IN THE DELAWARE MUTCD.
22. ALL PAVEMENT MARKINGS THAT ARE NO LONGER IN USE AND CONFLICT WITH TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND COMPLETELY OBLITERATED BY A METHOD APPROVED BY THE ENGINEER. PAINTING OVER THE CONFLICTING PAVEMENT MARKINGS WILL NOT BE ACCEPTED AS A METHOD OF REMOVAL.
23. THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF EXISTING PAVEMENT WITHIN THE PROJECT LIMITS FOR THE DURATION OF THE CONTRACT OR AS DIRECTED BY THE ENGINEER.
24. ALL ROADWAYS AND ENTRANCES NOT OPEN TO TRAFFIC SHALL BE CLOSED USING TYPE III BARRICADES AND SHALL BE INSTALLED PER THE DELAWARE MUTCD. IF THE ROADWAY OR ENTRANCE IS CLOSED FOR MORE THAN ONE MONTH, THE CONTRACTOR SHALL ERECT PERMANENT BARRICADES AS DIRECTED IN PART 3 OF THE DELAWARE MUTCD.
25. WITHIN THE MAINLINE WORK AREA, PERMANENT ADVANCE WARNING SIGNS WITH THE LEGENDS ROAD WORK 1500 FT, ROAD WORK 1000 FT AND ROAD WORK 500 FT SHALL BE INSTALLED IN ADVANCE OF THE WORK AREA IN BOTH DIRECTIONS. AN END ROAD WORK SIGN SHALL BE LOCATED 500 FEET DOWNSTREAM FROM THE WORK AREA. ON INTERSECTING ROADWAYS WITHIN THE PROJECT LIMITS, A ROAD WORK AHEAD SIGN SHALL BE PLACED AT A DISTANCE NOT LESS THAN 500 FEET IN ADVANCE OF THE WORK AREA AND AN END ROAD WORK SIGN SHALL BE LOCATED 500 FEET DOWNSTREAM OF THE WORK AREA. ALL PERMANENT ADVANCE WARNING SIGNS SHALL BE GROUND MOUNTED ON TWO NCHRP-350 OR MASH APPROVED BREAKAWAY POSTS AND SHALL BE MOUNTED IN COMPLIANCE WITH THE DELAWARE MUTCD. PERMANENT ADVANCE WARNING SIGNS SHALL BE MOUNTED AT A HEIGHT OF 7 FEET, MEASURED FROM THE ROADWAY TO THE BOTTOM OF THE SIGN. THE USE OF SKID MOUNTED SIGN SUPPORTS IS NOT ALLOWED UNLESS THE CONTRACTOR CAN DEMONSTRATE THAT A UTILITY CONFLICT EXISTS, WHICH SHALL BE VERIFIED BY THE ENGINEER; OR CONCRETE MEDIANS PREVENT THE INSTALLATION OF THE PERMANENT ADVANCE WARNING SIGNS IN THE APPROPRIATE LOCATION.

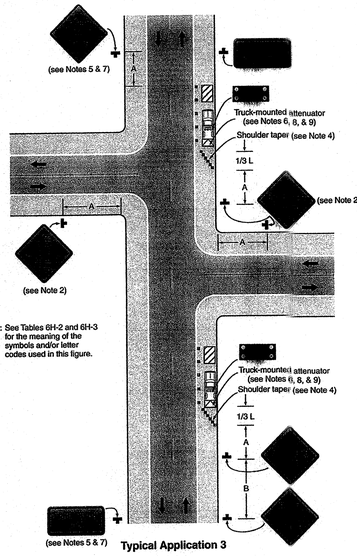
PEDESTRIAN MAINTENANCE OF TRAFFIC: THIS WORK SHALL CONSIST OF PROVIDING AND MAINTAINING AN ACCESSIBLE PEDESTRIAN ROUTE THROUGHOUT THE PROJECT'S LIMITS IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT OF 1990 (ADA) TITLE II, PARAGRAPH 35.130.

THE CONTRACTOR SHALL BE REQUIRED TO REVIEW EACH CURB RAMP LOCATION AND SUBMIT THE APPROPRIATE MAINTENANCE OF TRAFFIC DETAIL AND DEVICES TO THE ENGINEER FOR EACH LOCATION AT LEAST 2 WEEKS BEFORE CONSTRUCTION FOR REVIEW, COMMENT, AND APPROVAL.

THE FOLLOWING CONSIDERATIONS SHALL BE TAKEN INTO ACCOUNT WHEN ADDRESSING ACCESSIBLE PEDESTRIAN MAINTENANCE OF TRAFFIC:

- ALL PEDESTRIANS, INCLUDING PERSONS WITH DISABILITIES, SHALL BE PROVIDED WITH A REASONABLY SAFE, CONVENIENT AND ACCESSIBLE PATH THAT REPLICATES AS MUCH AS PRACTICABLE THE EXISTING PEDESTRIAN FACILITIES.
- MAINTAIN ACCESS TO ALL BUSINESS AND RESIDENTS AT ALL TIMES.
- PROVIDE PEDESTRIAN ACCESS THRU OR AROUND THE WORK ZONE. IF A DETOUR IS CHOSEN THE CONTRACTOR MUST SUBMIT THE DETOUR ROUTE TO THE ENGINEER FOR REVIEW AND APPROVAL. THE DETOUR ROUTE MUST MEET OR EXCEED THE CURRENT CONDITIONS.
- WORK SHOULD BE PHASED SO THAT ALL AREAS OF AN INTERSECTION/SIDEWALK PATH ARE NOT UNDER CONSTRUCTION AT THE SAME TIME UNLESS A CLEAR PATH IS PROVIDED AND IDENTIFIED.
- TRAFFIC CONTROL DEVICES AND OTHER CONSTRUCTION MATERIALS AND FEATURES SHALL NOT INTRUDE INTO THE USABLE WIDTH OF THE SIDEWALK, TEMPORARY PATHWAY OR OTHER PEDESTRIAN FACILITY.
- SIGNS AND OTHER DEVICES MOUNTED LOWER THAN 7 FT ABOVE THE TEMPORARY PEDESTRIAN PATHWAY SHALL NOT PROJECT MORE THAN 4 IN. INTO ACCESSIBLE PEDESTRIAN ROUTE.
- A SMOOTH, CONTINUOUS HARD SURFACE SHALL BE PROVIDED THROUGHOUT THE ENTIRE LENGTH AND WIDTH OF THE PEDESTRIAN ROUTE THROUGHOUT CONSTRUCTION. THERE SHALL BE NO CURBS OR VERTICAL ELEVATION CHANGES GREATER THAN ¼ IN. IN GRADE OR TERRAIN THAT COULD CAUSE TRIPPING OR BE A BARRIER TO WHEELCHAIR USE.

Figure 6H-3. Work on the Shoulder of a Two-Lane Road (TA-3)
(Delaware Revision)



Typical Application 3

Notes for Figure 6H-3—Typical Application 3
Work on the Shoulder of a Two-Lane Road
(Delaware Revision)

Guidance:

1. A SHOULDER CLOSED sign should be placed on the left side of the roadway for a divided or one-way street only if the left shoulder is affected.

Option:

2. The SHOULDER CLOSED sign may be omitted from an intersecting roadway where drivers emerging from that roadway will encounter another advance warning sign prior to the activity area.
3. For short duration operations of 60 minutes or less, all signs and channelizing devices may be eliminated if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.

Standard:

4. When paved shoulders having a width of 8 feet or more are closed, at least one advance warning sign shall be used. In addition, channelizing devices shall be used to close the shoulder in advance to delineate the beginning of the work space and direct vehicular traffic to remain within the traveled way.

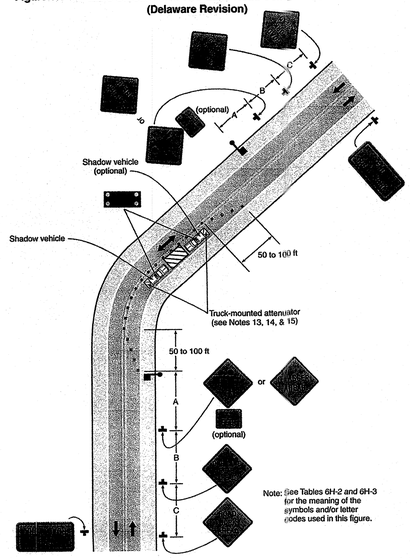
5. If the shoulder closure is located within a passing zone, ROAD WORK AHEAD and END ROAD WORK signs shall be placed for traffic approaching in the opposite direction.

6. For long-term, intermediate-term, and short-term operations, a truck-mounted attenuator shall be used on roadways with a posted speed limit or 85th-percentile speed greater than 40 mph.

Option:

7. If the shoulder closure is located within a no-passing zone, ROAD WORK AHEAD and END ROAD WORK signs may be placed for traffic approaching in the opposite direction based on engineering judgment.
8. For short duration operations of 15 minutes or less along roadways with a posted speed limit or 85th-percentile speed greater than 40 mph, a truck-mounted attenuator may be omitted if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used or if the shoulder width is less than the width of a truck-mounted attenuator.
9. Truck-mounted attenuators may be used for all operations along roadways with a posted speed limit or 85th-percentile speed less than or equal to 40 mph.

Figure 6H-10. Lane Closure on a Two-Lane Road Using Flaggers (TA-10)
(Delaware Revision)



Typical Application 10

Notes for Figure 6H-10—Typical Application 10
Lane Closure on a Two-Lane Road Using Flaggers
(Delaware Revision)

Option:

1. For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned to be visible to road users approaching from both directions, may be used (see Chapter 6E).
2. The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short-duration operations.
3. A BE PREPARED TO STOP sign may be added to the sign series.

Guidance:

4. The buffer space should be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.

Standard:

5. At night, flagger stations shall be illuminated, except in emergencies.

Guidance:

6. When used, the BE PREPARED TO STOP sign should be located between the Flagger symbol (or FLAGGER AHEAD) sign and the ONE LANE ROAD sign.

7. Where drivers emerging from an intersecting roadway will not encounter an advance warning sign prior to the work zone, additional signs should be placed on the intersecting road.

8. When a grade crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the grade crossing, the TTC zone should be extended so that the transition area precedes the grade crossing (see Figure 6H-46).

9. When a grade crossing equipped with active warning devices exists within the activity area, provisions should be made for keeping flaggers informed as to the activation status of these warning devices (see Figure 6H-46).

10. When a grade crossing exists within the activity area, drivers operating on the left-hand side of the normal center line should be provided with comparable warning devices as for drivers operating on the right-hand side of the normal center line (see Figure 6H-46).

11. Early coordination with the railroad company or light rail transit agency should occur before work starts (see Figure 6H-46).

Option:

12. A flagger or a uniformed law enforcement officer may be used at the upstream side of the grade crossing to minimize the probability that vehicles are stopped within 50 feet of the grade crossing, measured from both sides of the outside rails (see Figure 6H-46).

Standard:

13. For long-term, intermediate-term, and short-term operations, a truck-mounted attenuator shall be used on roadways with a posted speed limit or 85th-percentile speed greater than 40 mph.

Option:

14. For short duration operations of 15 minutes or less along roadways with a posted speed limit or 85th-percentile speed greater than 40 mph, a truck-mounted attenuator may be omitted if a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
15. Truck-mounted attenuators may be used for all operations along roadways with a posted speed limit or 85th-percentile speed less than or equal to 40 mph.

PRINTS ISSUED FOR:
DRAWINGS STAGE

NO.	REVISIONS	DATE
1	REVISED PER DELDOT REVIEW	8-27-12

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SEP 17 2012
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SUBDIVISION NUMBER

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ARCHITECTS & ENGINEERS
SALISBURY, MARYLAND · BALTIMORE, MARYLAND · SEAFORD, DELAWARE
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
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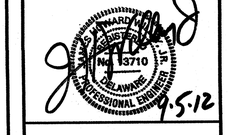
ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE



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DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

SHEET NO.
DE3

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PLOT CODE
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PEM-GREEN .010 INCHES (.25mm)
PEM-YELLOW .007 INCHES (.18mm)
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PEM-WHITE .039 INCHES (1.00mm)

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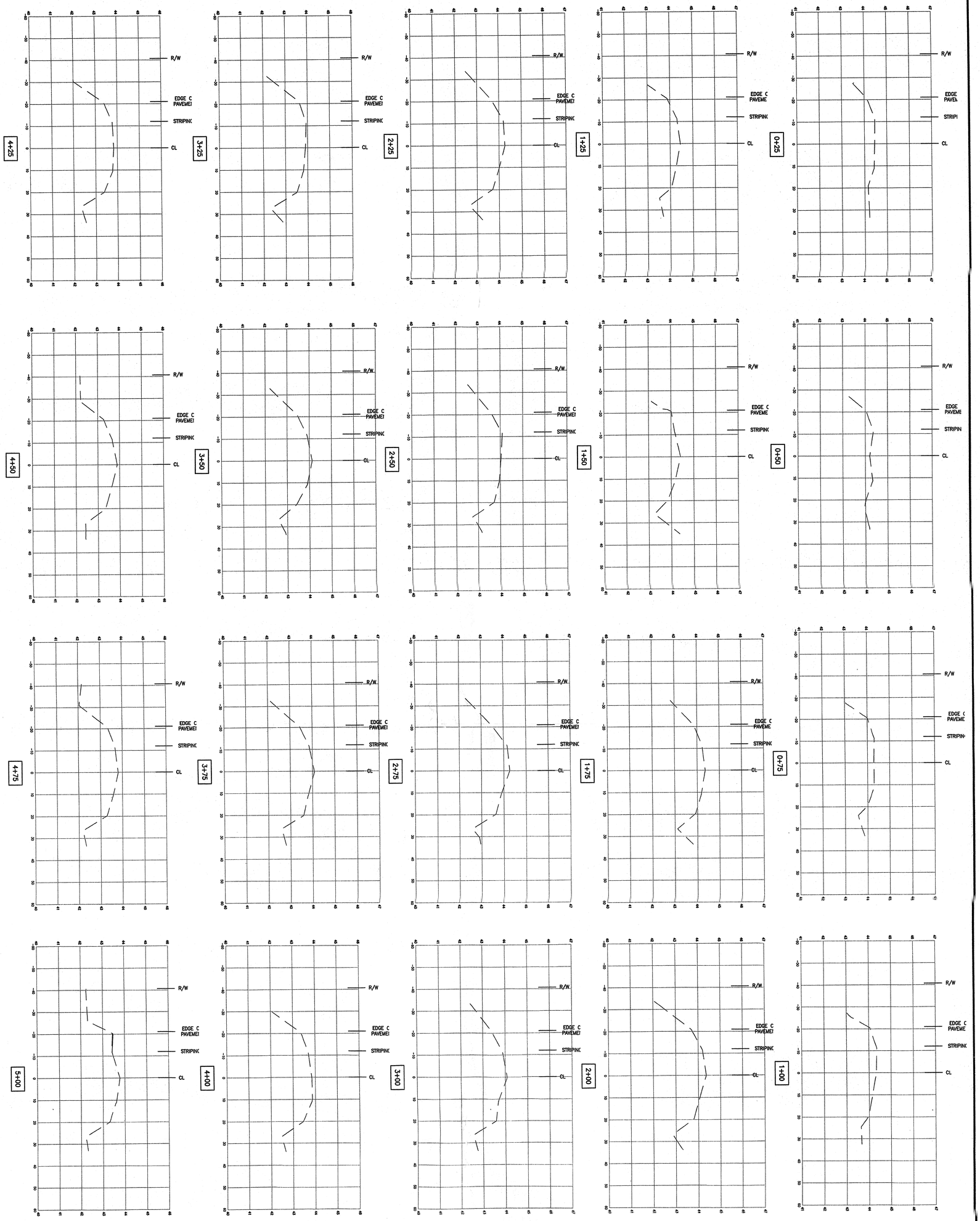

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HORIZONTAL SCALE: 1"=20'

CROSS SECTIONS

SHEET NO. DE4

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ARCHITECTS & ENGINEERS
SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
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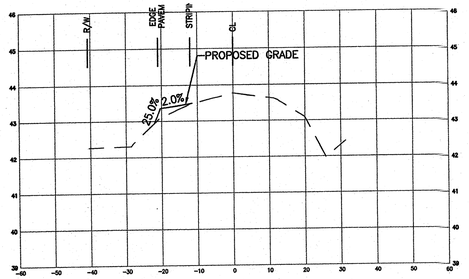

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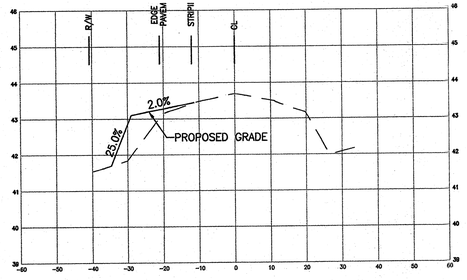

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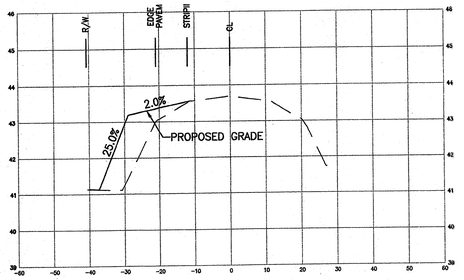

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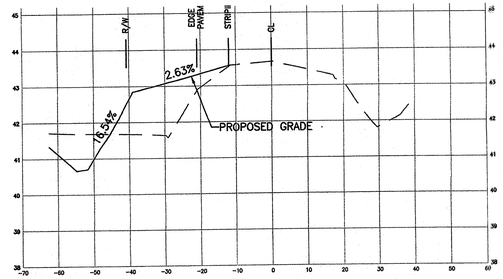

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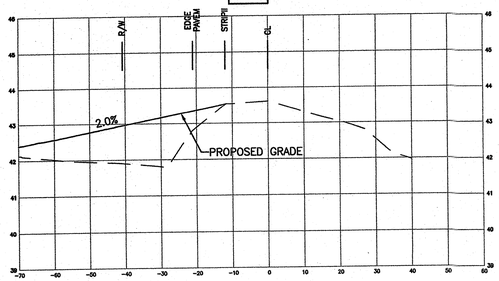

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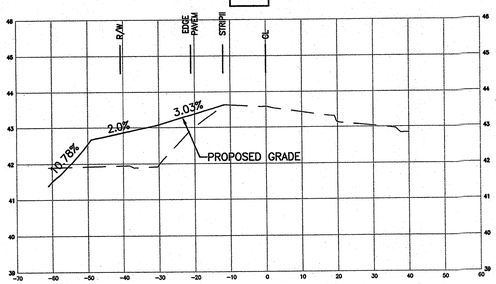

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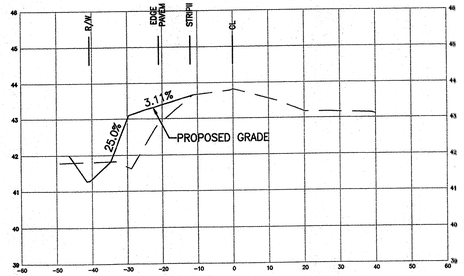

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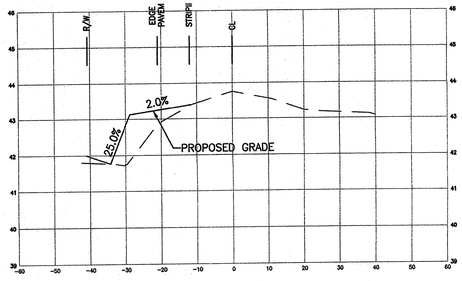

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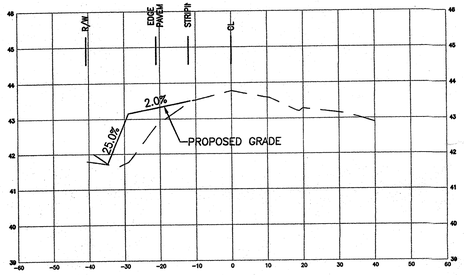

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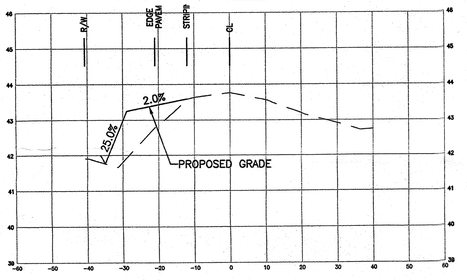

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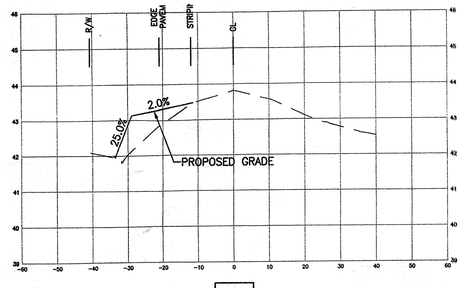

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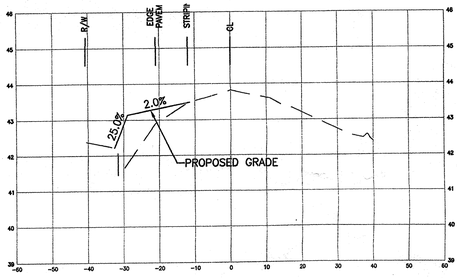

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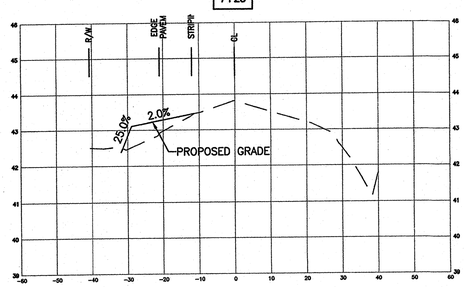

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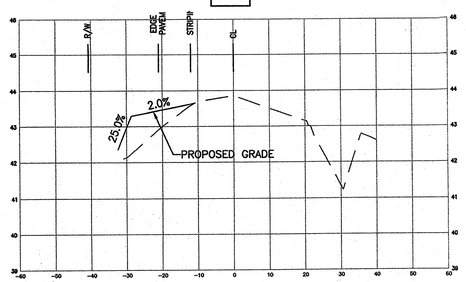

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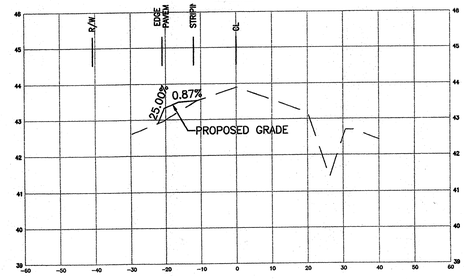

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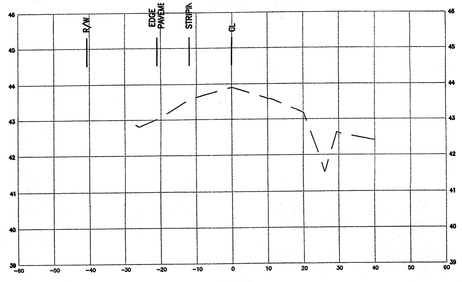

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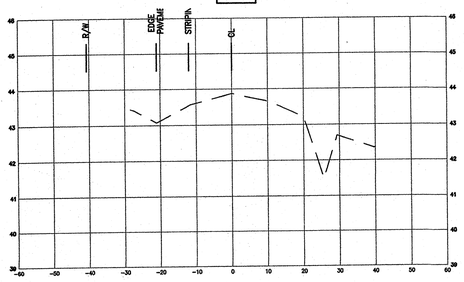

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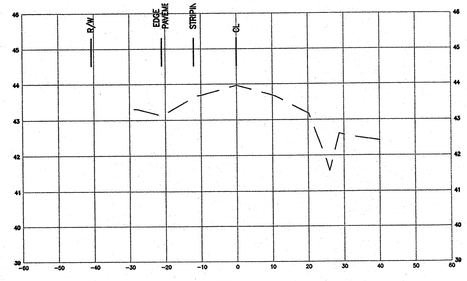

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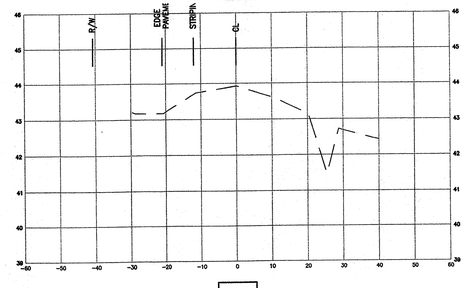

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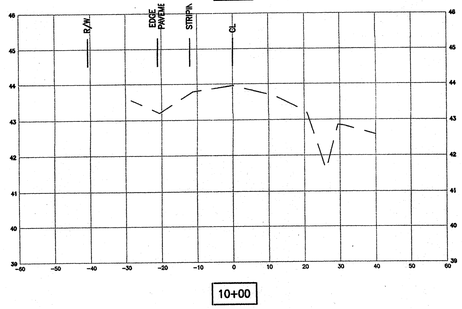

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VERTICAL SCALE: 1"=2'
HORIZONTAL SCALE: 1"=20'

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NO.	REVISIONS	DATE
1	REVISED PER DELDOT REVIEW	8-27-12

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ARCHITECTS & ENGINEERS
SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
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ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

JAMES HOWARD BUHR
DELAWARE
PROFESSIONAL ENGINEER
9-5-12

CROSS SECTIONS

SCALE	: AS NOTED
DESIGN BY	: DLB
DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

SHEET NO.
DE5

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PLOT CODE
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PEN2-YELLOW .007 INCHES (.18mm)
PEN3-GREEN .010 INCHES (.25mm)
PEN4-BLUE .011 INCHES (.30mm)
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PEN7-WHITE .009 INCHES (.10mm)

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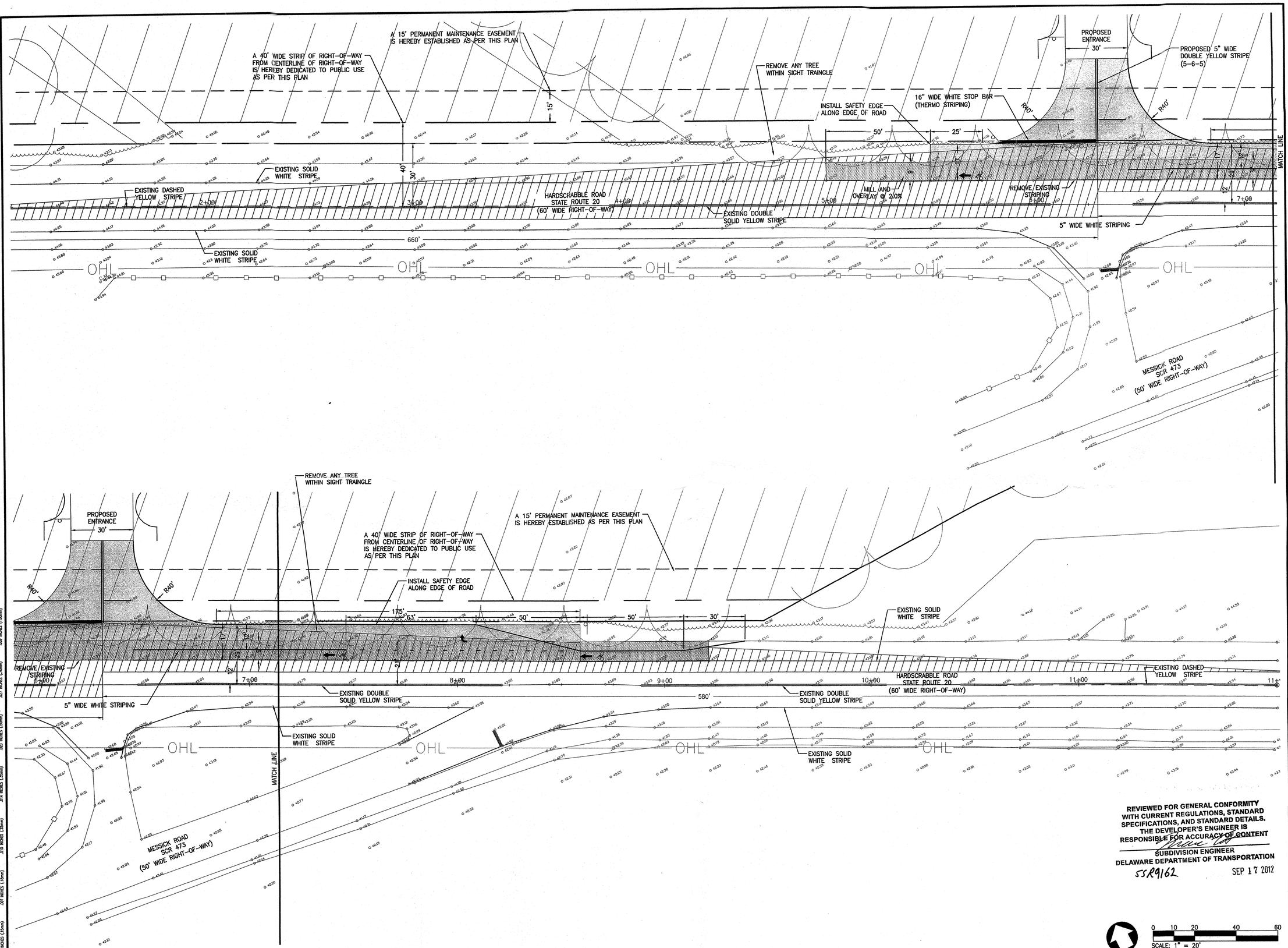

REVIEWED FOR GENERAL CONFORMITY WITH CURRENT REGULATIONS, STANDARD SPECIFICATIONS, AND STANDARD DETAILS. THE DEVELOPER'S ENGINEER IS RESPONSIBLE FOR ACCURACY OF CONTENT

SUBDIVISION ENGINEER
DELAWARE DEPARTMENT OF TRANSPORTATION

SSR9162 SEP 17 2012

SCALE: 1" = 20'

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SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

JAMES HOWARD WILLEY III — DELAWARE — PROFESSIONAL ENGINEER
9-5-12

CONSTRUCTION PLANS

SCALE	: 1" = 20'
DESIGN BY	: DLB
DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

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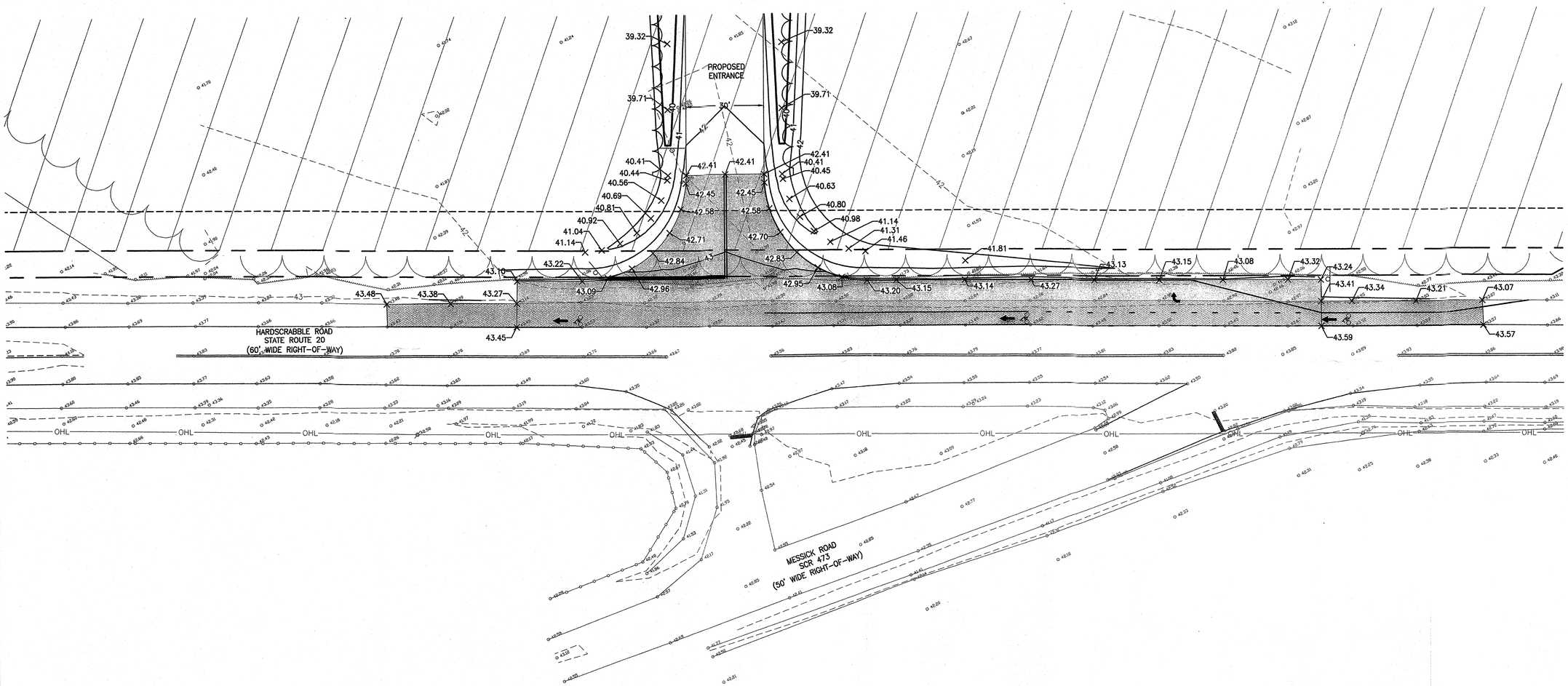
PEN-WHITE .039 INCHES (1.00mm)
PEN-MAGENTA .027 INCHES (.70mm)



PRINTS ISSUED FOR:
DRAWINGS STAGE

NO.	REVISIONS	DATE
1	REVISED PER DELDOT REVIEW	2-1-12
2	REVISED PER DELDOT REVIEW	8-27-12

REVIEWED FOR GENERAL CONFORMITY
SEP 17 2012
SUBDIVISION NUMBER

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

HOWARD W. HUDSON
DELAWARE
PROFESSIONAL ENGINEER
9-5-12

GRADING PLAN

SCALE	: 1" = 20'
DESIGN BY	: DLB
DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

SHEET NO.
DE7

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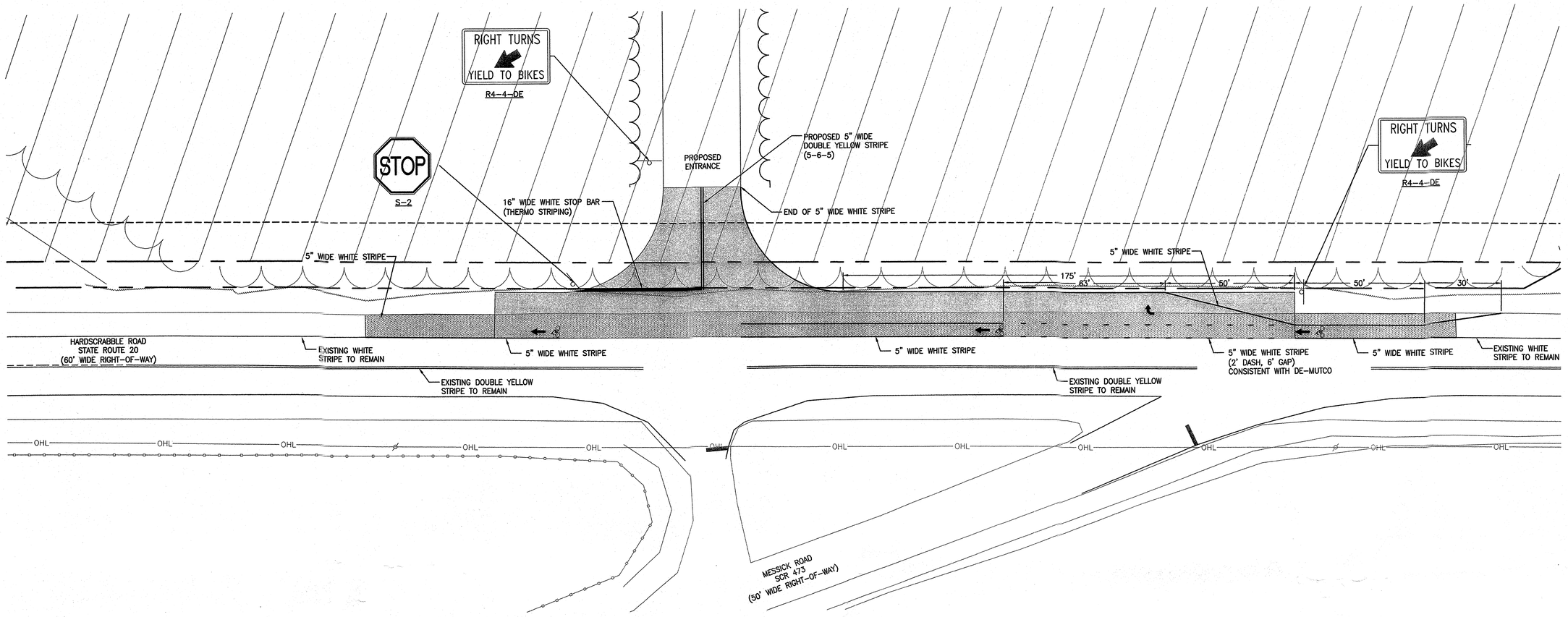
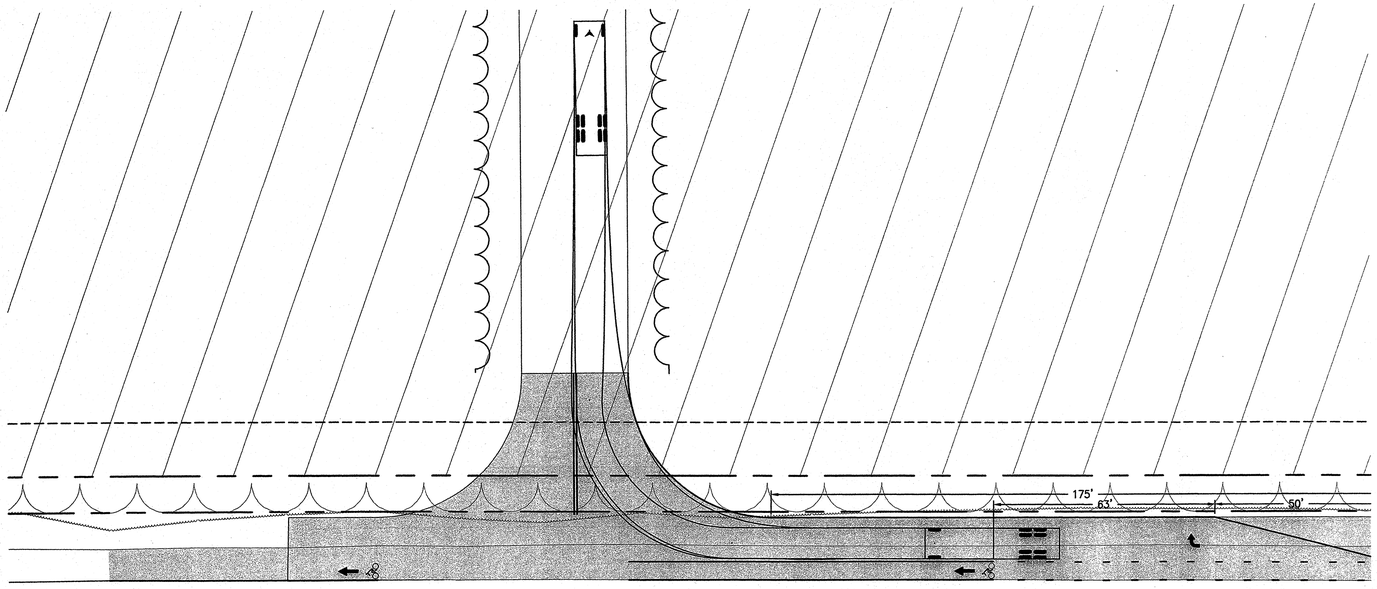
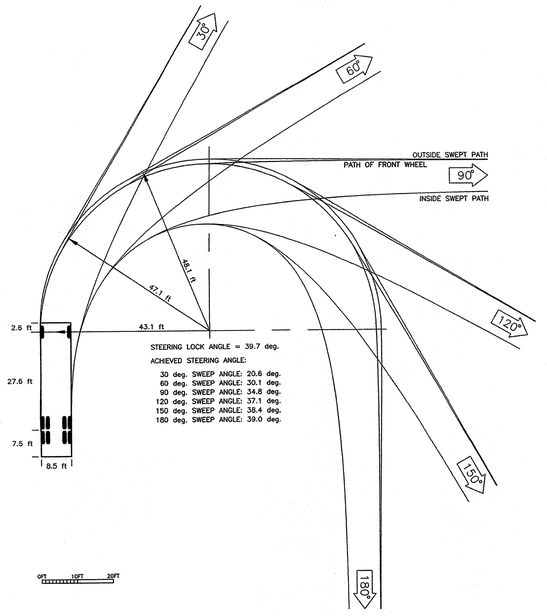
PLOT CODE
PEN-RED .006 INCHES (.15mm)
PEN-YELLOW .007 INCHES (.18mm)
PEN-GREEN .010 INCHES (.25mm)
PEN-BLUE .014 INCHES (.35mm)
PEN-MAGENTA .027 INCHES (.70mm)
PEN-WHITE .039 INCHES (1.00mm)

G:\Projects\2011\110113 Route 20 Borrow Pit\Drawings\Working Stats\Final Site Plans\DE7 Grading Plan.dwg, 9/5/2012 7:40 AM, Doug L. Bohrer, Jr.





TURNING TEMPLATE



0 10 20 40 60
SCALE: 1" = 20'

PRINTS ISSUED FOR:
DRAWINGS STAGE

NO.	REVISIONS	DATE
1	REVISED PER DELDOT REVIEW	2-1-12
2	REVISED PER DELDOT REVIEW	8-27-12

REVIEWED FOR GENERAL CONFORMITY
SEP 17 2012
SCR 122
SUBDIVISION NUMBER

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

JAMES HOWARD WINCHESTER JR. DELAWARE PROFESSIONAL ENGINEER
9.5.12

SIGNAGE AND STRIPING

SCALE	: 1" = 20'
DESIGN BY	: DLB
DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

SHEET NO.
DE8

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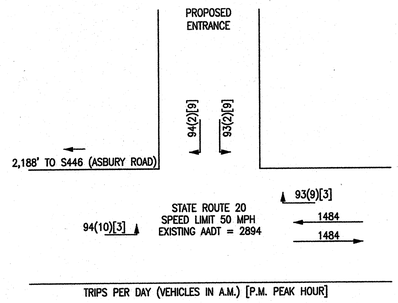
PLOT CODE
PEN-COLOR
PEN-GREEN
PEN-YELLOW
PEN-RED
.001 INCHES (.025mm)
.010 INCHES (.25mm)
.005 INCHES (.13mm)
.005 INCHES (.13mm)
PEN-BLUE
.020 INCHES (.50mm)
PEN-MAGENTA
.007 INCHES (.178mm)
PEN-WHITE
.035 INCHES (.89mm)

G:\Projects\2011\110113 Route 20 Borrow Pit\Drawings\Working Sets\Final Site Plans\DE8 Signage And Striping.dwg, 9/5/2012 7:40 AM, Doug L. Bohner, Jr.



TRAFFIC GENERATION DIAGRAM
FOR HARDSCRABBLE RD.

FULL MOVEMENT

TRAFFIC GENERATION DATA:

FUNCTIONAL CLASSIFICATION – MAJOR COLLECTOR
POSTED SPEED LIMIT – 50 MPH
EXISTING ROAD AADT = 2,894 TRIPS (FROM 2010 DelDOT TRAFFIC SUMMARY)
10 YEAR PROJECTED AADT =1.20 X 2,894 TRIPS = 3,473 TRIPS
10 YEAR PROJECTED AADT + SITE ADT = 3,847 TRIPS
DIRECTIONAL SPLIT = 50% / 50%
PEAK HOUR = 12.20% X 3,847 = 470 TRIPS
2.76% TRUCKS & BUSES X 470 = 13

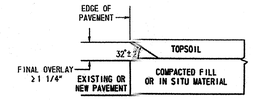
SITE TRIPS GENERATED:

SOURCE: A 2006 DELDOT LETTER.
ONE ENTRANCE – FULL MOVEMENT
TOTAL ADT FOR SITE = 374 TRIPS
DIRECTIONAL DISTRIBUTION:
50% TO AND FROM THE EAST
50% TO AND FROM THE WEST

SHS	1-64	R4-4
DEMUTCD	9B-3	

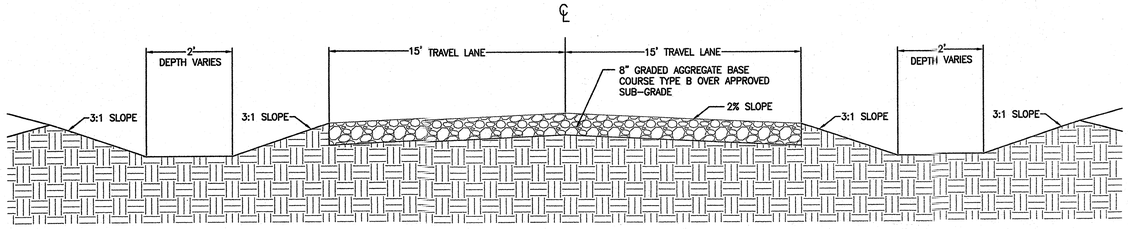
BEGIN RIGHT TURN LANE
YIELD TO BIKES

—				
900 x 750 (mm)	C			
36 x 30 (inches)				

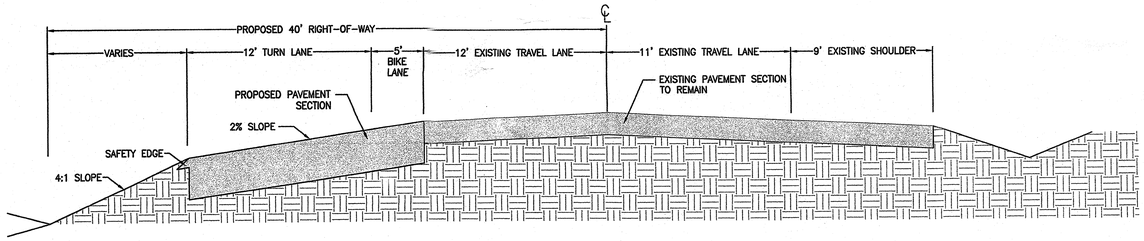


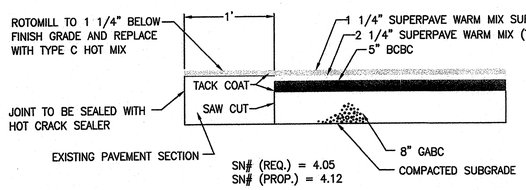
SAFETY EDGE

NO SCALE



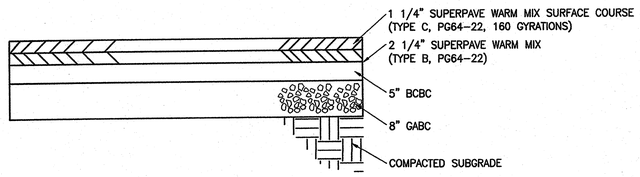
1. THE ROAD WITHIN THE DEVELOPMENT SHALL BE PRIVATE AND MAINTAINED BY THE DEVELOPER.





ENTRANCE PAVEMENT TIE-IN DETAIL

NOT TO SCALE

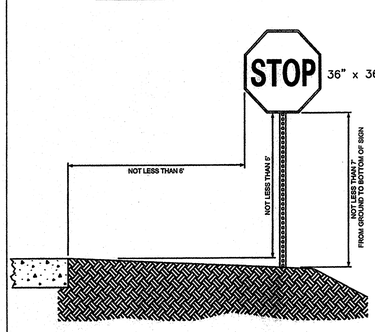


ENTRANCE PAVEMENT DETAIL

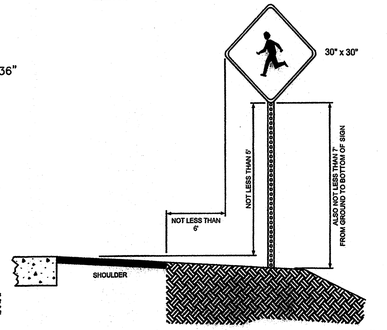
NO SCALE

APR 2008

ROADSIDE SIGN (RURAL DISTRICT)



ROADSIDE SIGN (RURAL DISTRICT)



N.T.S.

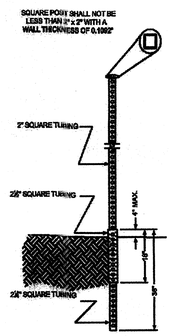
DELAWARE
DEPARTMENT OF TRANSPORTATION

RECOMMENDED _____ CHIEF TRAFFIC ENGINEER _____ DATE 9/29/09
APPROVED Nakeli Bunhait CHIEF ENGINEER DATE 9/24/09

ROADSIDE SIGN PLACEMENT
STANDARD NO. S-2

APR 2008

BREAK-AWAY ASSEMBLY



NOTES

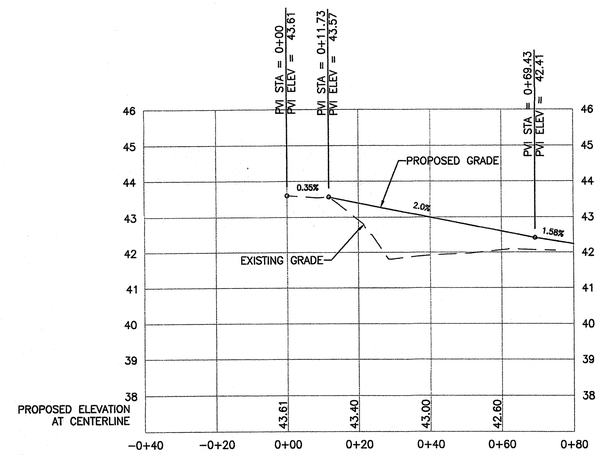
1. SQUARE TUBES ARE TO BE FORMED FROM GALVANIZED SHEET STRUCTURAL (PHYSICAL) QUALITY, ASTM A 446, GRADE A, COATING DESIGNATION G 90, REGULAR SPANGLE, OR HOT ROLLED CARBON SHEET STEEL STRUCTURAL (PHYSICAL) QUALITY, ASTM A 570, GRADE 33.
   A. NOMINAL OUTSIDE DIMENSION, (INCHES):
      2 X 2 +/- .008
      2½ X 2½ +/- .010
      2½ X 2½ +/- .010
   B. ALL FOUR SIDES ARE TO HAVE EVENLY SPACED ⅜" DIAMETER HOLES ON 1" CENTERS THE ENTIRE LENGTH OF THE TUBE.
   C. TOLERANCE ON HOLE SIZE IS +/-¹⁄₃₂". TOLERANCE ON HOLE SPACING IS +/-⅛" IN 20 FEET.
   D. STANDARD CORNER RADIUS SHALL BE ⅛" +/- ¹⁄₃₂".
   E. THE FASTENERS TO BE SUPPLIED UNDER THIS SPECIFICATION SHALL BE ⅜" (GRADE 5 UNC CORNER BOLTS WITH CADMIUM OR ZINC PLATING, INSTALLATION OF SIGNS SHALL BE WITH ⅜" X 2½" BOLT WITH LOCKNUT AND WASHER.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL PVC (POLYVINYL CHLORIDE) SLEEVES (4" INSIDE DIAMETER MINIMUM, 6" INSIDE DIAMETER MAXIMUM) IN PROPOSED CONCRETE ISLANDS, AND MEDIANS FOR FUTURE TRAFFIC SIGN POSTS AS DIRECTED BY THE ENGINEER. THE LOWER END OF THE SLEEVE SHALL BE SET ON THE TOP OF THE SOIL.
3. DEVELOPMENT SIGNS SHALL BE DISPLAYED ON TWO POSTS.
   A. DEVELOPMENT SIGNS SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY OF THE HIGHWAY ON WHICH THE ENTRANCE(S) IS (ARE) LOCATED. THE SIGNS SHALL BE PLACED WITHIN 500 FEET OF THE CENTERLINE OF THE ENTRANCE(S).
4. ALL SUBDIVISIONS SHALL BE REQUIRED TO HAVE ONE SPEED LIMIT 25 AND ONE WATCH CHILDREN SIGN. IN ADDITION TO THE STANDARD STOP SIGN AND STREET BLADES. THE SPEED LIMIT 25 SIGN MAY BE MOUNTED BELOW THE WATCH CHILDREN SIGN IF A 12' POST IS USED.
5. FLAT PANEL SIGN MATERIALS:
   STOP SIGN FACES SHALL BE FABRICATED OF TYPE "IX" ENCLOSED LENS REFLECTIVE SHEETING. ALL OTHER SIGNS SHALL BE A MINIMUM TYPE "III" ENCAPSULATED LENS (HIGH INTENSITY) REFLECTIVE SHEETING AND SHALL BE APPLIED TO SIGN GRADE ALUMINUM SHEET (MINIMUM THICKNESS +/- 0.080").
6. THE CAESAR RODNEY DEVELOPMENT SIGN IS THE CURRENT STANDARD. FOR THE SPECIFICATIONS, SEE STANDARD NO. S-5.

N.T.S.

DELAWARE
DEPARTMENT OF TRANSPORTATION

RECOMMENDED _____ CHIEF TRAFFIC ENGINEER _____ DATE
APPROVED _____ CHIEF ENGINEER _____ DATE

SIGN POST SPECIFICATIONS & GENERAL NOTES
STANDARD NO. S-1



PROFILE OF ENTRANCE

VERTICAL SCALE: 1"=2'
HORIZONTAL SCALE: 1"=20'

PRINTS ISSUED FOR:
DRAWINGS STAGE

NO.	REVISIONS	DATE
1	REVISED PER DELDOT REVIEW	8-27-12

REVIEWED FOR GENERAL CONFORMITY
SEP 17 2012
SUBDIVISION NUMBER

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY · BALTIMORE · SEAFORD
206 WEST MAIN STREET
SALISBURY, MARYLAND 21801
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

CHARLES HOWARD WILLEY
REGISTERED
DELAWARE
PROFESSIONAL ENGINEER
9.5.12

DETAILS

SCALE : NONE	SHEET NO.
DESIGN BY : DLB	DE9
DRAWN BY : DLB	
CHECKED BY :	
GMB FILE : 110113	
DATE : 8-13-11	

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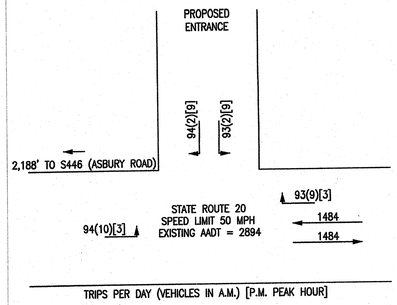
G:\Projects\2011\110113 Route 20 Borrow Pit\Drawings\Working Set\Final Site Plans\DE9 Details.dwg, 9/5/2012 7:41 AM, Doug L. Bolmer, Jr.
PLOT CODE
PEN-WHITE .003 INCHES (0.08mm)
PEN-MAGENTA .007 INCHES (.20mm)
PEN-BLUE .009 INCHES (.25mm)
PEN-GREEN .010 INCHES (.25mm)
PEN-YELLOW .001 INCHES (.03mm)
PEN-RED .005 INCHES (.15mm)



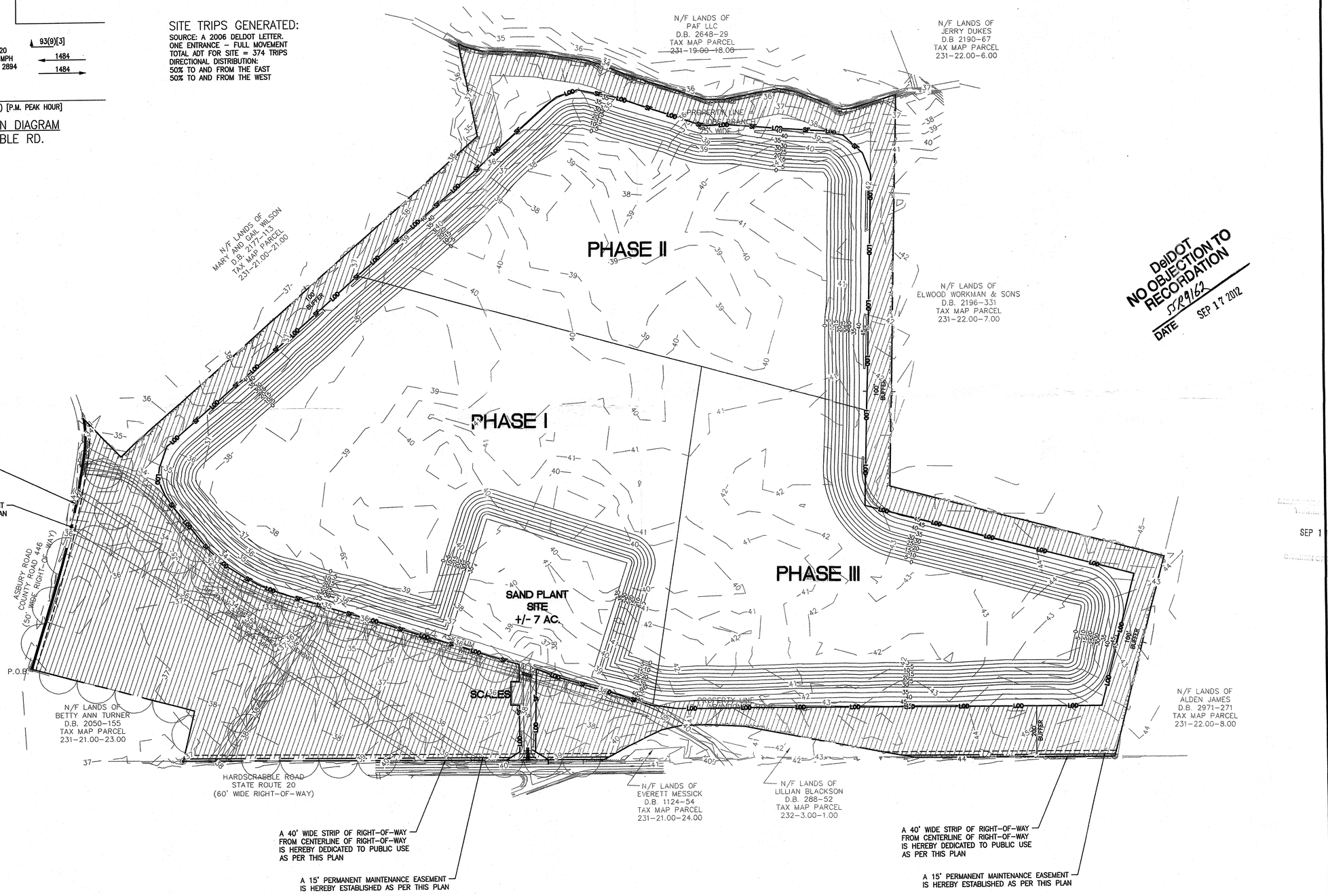
TRAFFIC GENERATION DIAGRAM
FOR HARDSCRABBLE RD.
FULL MOVEMENT

TRAFFIC GENERATION DATA:

FUNCTIONAL CLASSIFICATION – MAJOR COLLECTOR
POSTED SPEED LIMIT – 50 MPH
EXISTING ROAD AADT = 2,894 TRIPS (FROM 2010 DelDOT TRAFFIC SUMMARY)
10 YEAR PROJECTED AADT =1.20 X 2,894 TRIPS = 3,473 TRIPS
10 YEAR PROJECTED AADT + SITE ADT = 3,847 TRIPS
DIRECTIONAL SPLIT = 50% / 50%
PEAK HOUR = 12.20% X 3,847 = 470 TRIPS
2.76% TRUCKS & BUSES X 470 = 13

SITE TRIPS GENERATED:

SOURCE: A 2006 DELDOT LETTER.
ONE ENTRANCE – FULL MOVEMENT
TOTAL ADT FOR SITE = 374 TRIPS
DIRECTIONAL DISTRIBUTION:
50% TO AND FROM THE EAST
50% TO AND FROM THE WEST



DelDOT
NO OBJECTION TO RECORDATION
SR9162
DATE SEP 17 2012

0 100 200 400 600
SCALE: 1" = 200'

PRINTS ISSUED FOR:
DRAWINGS STAGE

NO.	REVISIONS	DATE

GMB
GEORGE, MILES & BUHR, LLC
ARCHITECTS & ENGINEERS
SALISBURY, MARYLAND 21801
206 WEST MAIN STREET
410-742-3115, FAX 410-548-5790
www.gmbnet.com

ROUTE #20 BORROW PIT
SUSSEX COUNTY, DELAWARE

SEP 1 2012

JAMES HOWARD BUHR JR. 9-10-12

DELDOT
OVERALL
SITE PLAN

SCALE	: 1" = 200'
DESIGN BY	: DLB
DRAWN BY	: DLB
CHECKED BY	:
GMB FILE	: 110113
DATE	: 8-13-11

SHEET NO.
D1

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PLOT SCALE
PDS1-RED .005 INCHES (.13mm)
PDS1-YELLOW .007 INCHES (.18mm)
PDS1-GREEN .010 INCHES (.25mm)
PDS1-BLUE .020 INCHES (.50mm)
PDS1-MAGENTA .027 INCHES (.70mm)
PDS1-WHITE .039 INCHES (1.00mm)
G:\P_Jobs\2011\110113 Route 20 Borrow Pit\Drawings\Working Sets\Final Site Plans\DelDOT Overall Site Plan.dwg, 9/10/2012 1:31 PM, Doug L. Bittner, Jr.

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

May 4, 2021

Mr. Jamie Whitehouse, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **Horsey Family, LLC** proposed land use application, which we received on April 30, 2021. This application is for an approximately 269.37-acre assemblage of parcels (Tax Parcels: 231-21.00-13.00, 21.00 and 22.00). Tax Parcel 231-21.00-22.00 is located on the north side of Hardscrabble Road (Sussex Road 20) and the east side of Asbury Road (State Route 446) with Tax Parcel 231-21.00-22.00 while tax parcel 231-21.00-13.00 is located across from both parcels on the west side of Asbury Road. The subject lands are currently zoned AR-1 (Agriculture Residential) and the applicant seeks a conditional use approval for a borrow pit expansion.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volume along Hardscrabble Road (State Route 20) from Bryans Store Road to County Seat Highway, is 6,183 vehicles per day. The annual average daily traffic volume along Asbury Road (State Route 446) from County Seat Highway to Old Furnace Road (State Route 565), is 541 vehicles per day.

Based on our review, we estimate that the above land use will generate fewer than 50 vehicle trips per day. This number of trips is below DelDOT's minimum warrants for determining that a Traffic Impact Study (TIS) should be required for a particular development. DelDOT's regulations specify the minimum TIS warrants as 50 vehicle trips in any hour and/or 500 vehicle trips per day. Because the proposed land use would generate fewer than 50 vehicle trips per day, we consider the development's traffic impact to be **diminutive** in the context of our agreement with the County regarding land development coordination and we do not recommend that the applicant be required to perform a TIS for the subject application. DelDOT's description of this application as diminutive with regard to warranting a TIS does not mean that it is diminutive in other respects. We recommend that the applicant not be required to perform a TIS for the subject application.

DelDOT

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Ms. Annamaria Furmato, at (302) 760-2710, if you have questions concerning this correspondence.

Sincerely,

T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:afm
Enclosure
cc: Horsey Family, LLC, Applicant
Russell Warrington, Sussex County Planning & Zoning
David L. Edgell, Coordinator, Cabinet Committee on State Planning Issues
Todd Sammons, Assistant Director, Development Coordination
Scott Rust, South District Public Works Manager, Maintenance & Operations
Steve McCabe, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination
Annamaria Furmato, Project Engineer, Development Coordination

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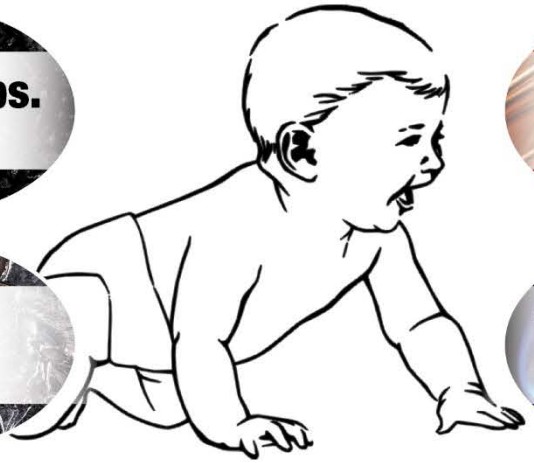

- **2,069 lbs.** BAUXITE (ALUMINUM)
- **52,757 lbs.** CEMENT
- **11,379 lbs.** CLAYS
- **223,973 lbs.** COAL
- **828 lbs.** COPPER
- **1.51 Troy oz.** GOLD
- **17,068 lbs.** IRON ORE
- **776 lbs.** LEAD
- **7.67 million cu. ft.** NATURAL GAS
- **65,170 gallons** PETROLEUM
- **13,448 lbs.** PHOSPHATE ROCK
- **27,413 lbs.** SALT
- **1.32M lbs.** STONE, SAND & GRAVEL
- **445 lbs.** ZINC
- **+54,137 lbs.** OTHER MINERALS/ METALS

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38,272 pounds of new minerals must be provided for every person in the United States to make the things we use daily

10,188 lbs. **Stone** is used to make roads, buildings, bridges, landscaping and other construction uses, and for numerous chemical uses.

6,912 lbs. **Sand and Gravel** are used to make concrete, asphalt, roads, blocks and bricks.

682 lbs. **Cement** is used to make roads, sidewalks, bridges, buildings, schools and houses.

221 lbs. **Iron Ore** is used to make steel for buildings, cars, trucks, planes, trains, and for other construction and containers.

355 lbs. **Salt** is used in various chemicals, for highway deicing, and in food and agriculture.

174 lbs. **Phosphate Rock** is used to make fertilizers to grow food and in animal feed supplements.

147 lbs. **Clays** are used to make floor and wall tile, dinnerware, kitty litter, bricks, cement and paper.

27 lbs. **Aluminum (from bauxite)** is used to make buildings, beverage containers, autos and airplanes.

11 lbs. **Copper** is used in buildings, electrical and electronic parts, plumbing and in transportation.

10 lbs. **Lead**—75% is used for transportation, and it is used in batteries, electrical equipment and in communications.

6 lbs. **Zinc** is used to make metals rust-resistant, to make various metals and alloys, paints, rubber, and in skin creams, health care and nutritional supplements.

27 lbs. **Soda Ash** is used in all kinds of glass, powdered detergents, medicines, as a food additive, and for water treatment.

3 lbs. **Manganese** is used to make almost all steel for construction, and in machinery and transportation.

547 lbs. **Other Nonmetals** are used in glass, chemicals, soaps, paper, computers, cell phones, and more.

20 lbs. **Other Metals** are used in electronics, TV and video equipment, recreation equipment, and more.

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- 99,204 cu. ft. of Natural Gas
- 2,897 lbs. of Coal
- 0.15 lb. of Uranium

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Society for Mining, Metallurgy & Exploration Foundation

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Shaping the world around us.

Creating Value by Design.

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Salisbury, MD 21804
(410) 543-9091

106 Washington Street, Suite 103
Easton, MD 21601
(410) 770-4744

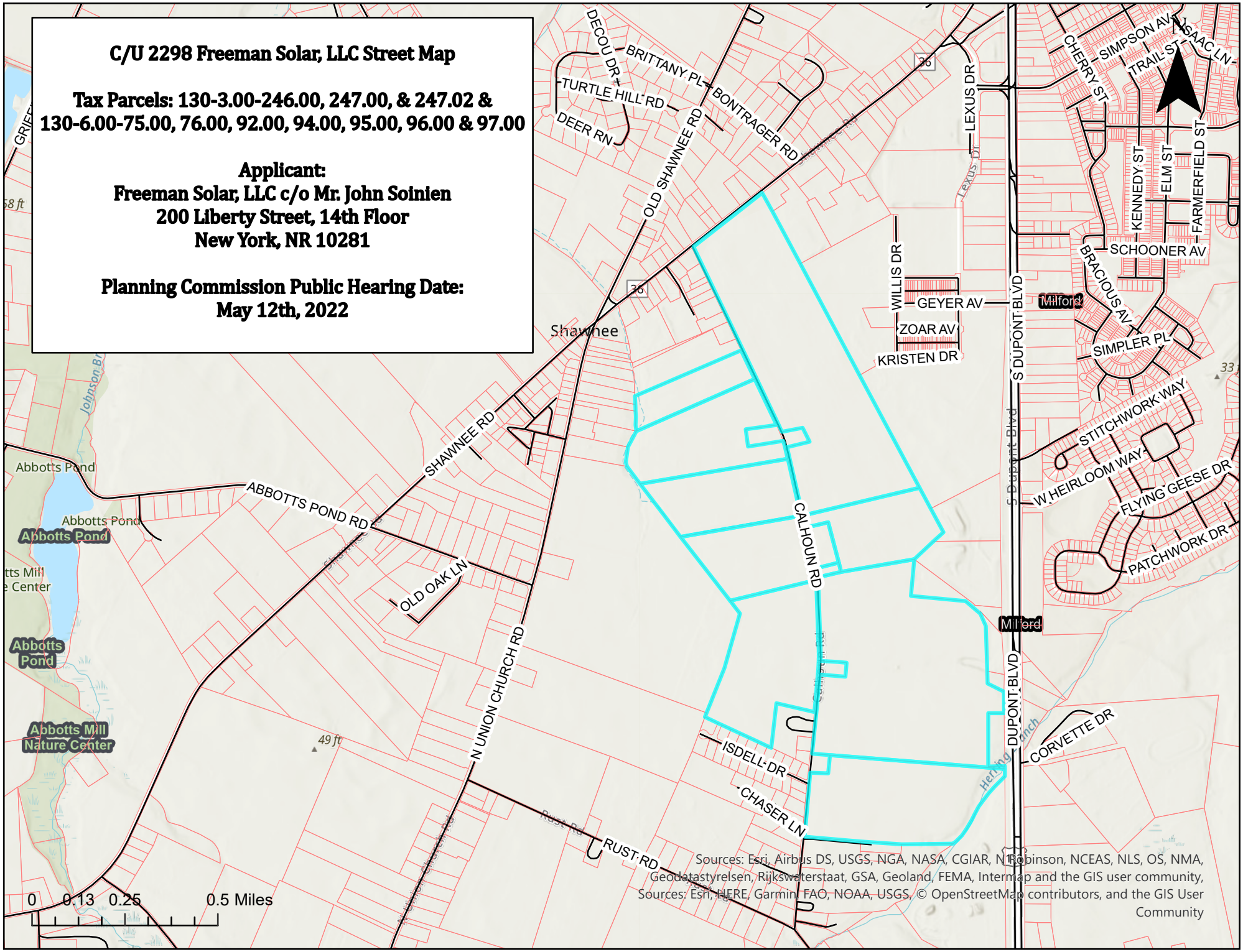
www.dbfinc.com

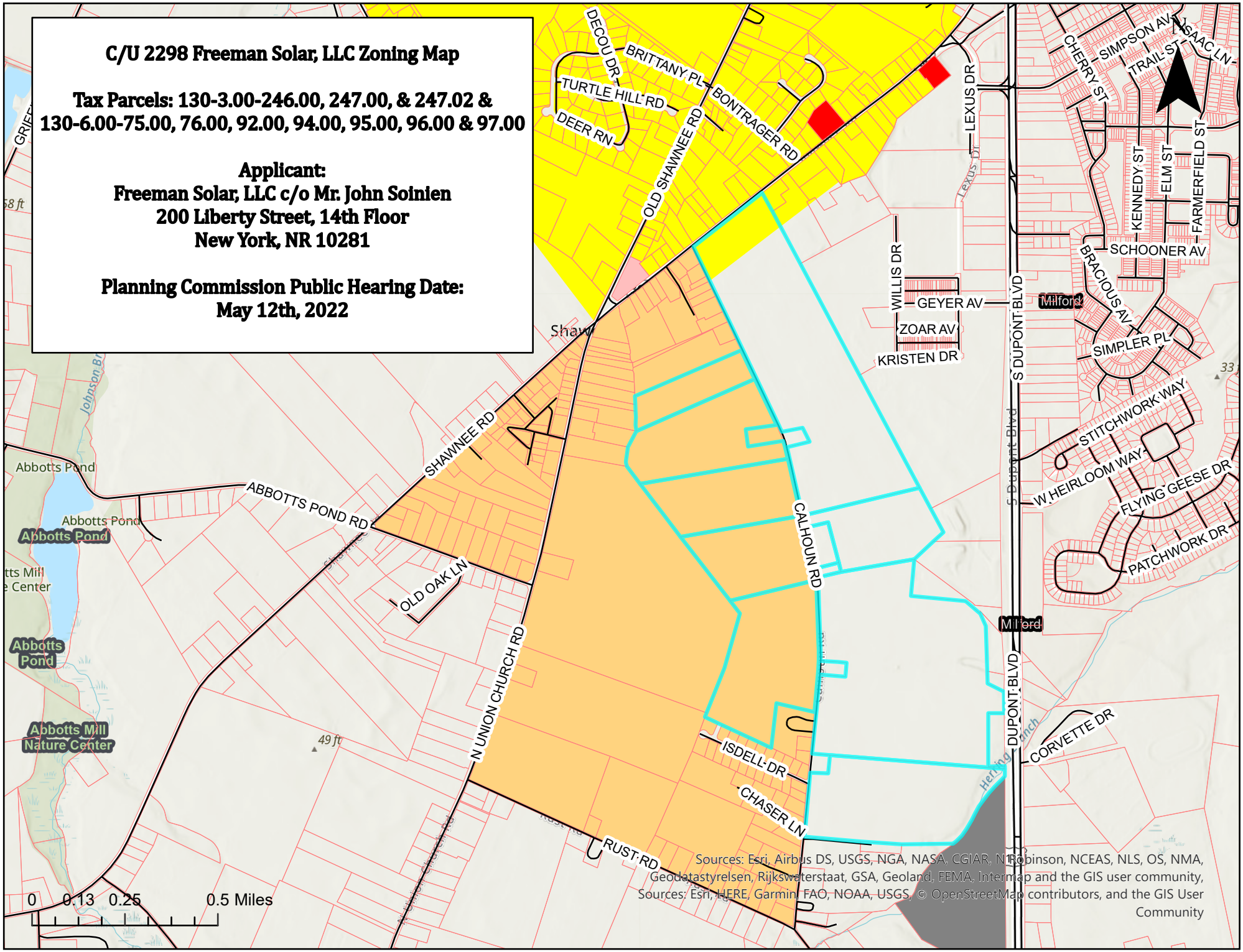
PLANNING & ZONING COMMISSION
ROBERT C. WHEATLEY, CHAIRMAN
KIM HOEY STEVENSON, VICE-CHAIRMAN
R. KELLER HOPKINS
J. BRUCE MEARS
HOLLY J. WINGATE

Sussex County
DELAWARE
sussexcountyde.gov
302-855-7878 T
302-854-5079 F
JAMIE WHITEHOUSE, AICP, MRTPI
DIRECTOR OF PLANNING & ZONING

PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET
Planning Commission Public Hearing Date: May 12th, 2022

Application:	CU 2298 Freeman Solar, LLC
Applicant:	Freeman Solar, LLC c/o John Soininen 200 Liberty Street, 14th Floor New York, NY 10281
Owner:	Calhoun Ventures, LLC c/o Clarence D. Calhoun, Jr. 6714 DuPont Boulevard 7237 Calhoun Road Milford, DE 19963
Site Location:	Lying on the east and west side of Calhoun Road (S.C.R. 621) and South Shawnee Road (Route 36), approximately 1,267 feet south of Shawnee Road (Route 36).
Current Zoning:	Agricultural Residential (AR-1), Medium Density Residential (MR) & General Residential (GR) Zoning District
Proposed Use:	Solar Farm consisting of 75 Megawatts per acre of photovoltaic electric generation facility.
Comprehensive Land Use Plan Reference:	Low Density Area & Developing Area
Councilmanic District:	Ms. Green
School District:	Milford School District
Fire District:	Carlisle Fire Department
Sewer:	On-site septic
Water:	On-site well
Site Area:	350.96 acres +/-
Tax Map IDs.:	130-3.00-246.00, 247.00 & 247.02 & 130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00


C/U 2298 Freeman Solar, LLC Street Map
Tax Parcels: 130-3.00-246.00, 247.00, & 247.02 &
130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00
Applicant:
Freeman Solar, LLC c/o Mr. John Soinien
200 Liberty Street, 14th Floor
New York, NR 10281
Planning Commission Public Hearing Date:
May 12th, 2022
DECOU DR
BRITTANY PL
TURTLE HILL RD
DEER RN
BONTRAGER RD
OLD SHAWNEE RD
LEXUS DR
CHERRY ST
SIMPSON AV
TRAIL ST
ISAAC LN
KENNEDY ST
ELM ST
FARMERFIELD ST
SCHOONER AV
BRACIOUS AV
WILLIS DR
GEYER AV
ZOAR AV
KRISTEN DR
S DUPONT BLVD
SIMPLER PL
STITCHWORK WAY
W HEIRLOOM WAY
FLYING GEESE DR
PATCHWORK DR
CORVETTE DR
Milford
Shawnee
SHAWNEE RD
ABBOTTS POND RD
OLD OAK LN
CALHOUN RD
N UNION CHURCH RD
ISDELL DR
CHASER LN
RUST RD
Abbotts Pond
Abbotts Mill Nature Center
49 ft
0 0.13 0.25 0.5 Miles
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community


C/U 2298 Freeman Solar, LLC Zoning Map
Tax Parcels: 130-3.00-246.00, 247.00, & 247.02 &
130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00
Applicant:
Freeman Solar, LLC c/o Mr. John Soinien
200 Liberty Street, 14th Floor
New York, NR 10281
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May 12th, 2022
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CHASER LN
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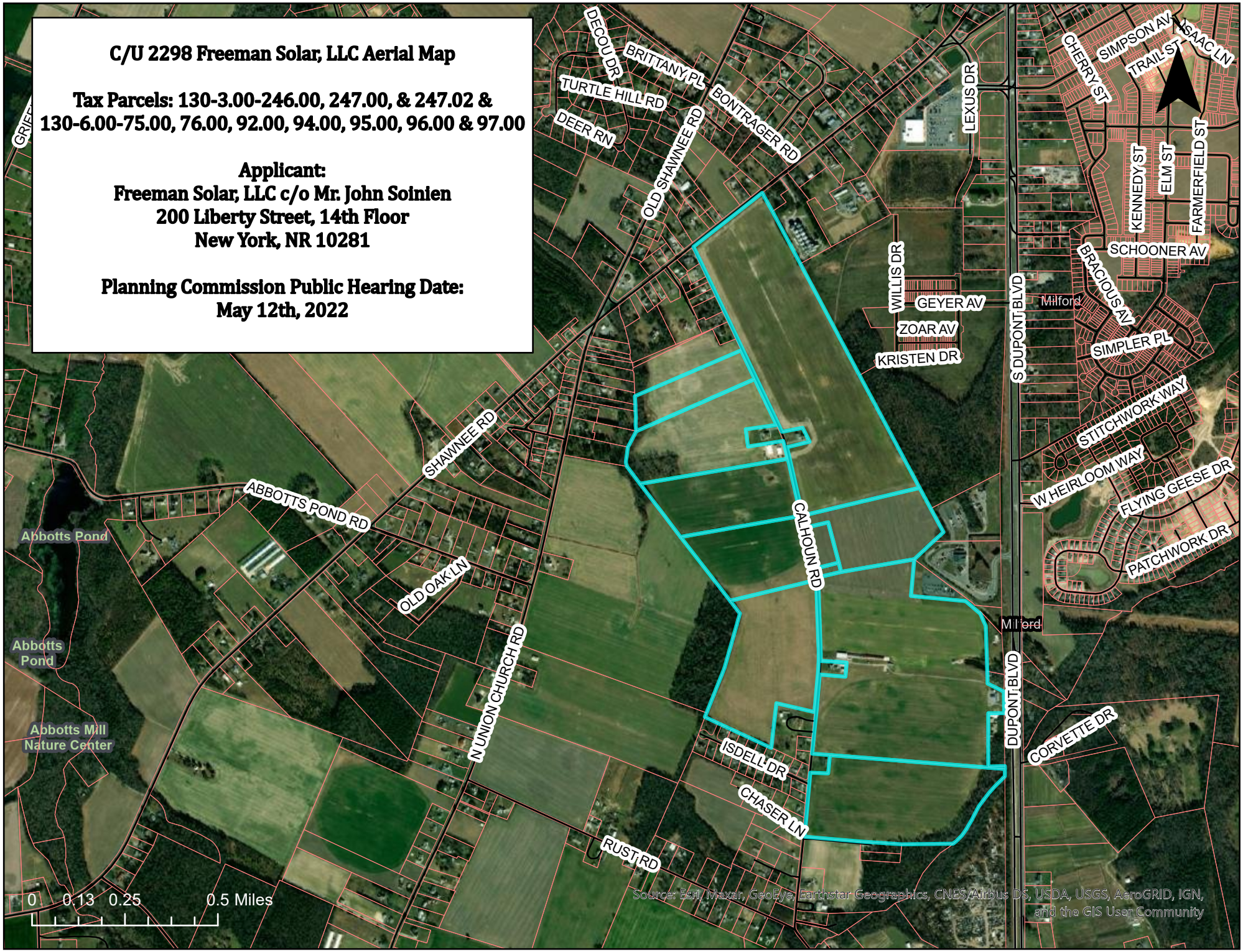
Abbotts Mill Nature Center
49 ft
0 0.13 0.25 0.5 Miles
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community


C/U 2298 Freeman Solar, LLC Aerial Map
Tax Parcels: 130-3.00-246.00, 247.00, & 247.02 &
130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00
Applicant:
Freeman Solar, LLC c/o Mr. John Soinien
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Abbotts Mill Nature Center
N UNION CHURCH RD
DUPONT BLVD
CORVETTE DR
ISDELL DR
CHASER LN
RUST RD
0 0.13 0.25 0.5 Miles
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

JAMIE WHITEHOUSE, AICP MRTPI
PLANNING & ZONING DIRECTOR
(302) 855-7878 T
(302) 854-5079 F
jamie.whitehouse@sussexcountyde.gov

Sussex County
DELAWARE
sussexcountyde.gov

Memorandum

To: Sussex County Planning Commission Members
From: Ms. Lauren DeVore, Planner III
CC: Mr. Vince Robertson, Assistant County Attorney and Applicant
Date: April 26, 2022
RE: Staff Analysis for C/U 2298 Freeman Solar, LLC

This memo is to provide background and analysis for the Planning Commission to consider as a part of application C/U 2298 Freeman Solar, LLC to be reviewed during the May 12th, 2022, Planning Commission Meeting. This analysis should be included in the record of this application and is subject to comments and information that may be presented during the public hearing.

The request is for a Conditional Use for Tax Parcels: 130-3.00-246.00, 247.00, 247.02 & 130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00 to allow for a solar farm consisting of 75 megawatts per acre of photovoltaic electric generation facility. The properties are located on the east and west side of Calhoun Road (S.C.R. 621) and South Shawnee Road (Route 36), approximately 1,267 feet south of Shawnee Road (Route 36). The parcels comprise a total area of 350.96 acres +/-.

Comprehensive Plan Analysis

The 2018 Sussex County Comprehensive Plan Update (Comprehensive Plan) provides a framework of how land is to be developed. As part of the Comprehensive Plan, a Future Land Use Map is included to help determine how land should be zoned to ensure responsible development. The Future Land Use Map in the plan indicates that the parcels have a designation of "Low Density Area" (to include Parcels 92.00 and 94.00) and "Developing Area" (to include all other parcels as part of this Application). The adjacent parcels to the south and east subject properties retain the Future Land Use Map designation of "Low Density Area." The properties on the opposite side of S. DuPont Boulevard (Route 113) are also designated as "Low Density Areas." The parcels to the north and to the west also have a Future Land Use Map designation of "Developing Area." The balance of the property to the northeast of the subject site contains the Future Land Use Map designation of "Municipalities" as these properties are located within the incorporated town limits of the City of Milford.

As outlined within the 2018 Sussex County Comprehensive Plan, the primary uses envisioned in Low Density Areas are agricultural activities and homes. Business development should be largely confined to businesses addressing the needs of these two uses. Industrial and agribusiness uses that support or depend on agriculture should be permitted. The focus of retail and office uses in Low Density Areas should be providing convenience goods and services to nearby residents. Commercial uses in these residential areas should be limited in their location, size, and hours of operation. More intense commercial uses should be avoided in these areas. Institutional and commercial uses may be appropriate depending on surrounding uses. (Sussex County Comprehensive Plan, 4-19).

Furthermore, as also outlined within the 2018 Sussex County Comprehensive Plan, The Developing Areas are newer, emerging growth areas that demonstrate the characteristics of developmental pressures. Most of the proposed Developing Areas are adjacent to municipalities, within or adjacent to potential future annexation areas of a municipality, or adjacent to Town Centers. – A range of housing types are appropriate in Developing Areas, including single family homes, townhouses, and multi-family units. In selected areas and at appropriate intersections, commercial uses should be allowed. A variety of office uses would be appropriate in many areas. Portions of the Developing Areas with good road access and few nearby homes should allow for business and industrial parks. Appropriate mixed-use development should also be allowed. In doing so, careful mixtures of homes with light commercial and institutional uses can be appropriate to provide for convenient services and to allow people to work close to home (Sussex County Comprehensive Plan, 4-14).

Zoning Information

The subject properties are zoned Agricultural Residential (AR-1) District, Medium Density Residential (MR) District and General Residential (GR) District. The adjacent properties on the west side of Calhoun Road are zoned General Residential (GR) District. The properties on the east side of Calhoun Road are zoned Agricultural Residential (AR-1) District. The parcels to the north of the subject property on the opposite side of the road Shawnee Road (Route 36) are zoned Medium Density Residential (MR) District with a single property to the northeast at the intersection of Shawnee Road and Old Shawnee Road being zoned Neighborhood Business (B-1) District.

Existing Conditional Uses within the Vicinity of the Subject Site

Since 1970, there have been five (5) Conditional Use applications within less than a 0.25-mile radius of the application site. The first application is Conditional Use No. 183 Milford Grain Co. to allow for a grain dryer, storage tanks and office within an Agricultural Residential (AR-1) and Medium Residential (MR) Zoning District. The Application was approved by the Sussex County Council at their meeting of Tuesday, January 8, 1974. The second application is Conditional Use No. 551 Richard and Virginia Roop to allow for the establishment of an automobile sales and repair shop within an Agricultural Residential (AR-1) Zoning District. The Application was approved by the Sussex County Council at their meeting of Tuesday, October 23, 1979. The third application is Conditional Use No. 648 Irving J. Hall to allow for an automobile repair shop to be located within the General Residential (GR) Zoning District. The Application was approved by the Sussex County Council at their meeting of Tuesday, October 13, 1981. The fourth application is Conditional Use No. 911 Fredrick Golden to allow for restoration of antique and custom cars within a Medium Density Residential (MR) Zoning District. The Application was withdrawn on August 15, 1989, after being denied by the Planning and Zoning Commission at their meeting of Thursday, July 27, 1989. The fifth application is Conditional Use No. 1909 Thomas P. Collins to operate a beauty salon within a General Residential (GR) Zoning District. The Application was approved by the Sussex County Council at their meeting of Tuesday, September 20, 2011, and the change was adopted through Ordinance No. 2220.

Based on the analysis of the land use, surrounding zoning and uses, the Conditional Use to allow for the placement of a 75 megawatt per acre photovoltaic electric generation facility in this location, subject to considerations of scale and impact, could be considered as being consistent with the land use, area zoning and surrounding uses.

Conditional Use Applications (w/in a 0.25 mile radius of the subject site)*								
Application Number	**Application Name**	**Current Zoning**	**Proposed Use**	**P&Z Decision**	**P&Z Decision Date**	**CC Decision**	**CC Decision Date**	**Ordinance Number**
CU 183	Milford Grain Co.	AR-1 & MR	Grain dryer, storage tanks & office	N/A	N/A	Approved	1/8/1974	N/A
CU 551	Richard & Virginia Roop	AR-1	Automobile sales and	N/A	N/A	Approved	10/23/1979	N/A
CU 648	Irving J. Hall	GR	Automobile Repair Shop	N/A	N/A	Approved	10/13/1981	N/A
CU 911	Fredrick Golden	MR	Restoration of Antique & Custom Cars	Recommended Denial	7/27/1989	Withdrawn	Withdrawn	Withdrawn
CU 1909	Thomas P. Collins	GR	Beauty Salon	Recommended Approval	8/25/2011	Approved	9/20/2011	2220

File #: CU 2298
20211006

Planning & Zoning Commission Application
Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

Type of Application: (please check applicable)
Conditional Use ✓
Zoning Map Amendment ___

Site Address of Conditional Use/Zoning Map Amendment

Various parcels situated along Calhoun Road, Milford, Delaware 19963

Type of Conditional Use Requested:

Installation of a solar farm consisting of approximately 75 MW AC photovoltaic electric generation facility

Tax Map #: 130-3.00-246.00, 247.00 and 247.02; 130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00 **Size of Parcel(s):** 350.96 acres

Current Zoning: AR-1, GR & MR **Proposed Zoning:** AR-1, GR & MR Cond'l Use **Size of Building:** n/a

Land Use Classification: Developing Area/Low Density Area

Water Provider: On-site well **Sewer Provider:** On-site septic

Applicant Information

Applicant Name: Freeman Solar LLC
Applicant Address: 200 Liberty St., 14th Floor
City: New York State: NY ZipCode: 10281
Phone #: (617) 448-1318 E-mail: John.Soininen@brookfieldrenewable.com

Owner Information

Owner Name: Calhoun Ventures, LLC Clarence D. Calhoun, Jr.
Owner Address: 6714 DuPont Blvd. 7237 Calhoun Road
City: Milford State: DE Zip Code: 19963
Phone #: E-mail:

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: David C. Hutt, Esquire | Morris James LLP
Agent/Attorney/Engineer Address: 107 W. Market St.; P.O. Box 690
City: Georgetown State: DE Zip Code: 19947
Phone #: (302) 856-0015 E-mail: dhutt@morrisjames.com

EQUAL HOUSING OPPORTUNITY

Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

✓ **Completed Application**

✓ **Provide eight (8) copies of the Site Plan or Survey of the property**

- Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
- Provide a PDF of Plans (may be e-mailed to a staff member)
- Deed or Legal description

✓ **Provide Fee $500.00**

___ **Optional - Additional information for the Commission/Council to consider** (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

___ **Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.**

✓ **DelDOT Service Level Evaluation Request Response**

___ **PLUS Response Letter** (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on by behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

Jason Spreyer _____ Date: July 1, 2021

Jason Spreyer

Signature of Owner

_____ Date: July 1, 2021

David Herksovits (authorized by owners)

For office use only:

Date Submitted: 7/6/21 Fee: $500.00 Check #: 106913

Staff accepting application: KBD Application & Case #: 202100606

Location of property: _____

Subdivision: _____

Date of PC Hearing: _____ Recommendation of PC Commission: _____

Date of CC Hearing: _____ Decision of CC: _____

Mailing List Application Form

For Applications Requiring a Public Hearing in Sussex County

Please fill out this form and return it with your application. As a part of your application, a Public Hearing is required. The property owners within 200' of the site of the application will be notified. Staff will notify the property owners.

Application Information:

Site Address: Various Parcels situated along Calhoun Road, Milford, DE 19963

130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00

Parcel #: see above

Site Address: Various Parcels situated along Calhoun Road, Milford, DE 19963

130-3.00-246.00-247.00 and 247.02

Parcel #: see above

Applicant Name: Freeman Solar LLC

Owner Name: Calhoun Ventures, LLC

Clarence D. Calhoun, Jr.

Type of Application:

Conditional Use: ☒
Change of Zone: ☐
Subdivision: ☐
Board of Adjustment: ☐

Date Submitted: 7/2/21

For office use only:

Date of Public Hearing: _____

File #: _____

Date list created: _____ List created by: _____

Date letters mailed: _____ Letters sent by: _____

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

April 15, 2021

Mr. Jamie Whitehouse, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **Mr. David M. Herskovits, VP – Asset Development, Brookfield Renewable, U. S.** proposed land use application, which we received on April 12, 2021. This application is for an approximately 347.62-acre assemblage of parcels (Tax Parcels: 130-3.00-246.00, 130-3.00-247.00, 130-3.00-247.02, 130-6.00-75.00, 130-6.00-76.00, 130-6.00-97.00, 130-6.00-96.00, 130-6.00-95.00, 130-6.00-94.00, 130-6.00-92.00). The parcels are located on the east and west sides of Calhoun Road from Shawnee Road to Isdell Drive. Tax Parcel 130-3.00-247.00 is located on the south east corner of Shawnee Road and Calhoun Road. Tax Parcel 130-6.00-94.00 has frontage on Dupont Boulevard. The subject lands are currently zoned GR (General Residential), MR (Medium-Density Residential), AR-1 (Agriculture Residential), and the applicant seeks a conditional use approval for a Solar Farm.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volume along Calhoun Road (Sussex Road 621), is 812 vehicles per day. The annual average daily traffic volume along Shawnee Road (Sussex Road 36) from Dupont Boulevard (US 113) to North Union Church Road (Sussex Road 42), is 3,719 vehicles per day. The annual average daily traffic volume along Dupont Boulevard (US 113) from Lakeview Road (Sussex Road 36) to Fitzgeralds Road, is 7,468 vehicles per day.

Based on our review, we estimate that the above land use will generate fewer than 50 vehicle trips per day. This number of trips is below DelDOT's minimum warrants for determining that a Traffic Impact Study (TIS) should be required for a particular development. DelDOT's regulations specify the minimum TIS warrants as 50 vehicle trips in any hour and/or 500 vehicle trips per day. Because the proposed land use would generate fewer than 50 vehicle trips per day, we consider the development's traffic impact to be **diminutive** in the context of our agreement with the County regarding land development coordination and we do not recommend that the applicant be required to perform a TIS for the subject application. DelDOT's description of this

application as diminutive with regard to warranting a TIS does not mean that it is diminutive in other respects. We recommend that the applicant not be required to perform a TIS for the subject application.

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Ms. Annamaria Furmato, at (302) 760-2710, if you have questions concerning this correspondence.

Sincerely,

T. William Brockenbrough, Jr.

T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:afm
cc: David M. Herskovits, Brookfield Renewable, U. S., Applicant
Mark H. Davidson, Pennoni Associates, Inc.
Russell Warrington, Sussex County Planning & Zoning
Constance C. Holland, Coordinator, Cabinet Committee on State Planning Issues
Todd Sammons, Assistant Director, Development Coordination
Scott Rust, South District Public Works Manager, Maintenance & Operations
Steve McCabe, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination
Annamaria Furmato, Project Engineer, Development Coordination

SUSSEX COUNTY ENGINEERING DEPARTMENT
UTILITY PLANNING & DESIGN REVIEW DIVISION
C/U & C/Z COMMENTS

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **4/25/2022**

APPLICATION: **CU 2298 Freeman Solar, LLC**

APPLICANT: **Freeman Solar, LLC c/o John Soininen**

FILE NO: **WSPA-5.02**

TAX MAP & PARCEL(S): **130-3.00-246.00, 247.00 & 247.02 and 130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00**

LOCATION: **Lying on the east and west side of Calhoun Road (SCR 621) and South Shawnee Road (Route 36), approximately 1,267 feet south of Shawnee Road (Route 36).**

NO. OF UNITS: **Solar Farm (75 megawatt A/C photovoltaic electric generation facility**

GROSS ACREAGE: **350.96**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

SEWER:

(1). Is the project in a County operated and maintained sanitary sewer and/or water district?

Yes ☐ No ☒

a. If yes, see question (2).
b. If no, see question (7).

(2). Which County Tier Area is project in? **Tier 3**

(3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.

(4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.

(5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **N/A**

If yes, the current System Connection Charge Rate is **Unified $6,600.00** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

(6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **N/A**

☐ Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.

(7). Is project adjacent to the Unified Sewer District? **N/A**

(8). Comments: **The proposed Conditional Use is also within the boundaries of the Growth and Annexation area of the City of Milford. Contact the City concerning the availability of sewer and/or water.**

(9). Is a Sewer System Concept Evaluation required? **Not at this time**

(10). Is a Use of Existing Infrastructure Agreement Required? **Not at this time**

(11). **All residential roads must meet or exceed Sussex County minimum design standards.**

UTILITY PLANNING & DESIGN REVIEW APPROVAL:

John J. Ashman
Sr. Manager of Utility Planning & Design Review

Xc: Hans M. Medlarz, P.E.
Lisa Walls
No Permit Tech Assigned

STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION

April 27, 2022

Ms. Lauren Devore
Sussex County Planning
P.O. Box 589
Georgetown, DE 19947

RE: PLUS Waiver Request – Proposed Freeman Solar Farm
Tax Parcels: 130-3.00-246.00, 130-3.00-247.00, 130.-3.00-247.02, 130-6.00-75.00, 130-6.00-76.00, 130-3.00-92.00, 130-3.00-94.00, 130-3.00-95.00, 130-3.00-96.00, and 130-3.00-97.00

Dear Ms. Devore:

Our office received your request for a PLUS waiver for the proposed Freeman Solar farm. Upon review of the submitted plans and the description of the project, our office agrees that the proposed solar farm is a low-impact project. It will bring more renewable energy to Sussex County and it will have minimal land use and environmental impacts. Therefore, our office approves the waiver request.

This does not waive the applicant from contacting State agencies to determine code and permitting requirements. Any development on the site will still be required to follow all relevant codes and permitting procedures set forth by the State of Delaware. In addition, this does not waive the local Sussex County review and approval process.

If you have any questions, please feel free to contact me.

Sincerely,

David L. Edgell, AICP
Director, Office of State Planning Coordination

Cc: Calhoun Ventures
City of Milford

122 Martin Luther King Jr. Blvd. South – Haslet Armory · Third Floor · Dover, DE 19901
Phone (302)739-3090 · Fax (302) 739-5661 · www. stateplanning.delaware.gov

CohnReznick

www.cohnreznick.com

FILE COPY
Received at Public Hearing
5.12.2022

REAL ESTATE ADJACENT PROPERTY VALUE IMPACT REPORT:

Academic and Peer Authored Property Value Impact Studies, Research and Analysis of Existing Solar Facilities, and Market Participant and Assessor Interviews

Prepared For:
Mr. John Soininen
Senior Director, Asset Development
Brookfield Renewable, U.S.

Submitted By:

CohnReznick LLP
Valuation Advisory Services
200 S. Wacker Drive, Suite 2600
Chicago, Illinois 60606
(312) 508-5900

Patricia L. McGarr, MAI, CRE, FRICS
Andrew R. Lines, MAI
Sonia K. Singh, MAI

April 28, 2022

LETTER OF TRANSMITTAL

April 28, 2022

Mr. John Soinenen
Senior Director, Asset Development
Brookfield Renewable, U.S.

SUBJECT: Property Value Impact Report
An Analysis of Existing Solar Farms

To Whom it May Concern:

CohnReznick is pleased to submit the accompanying property values impact report for proposed solar energy uses in Delaware. Per the client's request, CohnReznick researched property transactions adjacent to existing solar farms, researched and analyzed articles and other published studies, and interviewed real estate professionals and Township/County Assessors active in the market where solar farms are located, to gain an understanding of actual market transactions in the presence of solar energy uses.

The purpose of this consulting assignment is to determine whether proximity to a renewable energy use (solar farm) has an impact adjacent property values. The intended use of our opinions and conclusions is to assist the client in addressing local concerns and to provide information that local bodies are required to consider in their evaluation of solar project use applications. We have not been asked to value any specific property, and we have not done so.

The client and intended user for the assignment is Brookfield Renewable, U.S. Additional intended users of our findings include all relevant permitting authorities for Brookfield Renewable, U.S.'s proposed solar projects in Delaware. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

This consulting assignment is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, as well as applicable state appraisal regulations.

Based on the analysis in the accompanying report, and subject to the definitions, assumptions, and limiting conditions expressed in the report, our findings are:

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FINDINGS

I. Academic Studies *(pages 20-22):* CohnReznick reviewed and analyzed published academic studies that specifically analyzed the impact of solar facilities on nearby property values. These studies include multiple regression analyses of hundreds and thousands of sales transactions, and opinion surveys, for both residential homes and farmland properties in rural communities, which concluded existing solar facilities have had no negative impact on adjacent property values.

Peer Authored Studies: CohnReznick also reviewed studies prepared by other real estate valuation experts that specifically analyzed the impact of solar facilities on nearby property values. These studies found little to no measurable or consistent difference in value between the Test Area Sales and the Control Area Sales attributed to the proximity to existing solar farms and noted that solar energy uses are generally considered a compatible use.

II. CohnReznick Studies *(pages 23-120)*: Further, CohnReznick has performed 27 studies in over 16 states, of both residential and agricultural properties, in which we have determined that the existing solar facilities have not caused any consistent and measurable negative impact on property values.

For this Project, we have included 10 of these studies which are most similar to the subject in terms of general location and size, summarized as follows:

CohnReznick - Existing Solar Farms Studied					
#	Solar Farm	County	State	MW AC	Acreage
1	North Star Solar	Chisago	MN	100.00	±1,000
2	Dominion Indy Solar III	Marion	IN	8.60	129.04
3	Dougherty Solar	Dougherty	GA	120.00	1,280.93
4	Miami-Dade Solar Energy Center	Miami-Dade	FL	74.50	465.61
5	Barefoot Bay Solar Energy Center	Brevard	FL	74.50	504.75
6	Innovative Solar 42	Bladen & Cumberland	NC	71.00	413.99
7	Rutherford Farm	Rutherford	NC	61.00	488.84
8	Elm City Solar	Wilson	NC	40.00	354.00
9	Woodland Solar	Isle of Wight	VA	19.00	211.12
10	DTE Lapeer Solar	LaPeer	MI	48.28	365.68

It is noted that proximity to the solar farms has not deterred sales of nearby agricultural land and residential single-family homes, nor has it deterred the development of new single-family homes on adjacent land.

This report also includes four "Before and After" analyses, in which sales that occurred prior to the announcement and construction of the solar farm project were compared with sales that occurred after completion of the solar farm project, for both adjoining and non-adjoining properties. No measurable impact on property values was demonstrated. We have also included an additional study of the New Road Solar farm in New Jersey, for informational purposes.

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III. Market Participant Interviews *(pages 121-124)*: Our conclusions also consider interviews with over 45 County and Township Assessors, who have at least one solar farm in their jurisdiction, and in which they have determined that solar farms have not negatively affected adjacent property values.

With regards to the Project, we specifically interviewed Assessors in Delaware and neighboring states:

- Cheryl Bundek, the Supervisor of Assessments of Kent County, Delaware, reported that when she worked in the city of Dover's tax assessor's office, they had never received a complaint or appeal request about assessed values from home owners in nearby manufactured home communities regarding the Dover Sun Park solar farm.
- Nancy Cook in the South Brunswick Township tax assessor's office, in Middlesex County, New Jersey, said that to her recollection there had been no complaints or appeals filed about the presence of the New Road Solar facility in the township from nearby subdivision homeowners.
- Steve Lehr at the Department of Assessment for Tompkins County, New York, mentioned that the appraisal staff has made no adjustments regarding assessed values of properties surrounding solar farms. Marketing times for properties have also stayed consistent. Lehr noted that a few of the solar farms in Thompkins County are on land owned by colleges and universities and a few are in rural areas.
- Al Fiorille, Senior Valuation Specialist in the Tompkins County Assessment department in New York, reported that he could not measure any negativity from the solar farms and arrays that have been installed within the county.
- Mason Hass, the Riverhead Assessor in Suffolk County, on Long Island, New York stated that the solar farms in his town are in industrial zoned areas, and he has not seen any impact on adjacent properties.
- The Assessor for the town of Smithtown in Suffolk County, New York, Irene Rice, has not seen any impact on property values as a result of their location near the newly built solar farms in her town.
- Michael Zazzara, Assessor of the City of Rochester in Monroe County, New York commented that the City has a couple of solar farms, and they have seen no impact on nearby property values and have received no complaints from property owners.
- While there are one or two homes nearby to existing solar farms in the town of Lisbon in St. Lawrence County, New York, Assessor Stephen Teele has not seen any impact on property values in his town. The solar farms in the area are in rural or agricultural areas in and around Lisbon.
- The Assessor for the Village of Whitehall in Washington County, New York, Bruce Caza, noted that there are solar farms located in both rural and residential areas in the village and he has seen no impact on adjacent properties, including any concerns related to glare form solar panels.

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To give us additional insight as to how the market evaluates farmland and single-family homes with views of solar farms, we interviewed numerous real estate brokers and other market participants who were party to actual sales of property adjacent to solar; these professionals also confirmed that solar farms did not diminish property values or marketability in the areas they conducted their business.

IV. Solar Farm Factors on Harmony of Use *(pages 125-130)*: In the course of our research and studies, we have recorded information regarding the compatibility of these existing solar facilities and their adjoining uses, including the continuing development of land adjoining these facilities.

CONCLUSION

Considering all of the preceding, the data indicates that solar facilities do not have a negative impact on adjacent property values.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Very truly yours,

CohnReznick LLP

Andrew R. Lines, MAI
Principal - Valuation Advisory Services
Certified General Real Estate Appraiser

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Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services
Certified General Real Estate Appraiser

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Sonia K. Singh, MAI
Director – Valuation Advisory Services
Certified General Real Estate Appraiser

Virginia License No. 4001017615
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SCOPE OF WORK

CLIENT AND INTENDED USERS

The client and intended user of this report is Brookfield Renewable, U.S.; other intended users may include the client's legal and site development professionals. Additional intended users of our findings include all relevant permitting authorities for Brookfield Renewable, U.S.'s proposed solar projects in Delaware.

INTENDED USE

The intended use of our findings and conclusions is to address certain criteria required for the granting of approvals for proposed solar energy uses. We have not been asked to value any specific property, and we have not done so. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

PURPOSE

The purpose of this consulting assignment is to determine whether proximity to the proposed solar facility will result in an impact on adjacent property values.

DEFINITION OF VALUE

This report utilizes Market Value as the appropriate premise of value. Market value is defined as:

"The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."[1]

[1] Code of Federal Regulations, Title 12, Chapter I, Part 34.42[h]

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EFFECTIVE DATE & DATE OF REPORT

April 28, 2022 (Paired sale analyses contained within each study are periodically updated.)

PRIOR SERVICES

USPAP requires appraisers to disclose to the client any services they have provided in connection with the subject property in the prior three years, including valuation, consulting, property management, brokerage, or any other services.

This report is a compilation of the Existing Solar Farms which we have studied over the past year and is not evaluating a specific subject site. In this instance, there is no "subject property" to disclose.

INSPECTION

Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.

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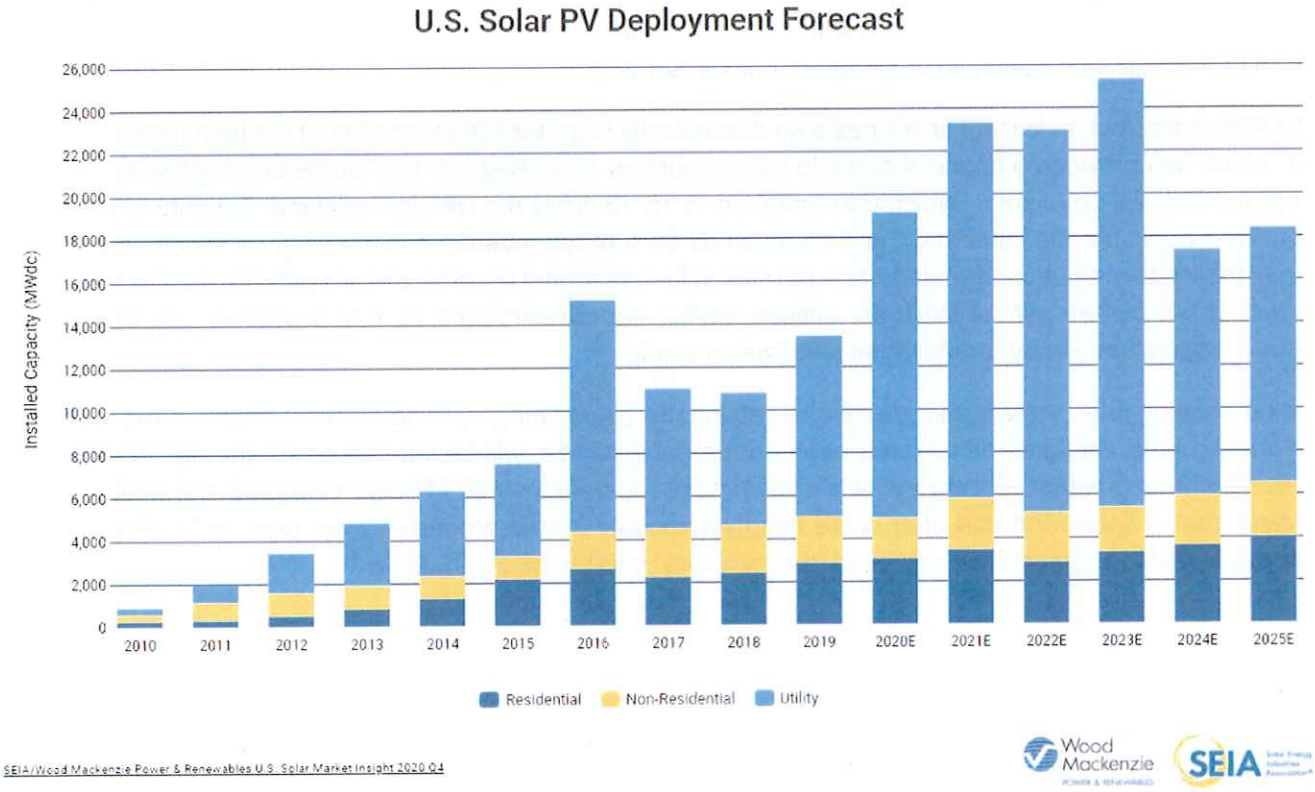
OVERVIEW OF SOLAR DEVELOPMENT IN THE UNITED STATES

Solar development increased almost exponentially over the past ten years in the United States as technology and the economic incentives (Solar Investment Tax Credits or ITC) made the installation of solar farms economically reasonable. The cost to install solar panels has dropped nationally by 70 percent since 2010, which has been one cause that led to the increase in installations. A majority of these solar farm installations are attributed to larger-scale solar farm developments for utility purposes. The chart below portrays the historical increase on an annual basis of solar installations in the US as a whole, courtesy of research by Solar Energy Industries Association (SEIA) and Wood Mackenzie, and projects solar photovoltaic (PV) deployment for the next five years through 2025, with the largest percentage of installations attributed to utility-scale projects.



SEIA/Wood Mackenzie Power & Renewables U.S. Solar Market Insight 2020 Q4

The United States installed a record of 19.2 Gigawatts (GW) DC of solar photovoltaic capacity for both residential and utility-scale solar projects installed in 2020, representing an increase of 43 percent since 2019. Since the cost to install solar has decreased more than 70% over the past decade, solar has continued to rank either first or second in new electric capacity additions in each of the past eight years. The first quarter of 2021 was the largest Q1 on record, with the U.S. solar market installing more than 5 GW DC of solar capacity. Although, the coronavirus pandemic had put some supply-side constraint on solar construction. According to SEIA, "increasing demand for solar, combined with pandemic-related macroeconomic realities (such as increased shipping costs,

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microchip availability, and a residential home renovation boom) have led to increased commodity prices and delivery delays." The pipeline for utility-scale PV, as of first quarter 2021, includes capacity of 85 GW for contracted projects.[2] With the increase of utility-scale solar installations across the country, solar projects have become a common and understood feature of the landscape and will continue to do so with the projected additional capacity to come online in the coming years despite the downside risks caused by the coronavirus pandemic.

Recent articles show that over the past decade, the solar industry has experienced unprecedented growth. Among the factors contributing to its growth were government incentives, significant capacity additions from existing and new entrants and continual innovation. Solar farms offer a wide array of economic and environmental benefits to surrounding properties. Unlike other energy sources, solar energy does not produce emissions that may cause negative health effects or environmental damage. Solar farms produce a lower electromagnetic field exposure than most household appliances, such as TV and refrigerators, and studies have confirmed there are no health issues related to solar farms.[3]

Solar farm construction in rural areas has also dramatically increased the tax value of the land on which they are built, which has provided a financial boost to some counties. CohnReznick has studied real estate tax increases due to the installation of solar, which can range up to 10-12 times the rate for farmland. Majority of tax revenue is funneled back into the local area, and as much as 50% of tax revenue can typically be allocated to the local school district. By converting farmland to a passive solar use for the duration of the system's life, the solar energy use would not burden school systems, utilities, traffic, nor infrastructure as it is a passive use that does not increase population as say a residential subdivision would.

Beyond creating jobs, solar farms are also benefiting the overall long-term agricultural health of the community. The unused land, and also all the land beneath the solar panels, will be left to repair naturally. In the long run this is a better use of land since the soil is allowed to recuperate instead of being ploughed and fertilized year in and year out. A solar farm can offer some financial security for the property owner over 20 to 25 years. Once solar panel racking systems are removed, the land can revert to its original use.[4]

NATIONAL UTILITY-SCALE ENERGY PRODUCTION

As of July 2021, the U.S. produces almost 1.224 million megawatts (MW) of power each year, according to the U.S. Energy Information Administration (EIA) in ±23,700 unique power generation facilities. Of that power produced, approximately four percent is generated from solar facilities, or 51,907 MW AC, at 4,828 solar facilities across the country, reflecting an average facility size of 10.75 MW AC. For utility scale solar production, the

[2] Solar Energy Industries Association, Solar Market Insight Report 2021 Q2
[3] "Electromagnetic Field and Public Health." Media Centre (2013): 1-4. World Health Organization.
[4] NC State Extension. (May 2016). Landowner Solar Leasing: Contract Terms Explained. Retrieved from: https://content.ces.ncsu.edu/landowner-solar-leasing-contract-terms-explained

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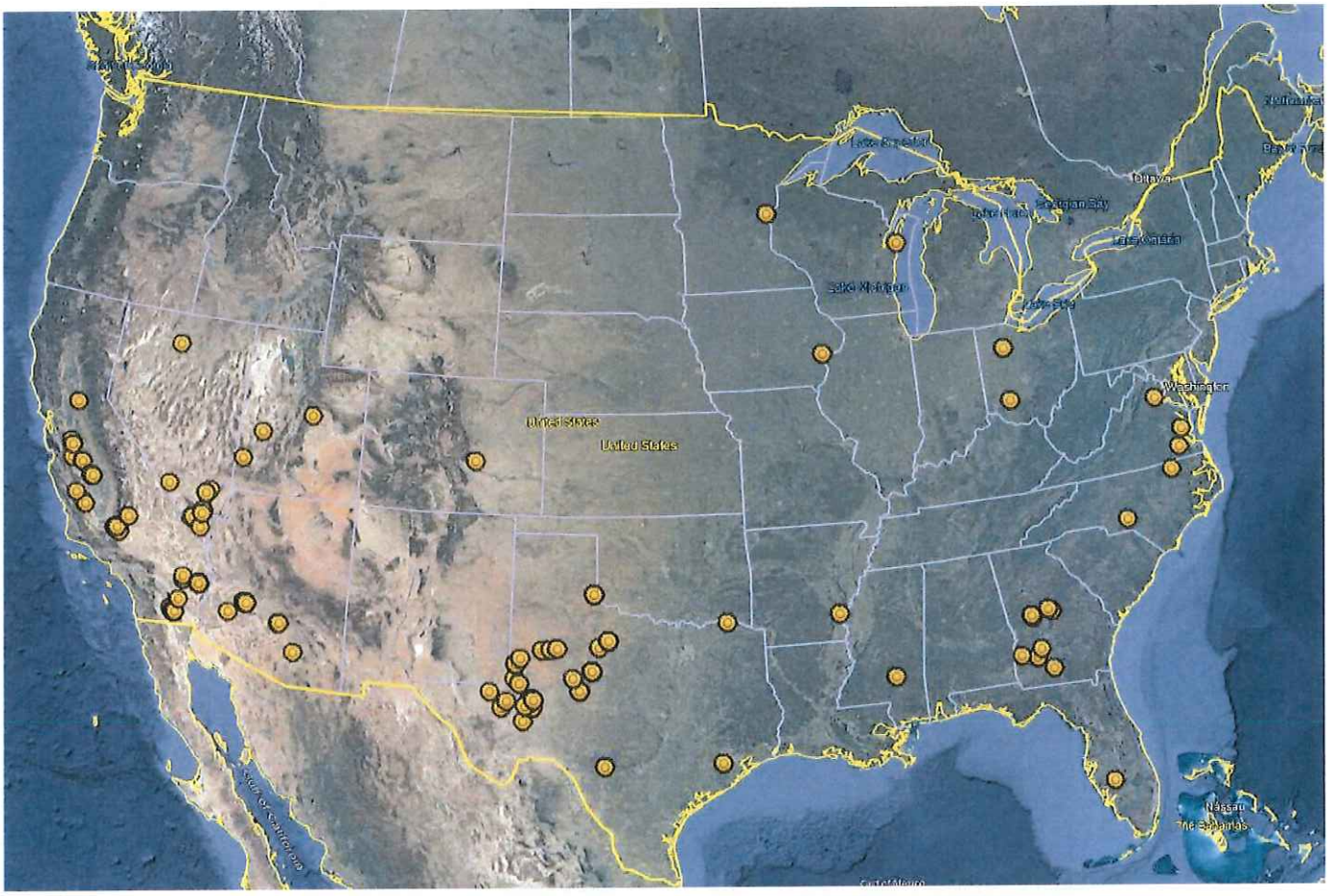
number of facilities that generate over 5 MW of power accounts for 33.6 percent of all solar facilities, nationwide, whereas 88.8 percent of solar power generated in the country comes from utility scale facilities, overall.

According to the U.S. Energy Information Administration (EIA) through July 2021, ±130 solar facilities in operation that generate 100 MW AC or more of power. A map illustrating existing solar farms with capacities greater than 100 MW is presented below (indicated by yellow suns), using data retrieved from the Energy Information Administration (EIA).



To meet zoning and planning requirements, and/or to take advantage of certain incentive programs, several solar farms are built by the same developer around the same location, de facto functioning as one larger solar farm. Many of these solar facilities are located in California, with several located in Florida, Texas, Nevada, North Carolina, Arizona, Georgia and Utah. Additionally, these installations are typically located in outlying areas where site costs are lowest, and residential development and sales activity is minimal in these areas. While we reviewed each for surrounding uses, the majority are not good candidates for a paired sales analysis since they were either recently constructed or surrounding development/sales activity was minimal.

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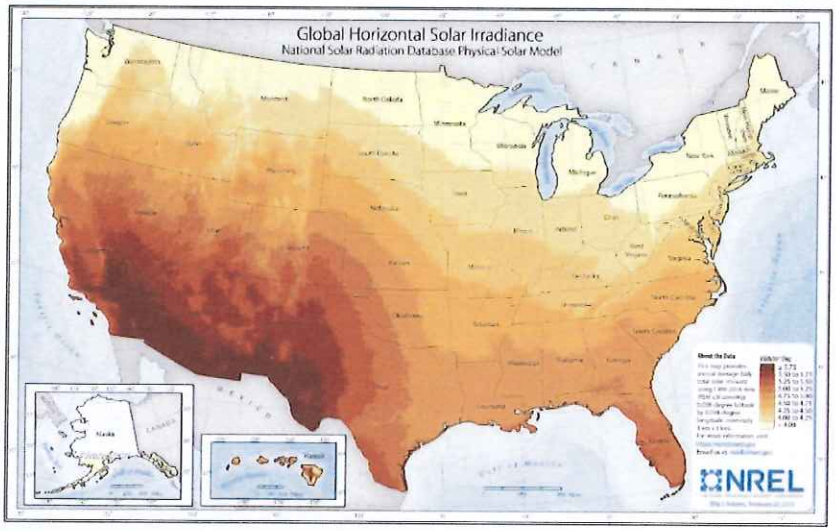
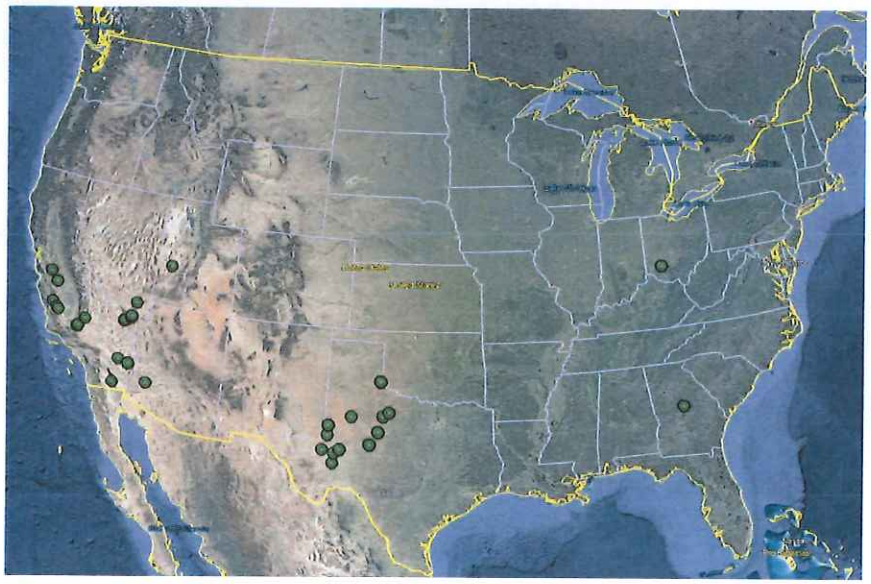
In the United States, there are ±41 operating solar farms with generating capacities above 200 MW AC, presented below. All of the existing solar farms in operation as of July 2021 that have a generating capacity of greater than 200 MW AC are located in the southwestern United States, with the exception of the 200 MW Hillcrest Solar project in Ohio and the 204 MW Twiggs Solar Project in Georgia. This is due to economies of scale for reducing development costs by maximizing size in areas where there is maximum sunlight. The map developed by the National Renewable Energy Laboratory (NREL), presented next, shows the solar resources released by the sun daily throughout in the United States. Red indicates the areas with the most solar resources.



The map below has solar installations larger than 200 MW (marked by green suns) and shows that the largest solar installations have been built in areas where there are the most solar resources.



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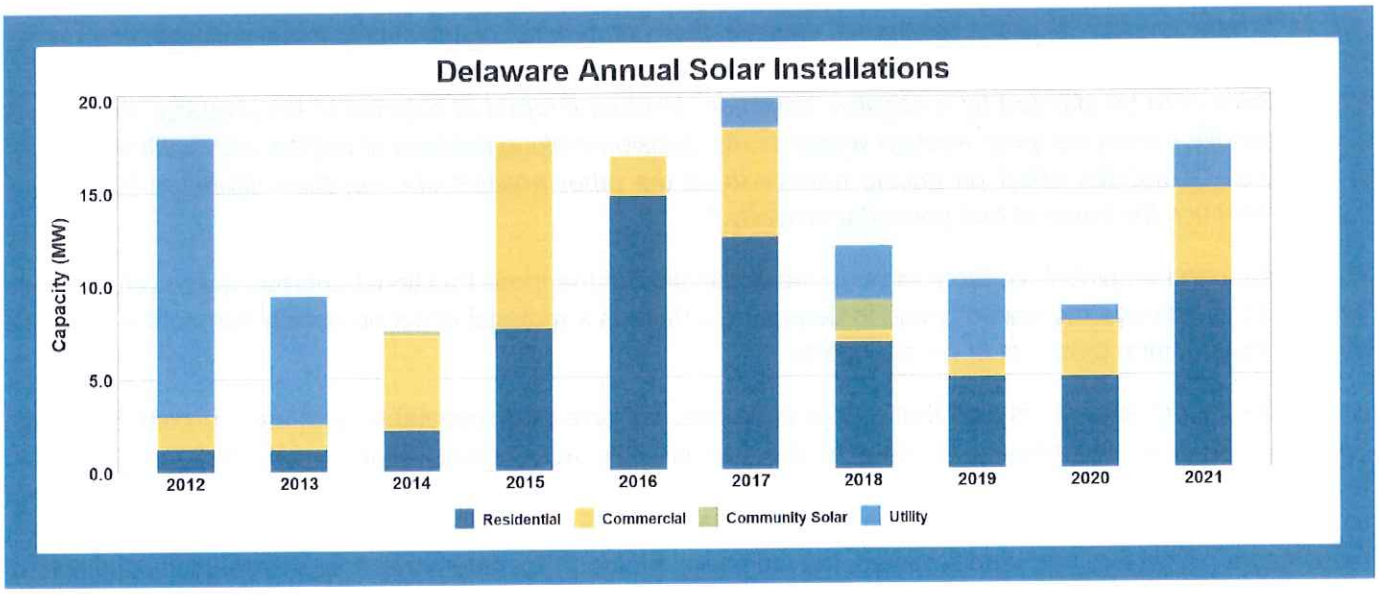
ENERGY PRODUCTION IN DELAWARE

As of the end of 2021, Delaware had 38.1 MW of solar installed, ranking only 41st in the nation for the capacity of solar installed. There have been only 9.3 MW of solar power installed in the state since 2015. However, significantly more utility investments in clean energy are on the horizon, with 214 MW of solar proposed to be installed over the next two years, and the state is expected to have over 400 MW installed in five years.



Delaware currently has 12 non-residential solar facilities in service and two generate over 5 MW, totaling 21.8 MW of power in utility-scale facilities. Milford Solar Farm in Kent County generates the most power at 11.8 MW and was developed in 2012. The most recent facility to be developed became operational in 2021 with 1.3 MW in suburban Wilmington on the JP Morgan Chase office campus.

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APPRAISAL THEORY – ADAJCENT PROPERTY'S IMPACT ON VALUE

According to Randall Bell, PhD, MAI, author of text *Real Estate Damages,* published by the Appraisal Institute in 2016, understanding the market's perceptions on all factors that may have an influence on a property's desirability (and therefore its value) is essential in determining if a diminution or enhancement of value has occurred.[5] According to Dr. Bell:

> *"There is often a predisposition to believe that detrimental conditions automatically have a negative impact on property values. However, it is important to keep in mind that if a property's value is to be affected by a negative condition, whether internal or external to the property, that condition must be given enough weight in the decision-making process of buyers and sellers to have a material effect on pricing relative to all the other positive and negative attributes that influence the value of that particular property."*[6]

Market data and empirical research through the application of the three traditional approaches to value should be utilized to estimate the market value to determine if there is a material effect on pricing due, to the influence of a particular characteristic of or on a property.

A credible impact analysis is one that is logical, innate, testable and repeatable, prepared in conformity with approved valuation techniques. In order to produce credible assignment results, more than one valuation technique should be utilized for support for the primary method, or a check of reasonableness, such as utilization of more than one approach to value, conducting a literature review, or having discussions (testimony) with market participants.[7] CohnReznick implemented the scientific method[8] to determine if a detrimental condition of proximity to a solar farm exists, further described in the next section.

---

[5] Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Pages 1-2)
[6] Ibid, Page 314
[7] Ibid, Pages 7-8
[8] The scientific method is a process that involves observation, development of a theory, establishment of a hypothesis, and testing. The valuation process applies principles of the scientific method as a model, based upon economic principles (primarily substitution) as the hypothesis. The steps for the scientific method are outlined as follows:

1. Identify the problem.
2. Collect relevant data.
3. Propose a hypothesis.
4. Test the hypothesis.
5. Assess the validity of the hypothesis.

Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Pages 314-316)

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METHODOLOGY

The purpose of this report is to determine whether proximity to the solar facility resulted in any measurable and consistent impact on adjacent property values. To test this hypothesis, CohnReznick identified three relevant techniques to test if a detrimental condition exists.

(1) A review of published studies;
(2) Paired sale analysis of properties adjacent to existing solar generating facilities, which may include repeat sale analyses or "Before and After" analyses; and,
(3) Interviews with real estate professionals and local real estate assessors.

The paired sales analysis is an effective method of determining if there is a detrimental impact on surrounding properties.

> *"One of the most useful applications of the sales comparison approach is paired sale analysis. This type of analysis may compare the subject property or similarly impacted properties called* ***Test Areas*** *(at Points B, C, D, E, or F) with unimpaired properties called* ***Control Areas*** *(Point A). A comparison may also be made between the unimpaired value of the subject property before and after the discovery of a detrimental condition. If a legitimate detrimental condition exists, there will likely be a* ***measurable and consistent difference*** *between the two sets of market data; if not, there will likely be no significant difference between the two sets of data. This process involves the study of a group of sales with a detrimental condition, which are then compared to a group of otherwise similar sales without the detrimental condition."*[9]

As an approved method, paired sales analysis can be utilized to extract the effect of a single characteristic on value. By definition, paired data analysis is "a quantitative technique used to identify and measure adjustments to the sale prices or rents of comparable properties; to apply this technique, sales or rental data on nearly identical properties is analyzed to isolate a single characteristic's effect on value or rent."[10] The text further describes that this method is theoretically sound when an abundance of market data, or sale transactions, is available for analysis.

Where data is available, CohnReznick has also prepared "Before and After" analyses or a Repeat Sale Analysis,[11] to determine if a detrimental impact has occurred.

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[9] Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Page 33)
[10] *The Appraisal of Real Estate 14th Edition.* Chicago, IL: Appraisal Institute, 2013.
[11] Another type of paired sales analysis involves studying the sale and subsequent resale of the same property. This method is used to determine the influence of time on market values or to determine the impact of a detrimental condition by comparing values before and after the discovery of the condition.
Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Page 35)

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SCOPE OF WORK

The scope of work utilized to test the hypothesis stated on the prior page is as follows:

1. Review published studies, assess credibility, and validity of conclusions;
2. Prepare paired sale analyses for existing solar farms as follows:
    2.1. Identify existing solar farms comparable to the proposed project to analyze;
    2.2. Define Test Area Sales and Control Areas Sales;
    2.3. Collect market data (sale transactions) for both Test Area and Control Area Sales;
    2.4. Analyze and confirm sales, including omission of sales that are not reflective of market value;
    2.5. Prepare comparative analysis of Test Area and Control Area sales, adjusting for market conditions;
    2.6. Interpret calculations; and
3. Conduct interviews with real estate professionals and local real estate assessors who have evaluated real property adjacent to existing solar farms.

It should be noted that our impact report data and methodology have been previously reviewed by our peer in the field – Kirkland Appraisals, LLC – as well as by the Solar Energy Industries Association (SEIA).

The following bullet points summarize important elements to consider in our scope of work:

- Due to the limited number of existing larger utility scale projects in the state of Delaware, we have incorporated other utility scale projects in other states.
- Test Area Sales consists of sales that are adjacent to an existing solar facility. Ownership and sales history for each adjoining property to an existing solar farm through the effective date of this report is maintained within our workfile. Adjoining properties with no sales data or that sold prior to the announcement of the solar farm were excluded from further analysis.

- Control Area Sales are generally located in the same market area, although varies based on the general location of the existing solar farm under analysis. In rural areas, sales are identified first within the township, and expands radially outward through the county until a reliable set of data points is obtained.

- Control Area Sales are generally between 12 and 18 months before or after the date of the Test Area Sale(s), and are comparable in physical characteristics such as age, condition, style, and size.

- Sales of properties that sold in a non-arm's length transaction (such as a transaction between related parties, bank-owned transaction, or between adjacent owners) were excluded from analysis as these are not considered to be reflective of market value, as defined earlier in this report. The sales that remained after exclusions were considered for a paired sale analysis.

- The methodology employed in this report for paired sale analysis does not rely on multiple subjective adjustments that are typical in many appraisals and single-paired sales analyses. Rather, the

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methodology remains objective, and the only adjustment required is for market conditions;[12] the analysis relies upon market conditions trends tracked by credible agencies such as the Federal Housing Finance Agency ("FHFA"), who maintains a House Price Index ("HPI")[13] for macro and micro regions in the United States. A market conditions adjustment is a variable that affects all properties similarly and can be adjusted for in an objective manner.

- To make direct comparisons, the sale price of the Control Area Sales was adjusted for market conditions to a common date. In this analysis, the common date is the date of the Test Area Sale(s). After adjustment, any measurable difference between the sale prices would be indicative of a possible price impact by the solar facility.

- If there is more than one Test Area Sale to evaluate, the sales are grouped if they exhibit similar transactional and physical characteristics; otherwise, they are evaluated separately with their own respective Control Area Sale groups.

[12] Adjusting for market conditions is necessary as described in The Appraisal of Real Estate 14th Edition as follows: "Comparable sales that occurred under market conditions different from those applicable to the subject on the effective date of appraisal require adjustment for any differences that affect their values. An adjustment for market conditions is made if general property values have increased or decreased since the transaction dates."

[13] The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. This information is obtained by reviewing repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. Because of the breadth of the sample, it provides more information than is available in other house price indexes.

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TECHNIQUE 1: REVIEW OF PUBLISHED STUDIES

The following is a discussion of various studies that consider the impact of solar farms on surrounding property values. The studies range from quantitative analysis to survey-based formal research to less-formal analyses.

ACADEMIC REPORTS

There have been three academic reports that attempt to quantify the effect on property values due to proximity to solar.

i. The first report is a study completed by **The University of Texas at Austin**, published in May 2018.[14] The portion of the study focusing on property impact was an Opinion Survey of Assessors with no sales data or evidence included in the survey. The opinion survey was sent to 400 accessors nationwide and received only 37 responses. Of those 37 assessors, only 18 had assessed a home near a utility-scale solar installation, the remainder had not. Of the 18 assessors with experience in valuing homes near solar farms, 17 had not found any impact on home values near solar. Those are the actual facts in the study. A small number of those assessor respondents hypothetically surmised an impact, but none had evidence to support such statements.

   The paper admits that there is no actual sales data analyzed, and further denotes its own areas of weakness, including "This study did not differentiate between ground-mounted and rooftop installations." The author states on the last line of page 22: ***"Finally, to shift from perceived to actual property value impacts, future research can conduct analyses on home sales data to collect empirical evidence of actual property value impacts."***

   The paper concludes with a suggestion that a statistic hedonic regression model may better identify impacts. It should be noted that the type of statistical analysis that the author states is required to determine "*actual property value impacts*' was completed two years later by the following Academic Studies.

ii. The second report is a study prepared by a team at the **University of Rhode Island**, published in September 2020, "*Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island.*"[15] The study utilized a hedonic pricing model, or multiple regression analysis, to quantify the effect of proximity on property values due to solar by studying existing solar installations in Massachusetts and Rhode Island. The study evaluated 208 solar facilities, 71,373 housing sales occurring within one-mile of the solar facilities (Test Group), and 343,921 sales between one-to-three

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[14] Al-Hamoodah, Leila, et al. An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations. Policy Research Project (PRP), LBJ School of Public Affairs, The University of Texas at Austin, May 2018, emp.lbl.gov/sites/default/files/property-value_impacts_near_utility-scale_solar_installations.pdf.

[15] Gaur, V. and C. Lang. (2020). Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island. Submitted to University of Rhode Island Cooperative Extension on September 29, 2020. Accessed at https://web.uri.edu/coopext/valuing-sitingoptions-for-commercial-scale-solar-energy-in-rhode-island/.

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miles (Control Group). Because it is a hedonic regression model, it allowed them to isolate specific variables that could impact value, including isolating rural and non-rural locations. The study defines "**Rural**," as an area having a "population density of 850 people per square mile or fewer."

The study provides data which found no negative impact to residential homes near solar arrays in rural areas: "these results suggest that [the Test Area] in rural areas ***is effectively zero*** (a statistically insignificant 0.1%), and that the negative externalities of solar arrays are only occurring in non-rural areas."[16] Further, the study tested to determine if the size of the installation impacted values, and found no evidence of differential property values impacts by the solar installation's size.

Thus, not only are there no impacts to homes in similar areas as the proposed Project, but any differences in the size of a solar farm are similarly not demonstrating an impact.

iii. The third report is a published study prepared by Dr. Nino Abashidze, School of Economics, Georgia Institute of Technology, dated October 20, 2020, entitled "*Utility Scale Solar Farms and Agricultural Land Values*." Abashidze examined 451 solar farms in North Carolina. "Across many samples and specifications, we find ***no direct negative or positive spillover effect of a solar farm construction on nearby agricultural land values.*** Although there are no direct effects of solar farms on nearby agricultural land values, we do find evidence that suggests construction of a solar farm may create a small, positive, option-value for landowners that is capitalized into land prices. Specifically, after construction of a nearby solar farm, we find that agricultural land that is also located near transmission infrastructure may increase modestly in value."

VALUATION EXPERT REPORTS

We have similarly considered property value impact studies prepared by other experts, which have also noted that the installation of utility-scale solar on a property has no measurable or consistent impact on adjoining property value. According to a report titled "Mapleton Solar Impact Study" from Kirkland Appraisals, LLC, conducted in Murfreesboro, North Carolina in September 2017, which studied 13 existing solar farms in the state, found that the solar farms had no impact on adjacent vacant residential, agricultural land, or residential homes. The paired sales data analysis in the report primarily consisted of low density residential and agricultural land uses and included one case where the solar farm adjoined to two dense subdivisions of homes.

Donald Fisher, ARA, who has served six years as Chair of the American Society of Farm Managers and Rural Appraisers, and has prepared several market studies examining the impact of solar on residential values was quoted in a press release dated February 15, 2021 stating, "Most of the locations were in either suburban or

[16] The University of Rhode Island study's conclusion that there may be an impact to non-rural communities is surmised is that "land is abundant in rural areas, so the development of some land into solar does little to impact scarcity, whereas in non-rural areas it makes a noticeable impact."

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rural areas, and all of these studies found either a neutral impact or, ironically, a positive impact, where values on properties after the installation of solar farms went up higher than time trends."

REAL ESTATE ASSESSOR SOLAR IMPACT REPORTS

The Chisago County (Minnesota) Assessor's Office conducted their own study on property prices adjacent to and in the close vicinity of the North Star solar farm in Chisago County, Minnesota. At the November 2017 Chisago County Board meeting, John Keefe, the Chisago County Assessor, presented data from his study. He concluded that the North Star solar farm had, "no adverse impact" on property values. His study encompassed 15 parcels that sold and were adjacent or in the close vicinity to the solar farm between January 2016 and October 2017; the control group used for comparison comprised of over 700 sales within the county. Almost all of the [Test Area] properties sold were at a price above the assessed value. He further stated that, "It seems conclusive that valuation has not suffered."[17]

Furthermore, Grant County, Kentucky Property Value Administrator, Elliott Anderson, stated that Duke Energy built a solar farm near Crittenden, adjacent to existing homes on Claiborne Drive in December 2017. At the time of the interview, there have been nine arm's length homes sales on that street since the solar farm commenced operations. Each of those nine homes sold higher than its assessed value, and one over 32 percent higher. At the time, Anderson noted that several more lots were for sale by the developer and four more homes were currently under construction. Anderson said that *the solar farm had no impact either on adjoining home values or on marketability or desirability of those homes adjacent to the solar farm.*

CONCLUSION

These published studies and other valuation expert opinions, conclude that there is no impact to property adjacent to established solar farms. These conclusions have been confirmed by academic studies utilizing large sales databases and regression analysis investigating this uses' potential impact on property values. Further, the conclusion has been confirmed by county assessors who have also investigated this adjacent land use' potential impact on property values.

[17] Chisago County Press: County Board Real Estate Update Shows No "Solar Effects" (11/03/2017)

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TECHNIQUE 2: PAIRED SALE ANALYSIS

SOLAR FARM 1: NORTH STAR SOLAR FARM, CHISAGO COUNTY, MINNESOTA

Coordinates: Latitude 45.486756, Longitude -92.884206

PINs: Multiple

Population Density (2020) Chisago County: 136 people per square mile (Largest City = North Branch)

Total Land Size: ±1,000 Acres

Date Project Announced: 2014

Date Project Completed: October 2016

Output: 100 MW AC

Overview and Surrounding Area:

The North Star Solar Farm is located approximately four miles southeast of the City of North Branch in unincorporated Chisago County, near the intersection of Route 69 and Route 72. The solar farm was developed by Community Energy Solar in 2016 and is the largest solar farm in the Midwest. The solar farm features 440,000

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solar panels and a power output capacity of 100 MW AC, which is enough to power 20,000 homes. The owner, North Star, LLC, has a 25-year purchase contract for the power produced by the project with Xcel Energy.

Chisago County lies on Minnesota's eastern border, abutting the western border of Wisconsin, across the Saint Croix River. The North Star Solar Farm is approximately 16 miles west of the border with Wisconsin and is just over one mile west of the Kost Dam public park and reservoir, a 28-acre park on the south branch of the Sunrise River.

The Immediate Area:

The North Star Solar Farm is adjoined by agricultural land to the north and west. To the south and east of the project there are several residential properties, including some located within the actual solar farm. The solar farm has agricultural and deer fencing around parts of the project. Additionally, native vegetation and trees previously existed as a buffer along the frontage roads.

Prior Use: Agricultural use

Real Estate Tax Information:

Prior to development of the solar farm, in 2015, this ±1,000-acre site paid real estate taxes of $37,250, annually. After the solar farm development, in 2017, real estate taxes increased to $112,856, a 203 percent increase in tax revenue for the site.

PIN	Acres	2015 Taxes Paid	2017 Taxes Paid	Tax Increase	2015 Assessed Value	2017 Assessed Value	Value Increase
Chisago County, MN							
09.00348.00	74.91	$ 2,806	$ 8,546	205%	$ 198,800	$ 233,900	18%
09.00349.00	74.30	$ 2,818	$ 8,578	204%	$ 199,600	$ 234,800	18%
09.00350.10	16.95	$ 644	$ 2,752	327%	$ 45,600	$ 75,300	65%
09.00351.10	68.01	$ 3,260	$ 9,806	201%	$ 230,900	$ 268,400	16%
09.00353.00	81.87	$ 3,114	$ 8,678	179%	$ 220,500	$ 237,500	8%
09.00354.00	121.84	$ 4,578	$ 13,324	191%	$ 324,200	$ 364,700	12%
11.00517.00	72.07	$ 3,382	$ 7,440	120%	$ 194,400	$ 224,100	15%
11.00528.00	66.42	$ 1,460	$ 6,836	368%	$ 180,000	$ 210,000	17%
11.00529.00	60.26	$ 1,506	$ 7,284	384%	$ 168,700	$ 168,800	0%
11.00726.00	40.55	$ 1,010	$ 3,968	293%	$ 110,700	$ 140,700	27%
11.00730.00	68.32	$ 3,426	$ 7,638	123%	$ 315,700	$ 338,200	7%
11.00731.00	160.83	$ 3,598	$ 17,924	398%	$ 422,500	$ 469,100	11%
11.00732.00	30.52	$ 788	$ 4,748	503%	$ 84,900	$ 109,500	29%
11.00732.10	10.00	$ 4,860	$ 5,334	10%	$ 257,700	$ 290,100	13%
TOTAL	**946.85**	**$ 37,250**	**$ 112,856**	**203%**	**$ 2,954,200**	**$ 3,365,100**	**14%**

Adjoining Properties:

The maps on the following pages display the parcels that contain the solar farm (outlined in yellow). Properties adjoining the solar site (outlined in red) are numbered for subsequent analysis.

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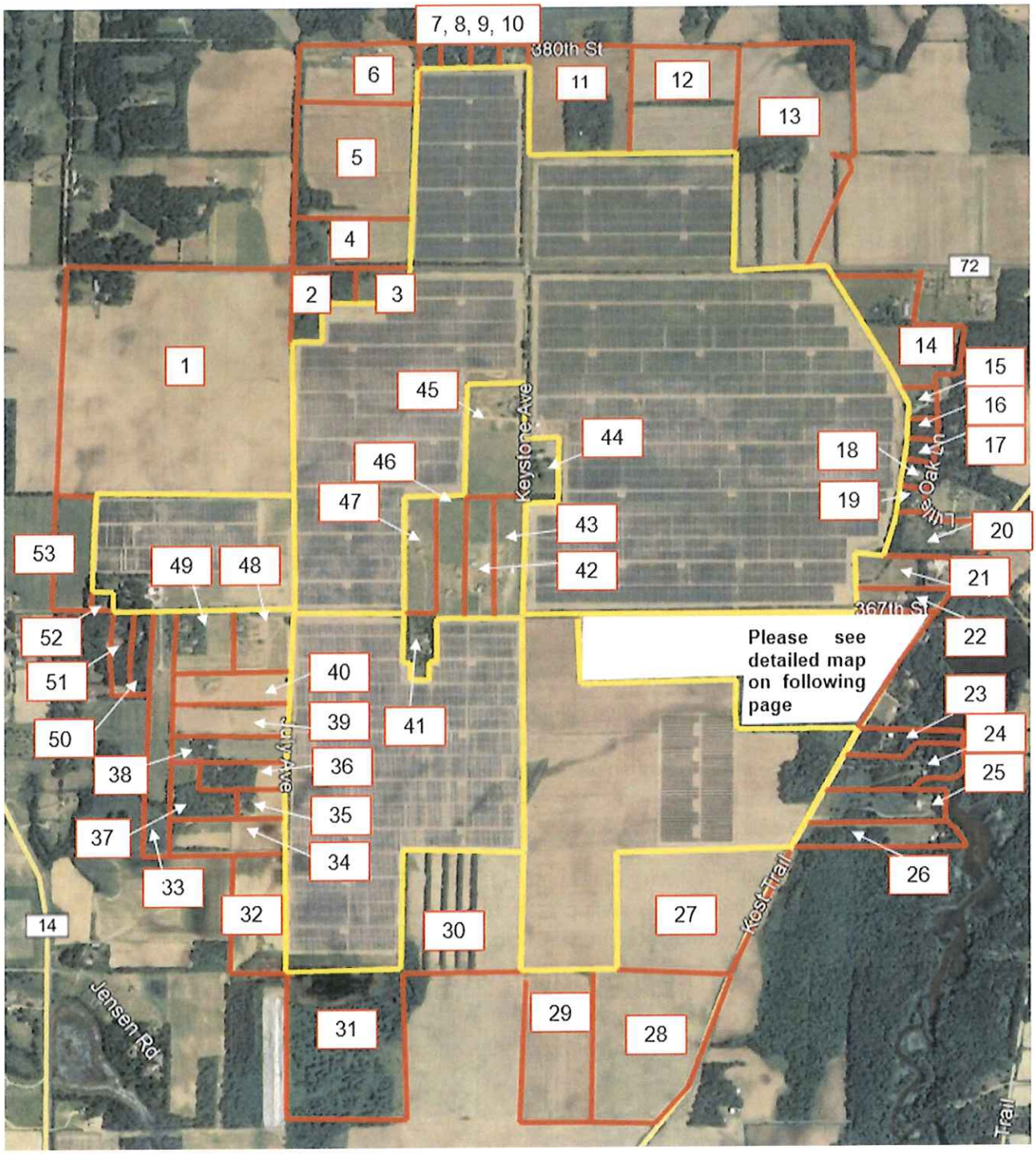

North Star Solar Farm - Adjoining Properties

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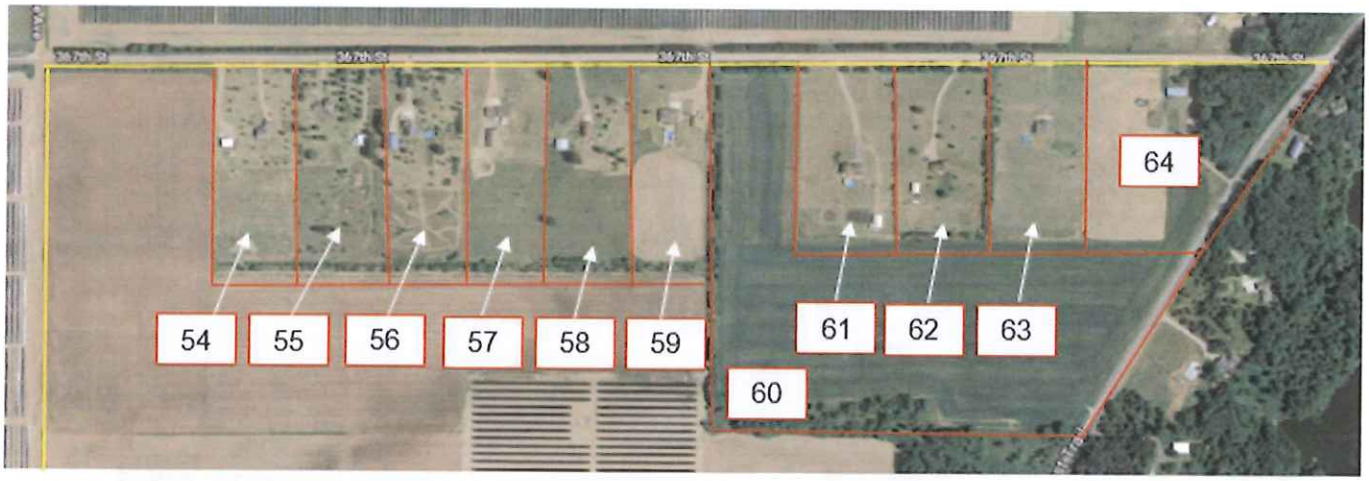

North Star Solar Farm - Adjoining Properties

In reviewing Adjoining Properties to study in a Paired Sales Analysis, several properties and sales were considered but eliminated from further consideration as discussed below.

While assembling the solar development site, the developer of the solar farm acquired seven homes along 367th Street and Keystone Avenue, which we refer to as Adjoining Properties 41, 42, 43, 44, 45, 46, and 47, and are surrounded by the solar arrays. According to conversations with the solar developer, they purchased the homes prior to development to provide interim housing for employees as the solar farm was under construction or for potential use for the project area (which ultimately was not necessary). The developer had each home appraised, and then negotiated separately with each homeowner. All of the houses sold above their appraised values, which the developer considered to be an assemblage premium. After construction, the developer sold all seven homes at market prices, six to new buyers, and one, Adjoining Property 47, which was re-purchased by the original owner. Over a year later, these subsequent sales from the developer to individual homeowners were still higher than the originally appraised values. This indicates that the development of the North Star Solar Farm did not deter transactions nor affect sale prices in the surrounding area.

Clifford Sheppeck, broker at Keller Williams Classic, was hired by Renewable Energy Asset Co, LLC, the solar farm developer, to market and sell the remaining properties that the developer owned. We discussed these transactions with Mr. Sheppeck who indicated they all sold within two months, which was in line with the market.

In addition to the seven homes sold by the developer, we identified six other properties all which sold since the construction of the solar farm: Adjoining Properties 3, 10, 18, 19, 22, 38, 54, 57 and 64. In all, a total of 16 identified Adjoining Properties have sold during or since the construction of the solar farm. These properties are discussed further in the following sections.

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Properties Excluded from Paired Sales Analysis

Adjoining Property 10, located at 10270 380th Street, sold in June 2018 for $163,800, or $143.18 per square foot of finished living area. The property is improved with a small, single-story, modular/pre-fabricated home with no basement, which is atypical for the area. Most of the homes in the area, while similar in gross living areas, are one-story, single-family homes with finished basements. We conducted a search in the area for comparable modular homes without basements but did not find sufficient data yield reliable conclusions in a paired sale analysis. Additionally, this home does not appear to have been listed on the local MLS as we could not identify a broker contact for the most recent sale. We have reached out to the buyer and seller to confirm the nature of the transaction, but as of this writing, we have not made contact. We note that the home sold previously in July 2004; however, county sale records indicate the 2004 sale was between related parties which disqualifies it as an arm's length transaction. Due to limited sales in the area to categorize as Control Area Sales, Adjoining Property 10 was excluded from further analysis.

Adjoining Property 38, located at 36438 July Avenue, sold during construction of the solar farm in October 2015 for $225,000, or $117.68 per square foot of finished living area. It is a home designed specifically as a passive solar home, taking advantage of the same renewable energy potential of the North Star solar farm. The property is set back behind five acres of agricultural land and is secluded behind trees and operates as a mixed-use "hobby farm." This is a highly atypical use with no comparable sales which sold during construction; we have excluded the 2015 sale from paired sale analysis because we cannot separate any influence from construction on the sale price at that time. We note that the home sold previously in November 2003; however, we could not prepare a Before and After analysis utilizing this prior transaction as the most recent sale was marketed as a passive solar home. For these reasons, Adjoining Property 38 was excluded from further analysis.

Adjoining Property 41, located at 10095 367th Street, is subject to an existing 30-year lease for the southern 6.24 acres of the parcel for solar panels in the North Star solar farm. The property most recently sold in April 2021 for $339,186 and previously in June 2017 for $336,900. The sale of this property in May 2016 was to the solar developer for an above appraised value of $365,000, which was an atypically motivated transaction. Because the property is a participating parcel in the solar farm, and due to the additional rental income from the land, this property was excluded from both paired sale and the Before and After Analysis.

Adjoining Property 44, located at 37083 Keystone Avenue, sold for $257,000, or $157.86 per square foot of finished living area, in August 2017 and is a one-story rambler style home with an unfinished basement. Sale listing materials indicated significant deferred maintenance, which would need to be accurately assessed in order to quantify an appropriate adjustment. Most comparable sales in the area either have finished or walk-out basements and no items of significant deferred maintenance. Due to limited comparable sales for this property, and the required adjustment for deferred maintenance, Adjoining Property 44 was excluded from a paired sales analysis. The prior sale of this property was in October 2016, to the solar developer for assemblage, for $302,500. Because this home traded in an atypically motivated transaction in 2016, we have not included it in a Before and After analysis.

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Adjoining Property 45, located at 37206 Keystone Avenue, sold in June 2017 for $290,000, or $149.48 per square foot of finished living area, from the solar farm developer. The property is a split-entry home on over 20 acres. The home features an attached 3-car garage, a detached two-car garage with a finished second story, and a fenced in-ground pool. The County Assessor classified this property as agricultural due to its large acreage. Because this home is atypical (large acreage and pool) there were no comparable sales in the area and Adjoining Property 45 was excluded from further analysis. This home was previously purchased by the solar farm developer in July 2016 for $450,000, an above market price, for assemblage during solar farm construction. After construction was complete, the home was sold in 2017 at a market-oriented price, in an average number of days listed on the Multiple Listing Service (MLS). Because this home traded in an atypically motivated transaction in 2016, we have not included it in a Before and After analysis.

Adjoining Property 47, located at 10090 367th Street, most recently sold in March 2018 for $302,500, or $127.53 per square foot of finished living area, from the solar farm developer. This home was previously purchased by the solar farm developer in August 2016 for $360,800, an above market price, for assemblage during solar farm construction. According to the broker, Cliff Sheppeck, the original owner leased the house back from the developer after the sale, never moved out, and was hired to do maintenance and upkeep on the other six houses the developer purchased in the area. When the developer no longer needed the property, he sold it back to the original owner in 2018 at a market-oriented price. Because of the relationship between the parties in 2018 and 2016, we have not included it in a Paired Sales Analysis nor a Before and After analysis.

Properties Included in Paired Sales Analysis

Adjoining Property 3, located at 10009 375th Street, sold most recently in July 2019 for $260,000, or $172.41 per square foot of finished living area. This property is improved with a one-story, modular/pre-fabricated home in the rambler style, with an English basement, on just over five acres of land. Although this home sold most recently in July 2019 for $260,000, it had also sold in March 2016 for $219,900, during construction of the solar farm. The home previously sold in March of 2005 for $163,000. We have excluded the 2016 sale from paired sale analysis because we cannot separate any influence from construction on the sale price at that time. However, we can calculate the average monthly appreciation from 2005 to 2019 (+0.27 percent), which is higher than the average monthly home price appreciation in the same zip code of 55056 - according to the FHFA Housing Price Index (discussed in more detail later), local home appreciation was 0.0 percent per month over the same period. It is evident that the home value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm. The buyer's broker in the 2019 sale, Gail Reinhard, noted that the buyer had no concerns or issues with the home's proximity to the solar farm and the price paid was market oriented. This home qualified for a paired sales analysis and was studied in Group 4, as detailed on subsequent pages.

Adjoining Property 18, located at 37096 Little Oak Lane, sold in April 2017 for $289,000, or $119.82 per square foot of finished living area. The home is a rambler style, one-story, home with a finished walk-out basement on a 2.07-acre parcel. The improvements on this property are located approximately 225 feet from the nearest solar panel. The buyer's broker, Amy Lamb, noted that the home was in good shape and had been on the market for two years, because the seller would not lower the price to market levels during previous listings. In the summer,

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Lamb noted, the solar panels were barely visible from the back of the property, but in winter they were visible. Lamb asked the buyers if the solar panel view would be a problem and their opinion was that the neighboring solar panels meant no other development that created traffic or noise would be built to disturb them. This home qualified for a paired sales analysis and was studied in Group 2, as detailed on subsequent pages. We have also studied this property in a Before and After analysis later in this report as it also sold in 2006, prior to construction of the North Star solar farm. The average monthly change in value from 2006 to 2017 (-0.05 percent) is higher than the average monthly home price appreciation in the same zip code of 55056 according to the FHFA Housing Price Index, which was -0.10 percent per month over the same period. It is evident that the home's value reflects a better rate from the prior sale than homes in the local area over the same period.

Adjoining Property 19, located at 37056 Little Oak Lane, sold in August 2021 for $435,000, or $205.09 per square foot of finished living area. The property was listed for approximately 14 days on the market before going under contract. The home is a is a split-level style house on 2.37 acres. The improvements on this property are located approximately 280 feet from the nearest solar panel. This property also sold previously in June 2013 for $208,000 before the solar farm was constructed. The average monthly appreciation from 2013 to 2021 (+0.76 percent) was higher than the average monthly home price appreciation in the same zip code, per the FHFA Housing Price Index, of 0.58 percent per month over the same period. The data indicates the home value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm. This home qualified for a paired sales analysis and was studied in Group 5, as detailed on subsequent pages.

Adjoining Property 22, located at 11210 367th Street, sold in April 2021 for $430,000, or $114.48 per square foot of finished living area. The property was listed on the market for 5 days before going under contract and sold $5,000 above its asking price. It is a rambler built in 1974 with a full finished basement and has some ancillary farm buildings on a 5.2 acre site. This property also sold previously in March 2015 for $280,000 during the construction of the solar farm and December 2003 for $107,000 before the solar farm was constructed. We have excluded the 2015 sale from paired sale analysis, due to the influence from construction on the sale price at that time but have analyzed the 2021 sale in our analysis. This sale's average monthly appreciation from 2003 to 2021 (+0.67 percent), is higher than the average monthly home price appreciation in the same zip code, per the FHFA Housing Price Index of 0.12 percent per month over the same period. This demonstrates that the Target home value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm. Additionally, the most recent sale of the Adjoining Property 22 was studied in Group 6, as detailed on subsequent pages.

Adjoining Property 42, located at 10200 367th Street, sold in November 2017 for $330,000, or $151.93 per square foot of finished living area. The home is a split-level style house on 9.30 acres. The improvements on this property are approximately 393 feet from the nearest solar panel. This home qualified for a paired sales analysis and was studied in Group 1, as detailed on subsequent pages. This home was previously purchased by the solar farm developer in July 2016 for $387,900, an above market price, for assemblage during solar farm construction. After construction was complete, the home was sold in 2017 at a market-oriented price, in an average number of days listed on the Multiple Listing Service (MLS). Because this home traded in an atypically motivated transaction in 2016, we have not included it in a Before and After analysis. However, this property also sold previously in

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October 2004 for $309,900 before the solar farm was constructed. The average monthly appreciation from 2004 to 2017 (+0.04 percent) is higher than the average monthly home price appreciation in the same zip code, per the FHFA Housing Price Index, of -0.02 percent per month over the same period. This home's value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 43, located at 10254 367th Street, sold for $335,000 in July 2017, for $156.84 per square foot of finished gross living area, and is a split-level home with an atypical floor design. Most of the homes in the area, while having similar gross living areas, are one-story, single-family homes with basements. We conducted a search in the area for comparable above-grade, split level homes. Mr. Sheppeck was the listing broker for this property and confirmed its atypical nature. He indicated that it sold at a price that was in-line with the market even though split-level, two story homes are considered to be rare in the area. However, we were able to find comparably designed sales in the area, and have included the sale within our analysis, studied in Group 7, as detailed on subsequent pages. The prior sale of this property was to the solar developer for assemblage during construction for $535,000, an above market price, in July 2016. Because this home traded in an atypically motivated transaction in 2016, we have not included this transaction a Before and After analysis. However, this property also sold previously in November 2005 for $373,000 before the solar farm was constructed. The average monthly change in value from 2005 to 2017 (-0.08 percent) was the same as the average monthly home price appreciation in the same zip code, according to the FHFA Housing Price Index over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 46, located at 10132 367th Street, sold most recently in December 2020 for $415,000, or $196.87 per square foot of finished living area. The home is a split-level style house on 9.31 acres. The home features an attached 3-car heated garage, an 816 square foot detached heated garage, and a 1,400 square foot outbuilding. The improvements on this property are approximately 330 feet from the nearest solar panel. This home also sold in October 2017 for $333,000 from the solar developer who had purchased it in September 2016 for $387,900, an above market price, for assemblage during solar farm construction. After construction was complete, the home was sold in 2017 at a market-oriented price, in an average number of days listed on the Multiple Listing Service (MLS). This home qualified for a paired sales analysis and was studied in Group 1 (2017 sale), and in Group 3 (2020 sale), as detailed on subsequent pages. Because this home traded in an atypically motivated transaction in 2016, we have not included the 2016 sale in a Before and After analysis. However, this property also sold previously in July 2001 for $226,800 before the solar farm was constructed. The average monthly appreciation from 2001 to 2017 (+0.20 percent) is higher than the average monthly home price appreciation in the same zip code according to the FHFA Housing Price Index, which was +0.08 percent per month over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 54, located at 10505 367th Street, sold in August 2016 for $260,500, or $137.83 per square foot of finished living area. The home is a split-level style house on 5.0 acres. The improvements on this property are located approximately 352 feet from the nearest solar panel. The sale of the property was at the end of the construction period, which completed in October 2016, after majority of the project infrastructure was completed; thus, we have incorporated this sale in the analysis. This home qualified for a paired sales analysis and was

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studied in Group 1, as detailed on subsequent pages. We have also studied this property in a Before and After analysis later in this report as it also sold in 1999 for $123,294, prior to construction of the North Star solar farm. The average monthly appreciation from 1999 to 2016 (+0.36 percent) is higher than the average monthly home price appreciation in the same zip code, according to the FHFA Housing Price Index, which was +0.15 percent per month over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 57, located at 10655 367th Street, sold in November 2018 for $304,900, or $101.63 per square foot of finished living area. The home is a split-level style house on 5.0 acres. The home has an opportunity for a purchaser to add two baths (roughed in at the time of sale), two bedrooms, a family room, and storage in the lower level. We spoke with Jenna Bruski, the listing agent, who indicated that the improvements are unique, and could be divided into two separate dwelling units. According to the agent, the price paid reflected a slight discount because it required a specific buyer to undertake the build-out project on the lower level. It was on the market for a few months, but it was not unreasonable for the asset given its characteristics. Additionally, the agent indicated that potential purchasers did not mention the adjacency to the solar panels; there was no impact on the sale price because of adjacency to the panels. The improvements on this property are located approximately 285 feet from the nearest solar panel. This home qualified for a paired sales analysis and was studied in Group 9, as detailed on subsequent pages.

Adjoining Property 64, located at 36640 Kost Trail, sold in December 2019 for $310,000, or $139.70 per square foot of finished living area. The property is an above-grade, two-story home and has a partially finished basement, on 9.29 acres of land. The property also includes a detached 2-car garage and a pole barn. Jeff Turbeville, broker at Edina Realty Inc., explained this two-story home style is atypical in the area. However, we have identified comparable Control Area Sales and Adjoining Property 64 was studied in Group 8, as detailed on subsequent pages.

Paired Sales Analysis

Group 1

We analyzed three split-level homes that sold between 2016 and 2017 that were located adjacent to the North Star solar farm.

North Star Solar Test Area Sales - Group 1									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	GLA (SF)	Sale Date	Price PSF
54	10505 367th St	$260,500	5.00	3	2	1999	1,890	Aug-16	$137.83
42	10200 367th St	$330,000	9.30	4	3	2003	2,172	Nov-17	$151.93
46	10132 367th St	$333,000	9.31	4	3	2001	2,108	Oct-17	$157.97
Median		$330,000	9.30	4	3	2001	2,108	Oct-17	$151.93

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Throughout our analysis we have relied on square footage data from the Chisago County Assessor's office for home sizes. We have included above-grade and finished below-grade square footage in our calculations as the market in this area considers finished square feet on every level to be livable. Split-level homes and those with basements or walkout basements are prevalent in this area. We note that the square footage for Adjoining Property 42 is shown on the MLS real estate listing from 2017 as being 2,350, we have utilized the Assessor's livable square footage of 2,172 in our analysis.

We analyzed 11 Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sales, which were not located in close proximity to the solar farm.

The Control Area Sales for Group 1 are split-level homes with either 3 or 4 bedrooms and 1.5 to 4 bathrooms. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions.

When adjusting sale prices for market conditions (time between date of Test Area Sale and Control Area Sale date) throughout this analysis we have used regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for the zip code 55056, the zip code of all Test Area and Control Area Sales, for the compounded monthly rate of appreciation. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[18] We adjusted Group 1 Control Area Sales using the FHFA HPI for the period from 2016 through 2017.

The results of our analysis for Group 1 are presented following.

[18] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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CohnReznick Paired Sale Analysis North Star Solar Group 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (3)	Adjoining solar farm	$151.93
Control Area Sales (11)	No: Not adjoining solar farm	$139.50
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**8.91%**

We note a somewhat large positive difference in adjusted median price per square foot between the median of the Test Area Sales and the Control Area Sales. The price differential is likely attributable to the larger parcel sizes of the Test Area Sales, which range from 5.00 acres to 9.31 acres. The Control Area Sales home sites range from to 2.29 to 7.10 acres, with a median of 5.0 acres. Control Area Sales with lot sizes that bracketed the Test Area Sales on the high side did not transact during the period studied but the properties are considered comparable. **The sale prices of Adjoining Properties in Group 1 were not negatively impacted by the homes' proximity to the North Star solar farm.**

We note that the median unit sale price of the most recent sales of each of the excluded adjoining properties identified previously is $141.44 per square foot. As indicated above, the included Test Area Sales have a median unit price of $151.93 per square foot. Inclusion of the excluded adjoining property sales would not have made a conclusive impact on the conclusions of the paired sale analysis.

Group 2

We analyzed Adjoining Property 18, a single-story, rambler style home that sold in 2017.

North Star Solar Test Area Sale - Group 2									
Adj. Property #	**Address**	**Median Sale Price**	**Median Site Size (AC)**	**Median Beds**	**Median Baths**	**Median Year Built**	**Median GLA (SF)**	**Median Sale Date**	**Median Price PSF**
18	37096 Little Oak Ln	$289,000	2.07	4	3.0	2001	2,412	Apr-17	$119.82

We analyzed 10 Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

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Adjoining Property 18 sits on a somewhat small lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,700 square feet to 3,400 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 1 and 10 acres.

The Control Area Sales for Group 2 are rambler style homes with 4 bedrooms and 2 to 4 bathrooms on less than 10-acre parcels. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index for the zip code, for the period from 2016 through 2018.

CohnReznick Paired Sale Analysis North Star Solar Group 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$119.82
Control Area Sales (10)	No: Not adjoining solar farm	$116.33
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**3.00%**

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 2.

Group 3

Adjoining Property 46 was analyzed as a 2017 sale in Group 1 and sold again most recently in December 2020.

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Photo of 10132 367th Street (Adjoining Property 46) with view of solar arrays from 2020 MLS listing

North Star Solar Test Area Sale - Group 3									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median GLA (SF)	Median Sale Date	Median Price PSF
46	10132 367th St	$415,000	9.31	4	3.0	2001	2,108	Dec-20	$196.87

We analyzed ten Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

The Control Area Sales for Group 3 are split-level style homes and similar with 4 bedrooms and 2 or 3 bathrooms on one to ten acre parcels. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2018 through mid-year 2021 (the most recent data available). The results of our analysis are presented next.

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CohnReznick Paired Sale Analysis North Star Solar Group 3		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$196.87
Control Area Sales (10)	No: Not adjoining solar farm	$151.73
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**29.75%**

We note that the sale price of the 2020 sale of Adjoining Property 46 is one of the highest for this home type (split-level) in all the County Assessor data from 2016 to year to date 2021 for North Branch and Sunrise Townships. However, the selling broker, Candace Rindahl, remarked that the price was market for the area at the time of sale. We see this in a study of the rate of appreciation over the course of three years between the prior sale and most recent sale. Adjoining Property 46 appreciated at a higher rate than the local area, as seen in the following table.

Test Area Sale										55056 Zip Code FHFA Housing Price Index Change	
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Monthly Appreciation Rate	Total Appreciation	Monthly Appreciation Rate
AP 46	10132 367th St	9.31	2,108	12/20/20	$415,000	10/20/17	$333,000	24.62%	0.58%	17.43%	0.42%

We note a somewhat large positive difference in adjusted median price per square foot between the Test Area Sale and the Control Area Sales. The most comparable Control Area Sale, 6836 410th Street, sold for an adjusted sale price per square foot of $193.35, reflecting a difference of 1.8 percent to the unit sale price of the Test Area Sale. We find that on a macro and micro level of analysis, **the sale price of Adjoining Property 46 (Group 3) was not negatively impacted by its proximity to the North Star solar farm.**

The differential between the Test Area Sale and the Control Area Sales is much higher than any of our other studies; we have considered this to be an outlier. While the indication shows that the adjacent solar farm has not negatively impacted the property value for this home, we have considered that this house has "set the market" for this kind of property type (home style, age and acreage) – we believe that this differential will likely stabilize in the near future as other homes catch up to the appreciation shown by Adjoining Property 46. Thus, we have not included this Group in the collection of impact studies in our conclusion.

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Group 4

We analyzed Adjoining Property 3, a single-story, rambler style home that sold in 2019.

North Star Solar Test Area Sale - Group 4									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
3	10009 375TH ST	$260,000	5.05	3	2.5	1980 / 2005	1,508	Jul-19	$172.41

We analyzed seven Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 3 sits on a somewhat large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,200 to 2,000 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 7 acres.

The Control Area Sales for Group 4 are rambler style homes with 2 to 4 bedrooms and 2 to 3 bathrooms on less than 7-acre parcels but greater than 2 acre parcels. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2018 through 2020.

CohnReznick Paired Sale Analysis North Star Solar Group 4		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$172.41
Control Area Sales (7)	No: Not adjoining solar farm	$170.86
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**0.91%**

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 4.

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Group 5

We analyzed Adjoining Property 19, a split level-style home that sold in 2021. While this sale is not yet published in the Chisago County Assessor's data, the sale has been recorded in the public record and the MLS.

North Star Solar Test Area Sale - Group 5									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
19	37056 LITTLE OAK LN	$435,000	2.37	4	3.0	2001	2,121	Aug-21	$205.09

We analyzed eight Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,500 to 2,500 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 6 acres.

The Control Area Sales for Group 5 are split level homes with 3 to 5 bedrooms and 2 to 3 bathrooms on less than 6-acre parcels but greater than 2 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2019 through mid-year 2021 (the most recent data available).

CohnReznick Paired Sale Analysis North Star Solar Group 5		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$205.09
Control Area Sales (8)	No: Not adjoining solar farm	$170.88
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**20.02%**

Noting no significant negative price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 5. We note that the sale price of the 2021 sale of Adjoining Property 19 is one of the highest for this home type (split-level) in all the County Assessor data from 2016 to year to date 2021 for North Branch and Sunrise Townships. We see this in a study of the rate of appreciation between the prior sale and most recent sale. Adjoining Property 19 appreciated at a higher rate than the local area, as seen in the following table.

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Test Area Sale										55056 Zip Code FHFA Housing Price Index Change	
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Monthly Appreciation Rate	Total Appreciation*	Monthly Appreciation Rate
AP 19	37056 Little Oak Lane	2.37	2,121	8/20/21	$435,000	6/21/13	$208,000	109.13%	0.76%	75.96%	0.58%

**The 2021 HPI for the zip code is not available as of the report date. The estimate presented relies on the index for 2020, grown by the 2021 trend for the census region on a monthly basis through August 2021.*

Group 6

We analyzed Adjoining Property 22, a rambler style home that sold in 2019. We note this site has a large lower-level with a second full kitchen, which is much larger than surrounding homes in the same marketplace.

North Star Solar Test Area Sale - Group 6									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	Finished GLA (SF)	Sale Date	Price PSF
22	11210 367TH ST	$430,000	5.34	4	2.5	1975	3,756	Apr-21	$114.48

We analyzed four Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 22 sits on a large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 3,200 to 5,000 square feet of finished gross living area were included. The parameters of our search for Control Area Sales include lot sizes between 1 and 10 acres.

Comparable sales of large rambler-style homes on larger lots with finished basements were less prevalent in Sunrise and North Branch Townships. The Control Area Sales for Group 6 are rambler style homes with 4 to 6 bedrooms on less than 10-acre parcels but greater than 1 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2020 through mid-year 2021 (the most recent data available).

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CohnReznick Paired Sale Analysis North Star Solar Group 6		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$114.48
Control Area Sales (4)	No: Not adjoining solar farm	$120.49
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**-4.99%**

One of the Control Area Sales located at 44869 John Avenue reflects an adjusted unit value of $114.96 per square feet of finished gross living area, or a differential of -0.42 percent, which is considered nominal. While the unique characteristics of the Test Area Sale (Adjoining Property 22) result in what we consider to be an outlier in the marketplace, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 6.

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Group 7

We analyzed Adjoining Property 43, which is a split-level style home that sold in 2017.

North Star Solar Test Area Sale - Group 7									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
43	10254 367TH ST	$335,000	9.29	3	2.5	2005/2009	2,136	Oct-17	$156.84
Median		$335,000	9.29	3	2.5	2005/2009	2,136	Oct-17	$156.84

We analyzed 11 Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 43 sits on a large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,500 square feet to 2,500 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 10 acres.

The Control Area Sales for Group 7 are generally split-level homes with 3 to 4 bedrooms and 2 to 3 bathrooms on less than 10-acre parcels, but greater than 2 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2016 through 2019.

CohnReznick Paired Sale Analysis North Star Solar Group 7		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$156.84
Control Area Sales (11)	No: Not adjoining solar farm	$135.63
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**15.64%**

Noting no significant negative price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 6. Homes in this area are typically on 2 to 5 acre lot sizes. One home sale at 40723 Lowden Ave, an 1,896 square foot split level home built in 1999 on 10.1 acres, sold for a unit price of $152.43 per square foot, unadjusted, in June 2018, or $146.92 per square foot after adjustments for market conditions. This reflects a variance of 6.8 percent, which does not indicate a diminution in price.

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Group 8

We analyzed Adjoining Property 64, a two-story home that sold in 2019.

North Star Solar Test Area Sale - Group 8									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
64	36640 KOST TRL	$310,000	8.13	4	3.0	1987 / 2003	2,219	Dec-19	$139.70

We analyzed five Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 64 sits on a somewhat large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,500 square feet to 2,500 square feet of finished gross living area, the parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 10 acres.

The Control Area Sales for Group 8 are two story homes with 3 to 4 bedrooms and 1.5 to 3 bathrooms on less than 10-acre parcels but greater than 2 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2018 through 2020.

CohnReznick Paired Sale Analysis North Star Solar Group 8		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$139.70
Control Area Sales (5)	No: Not adjoining solar farm	$132.68
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**5.29%**

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 8.

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Group 9

We analyzed Adjoining Property 57, a split-level home with a partially finished lower level that sold in 2018. The home has an opportunity for a purchaser to add two baths (roughed in at the time of sale), two bedrooms, a family room, and storage in the lower level. While the lower level is not fully finished, a purchaser would likely evaluate the sale price against comparables based on the potential gross living area, inclusive of the cost to complete the build-out. We have relied on this unit of comparison in our analysis.

North Star Solar Test Area Sale - Group 9									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
57	10655 367TH ST	$304,900	5.00	3	4.0	1998	3,000	Nov-18	$101.63

We analyzed eight Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 57 sits on a somewhat large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 2,648 square feet to 4,324 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between approximately 1 and 7 acres.

The Control Area Sales for Group 9 are split level and rambler homes with lower levels, with 3 to 5 bedrooms and 2 to 4 bathrooms on less than 7-acre parcels but greater than approximately 1 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2017 through 2019.

CohnReznick Paired Sale Analysis North Star Solar Group 9		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	$101.63
Control Area Sales (8)	No: Not adjoining solar farm	$103.95
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		-2.22%

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 9.

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Repeat Sales Analysis (Before and After Construction of the Solar Farm)

In a 2017 study conducted by Chisago County Assessor John Keefe, Keefe analyzed the sales of 15 homes alongside or near the North Star Solar Farm that sold between January 2016 and October 2017. Based on trends exhibited by 750+ sales throughout the county, Keefe concluded that the homes, located on 375th, 367th, Keystone, Little Oak, Lincoln Trail, and Kost Trail were all "in excess of assessed" and reported that "valuation hasn't suffered."[19]

Considering Keefe's 2017 study, we conducted a supplemental analysis in which we compared the sale prices of homes that are in our Test Area Groups that are adjacent to the North Star Solar Farm to the previous sale price of the home, commonly known as a "Repeat Sales Analysis" utilizing a sale and resale of the same property. These sales reflect the average site size, home type, and home size of properties in the surrounding area. In our comparison for each property analyzed, we calculated the total appreciation between each sale, the number of months that elapsed between each sale, and determined the monthly appreciation rate for the property. We then compared the extracted monthly appreciation rates to the change in the Federal Housing Finance Agency (FHFA) Home Price Index in Minnesota's 55056 zip code (where the studied homes are located) over the same period. The index for zip codes is measured on a yearly basis and is presented to the right. We note, there were two Test Area Sales which transacted in April and August 2021. The FHFA Home Price Index (HPI) by zip code does not have 2021 data available as of the report date since the calendar year has not completed. We have analyzed the FHFA Home Price Index, not seasonally adjusted, for the West North Central region of the USA, which includes Minnesota, and have estimated the percentage increase from December 2020 to each April and August 2021 by the corresponding monthly change for the West North Central census division.

55056 Zip Code - Housing Price Index Change (Year Over Year) Not Seasonally Adjusted

Year	Annual Index	Annual Change (%)	Compounded Monthly Change (%)
1991	100.00		
1992	101.15	1.15%	0.10%
1993	105.00	3.81%	0.31%
1994	110.54	5.28%	0.43%
1995	121.51	9.92%	0.79%
1996	127.27	4.74%	0.39%
1997	134.29	5.52%	0.45%
1998	141.08	5.06%	0.41%
1999	149.86	6.22%	0.50%
2000	169.13	12.86%	1.01%
2001	187.18	10.67%	0.85%
2002	200.83	7.29%	0.59%
2003	212.82	5.97%	0.48%
2004	226.83	6.58%	0.53%
2005	246.73	8.77%	0.70%
2006	251.83	2.07%	0.17%
2007	243.35	-3.37%	-0.29%
2008	223.07	-8.33%	-0.72%
2009	196.72	-11.81%	-1.04%
2010	179.99	-8.50%	-0.74%
2011	163.09	-9.39%	-0.82%
2012	155.38	-4.73%	-0.40%
2013	165.02	6.20%	0.50%
2014	175.59	6.41%	0.52%
2015	187.02	6.51%	0.53%
2016	203.03	8.56%	0.69%
2017	220.28	8.50%	0.68%
2018	235.98	7.13%	0.58%
2019	248.44	5.28%	0.43%
2020	258.67	4.12%	0.34%

We conducted the same analysis for 38 single-family Control Group properties that had repeat sales that are not within proximity to the North Star Solar Farm. The tables on the following page present this study. The applied same estimation for the HPI for the Control Area Sales that sold in 2021.

Some homes experienced depreciation between sale dates. During the calendar years of 2005, 2006 and 2007, housing prices in the United States were reaching their peak. In 2006

[19] https://www.cleanenergyresourceteams.org/chisago-county-boards-real-estate-update-shows-solar-has-no-impact-property-values

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the HPI for the zip code reached 251.83, a record at that time. Post-recession homes prices, after 2008 continued to fall until 2012, the effective bottom at 155.38, a drop of more than 38% in market value over 6 years from the peak. The market did not recover to the same or higher levels until 2019 and 2020. When the homes sold in 2017 and 2016, respectively, the housing market had not fully recovered in the area and the negative appreciation tracks with the overall market conditions.

Test Area Sales Group											55056 Zip Code - FHFA Housing Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Year of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate
AP 3	10009 375th Street	5.10	1,508	Jul-19	$260,000	Mar-05	$163,000	59.51%	172	0.27%	248.44	246.73	0.69%	0.00%
AP 18	37096 Little Oak Lane	2.10	2,412	Apr-17	$289,000	Jan-06	$308,000	-6.17%	134	-0.05%	220.28	251.83	-12.53%	-0.10%
AP 19	37056 Little Oak Lane	2.37	2,121	Aug-21	$435,000	Jun-13	$208,000	109.13%	98	0.76%	290.37	165.02	75.96%	0.58%
AP 22	11210 367th Street	5.20	3,756	Apr-21	$430,000	Dec-03	$107,000	301.87%	208	0.67%	274.78	212.82	29.11%	0.12%
AP 42	10200 367th Street	9.30	2,172	Nov-17	$330,000	Oct-04	$309,900	6.49%	157	0.04%	220.28	226.83	-2.89%	-0.02%
AP 43	10254 367th Street	9.30	2,136	Oct-17	$335,000	Nov-05	$373,000	-10.19%	143	-0.08%	220.28	246.73	-10.72%	-0.08%
AP 46	10132 367th Street	9.31	2,108	Oct-17	$333,000	Jul-01	$226,800	46.83%	196	0.20%	220.28	187.18	17.68%	0.08%
AP 54	10505 367th Avenue	5.00	1,890	Aug-16	$260,500	Apr-99	$123,294	111.28%	208	0.36%	203.03	149.86	35.48%	0.15%
Median - Test Area Sales		*5.15*	*2,129*							*0.23%*				*0.04%*

Control Area Sales Group											55056 Zip Code - FHFA Housing Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Year of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate
G1-1	10589 Wilcox Road	5.00	1,900	Jul-16	$262,500	Sep-07	$223,700	17.34%	105	0.15%	203.03	243.35	-16.57%	-0.17%
G1-2	5183 366th Street	2.29	1,530	Jul-16	$227,708	Apr-07	$207,000	10.00%	112	0.09%	203.03	243.35	-16.57%	-0.16%
G1-3	4359 Elk Court	2.50	1,970	Jan-17	$263,000	Nov-98	$175,365	49.97%	218	0.19%	220.28	141.08	56.14%	0.20%
G1-4	39088 More Ferry Road	5.00	1,838	Jan-17	$229,000	Sep-05	$185,000	23.78%	136	0.16%	220.28	246.73	-10.72%	-0.08%
G1-7/G5-4	4737 377th Street	2.50	2,002	Nov-20	$298,000	May-99	$138,400	115.32%	257	0.30%	258.67	149.86	72.61%	0.21%
G1-8	8628 380th Street	5.00	1,842	Jul-17	$275,000	Apr-10	$203,000	35.47%	86	0.35%	220.28	179.99	22.38%	0.23%
G1-9	6417 360th Street	5.00	2,346	Jul-17	$325,009	May-08	$270,000	20.37%	110	0.17%	220.28	223.07	-1.25%	-0.01%
G2-1	36338 Lincoln Trail	10.00	2,641	Jun-16	$304,000	Feb-06	$361,036	-15.80%	124	-0.14%	203.03	251.83	-19.38%	-0.17%
G2-10	4779 374th Street	1.25	2,252	Aug-18	$255,000	Sep-00	$155,860	63.61%	215	0.23%	235.98	169.13	39.53%	0.15%
G2-2	40956 Greystone Ave	2.03	2,571	Aug-16	$267,776	Aug-05	$285,900	-6.34%	132	-0.05%	203.03	246.73	-17.71%	-0.15%
G2-3	6551 372nd Street	4.98	2,552	Jun-17	$290,000	Oct-04	$319,990	-9.37%	152	-0.06%	220.28	226.83	-2.89%	-0.02%
G2-6	37420 Falcon Ave	9.93	1,792	May-18	$285,900	Mar-04	$225,000	27.07%	170	0.14%	235.98	226.83	4.03%	0.02%
G2-9/G9-8	38586 July Ave	6.02	3,082	Jun-18	$308,000	Sep-05	$275,000	12.00%	153	0.07%	235.98	246.73	-4.36%	-0.03%
G3-10/G4-5	4360 Elk Court	2.52	1,773	Apr-20	$299,900	Jul-99	$163,500	83.43%	248	0.24%	258.67	149.86	72.61%	0.22%
G3-5	9389 430th Street	9.95	2,235	Jan-21	$340,000	Feb-95	$110,200	208.53%	311	0.36%	260.02	121.51	113.99%	0.24%
G3-6	40625 Finley Road	1.09	1,840	Dec-19	$241,000	May-09	$174,500	38.11%	126	0.26%	248.44	196.72	26.29%	0.18%
G3-8	42155 Joywood Ave	5.00	2,180	Apr-20	$308,300	Jun-00	$195,000	58.10%	238	0.19%	258.67	169.13	52.94%	0.18%
G3-9/G7-1	6836 410th Street	9.79	1,817	Oct-19	$322,000	Sep-99	$110,000	192.73%	242	0.45%	248.44	149.86	65.78%	0.21%
G4-1	5584 411th Street	2.03	1,912	Feb-18	$286,000	Jan-03	$230,000	24.35%	181	0.12%	235.98	212.82	10.88%	0.06%
G4-2	9672 420th Street	5.04	1,466	Nov-18	$245,000	Apr-94	$114,580	113.82%	296	0.26%	235.98	110.54	113.48%	0.26%
G4-3	4403 366th Court	2.39	1,714	Nov-18	$287,000	Jun-06	$263,500	8.92%	149	0.06%	235.98	251.83	-6.29%	-0.04%
G4-4	42205 Joywood Ave	5.04	1,262	Jun-19	$234,000	Mar-99	$133,680	75.04%	244	0.23%	248.44	149.86	65.78%	0.21%
G5-1/G7-9	9726 420th Street	5.00	1,720	Dec-19	$253,000	Mar-95	$95,500	164.92%	296	0.33%	248.44	121.51	104.46%	0.24%
G5-3	4885 366th Street	2.00	1,617	Jul-20	$292,000	Feb-99	$80,200	264.09%	257	0.50%	258.67	149.86	72.61%	0.21%
G5-5	7630 393rd Court	3.09	2,325	Dec-20	$360,000	Sep-04	$247,000	45.75%	195	0.19%	258.67	226.83	14.04%	0.07%
G5-6	37867 Eaglewood Ave	2.50	1,856	Dec-20	$308,000	Nov-11	$164,000	87.80%	109	0.58%	258.67	163.09	58.61%	0.42%
G5-7	40620 Finley Road	2.34	1,604	May-21	$302,000	Jul-98	$116,982	158.16%	274	0.35%	283.31	141.08	100.81%	0.26%
G5-8	40830 Fenian Way	2.59	2,310	Jun-21	$356,000	Oct-96	$127,305	179.64%	296	0.35%	287.37	127.27	125.80%	0.28%
G6-2	44869 John Ave	9.70	3,292	Mar-20	$340,000	Nov-05	$340,000	0.00%	172	0.00%	258.67	246.73	4.84%	0.03%
G6-3	7259 407th Street	1.02	3,258	Jun-21	$430,000	Mar-98	$199,900	115.11%	279	0.28%	287.37	141.08	103.70%	0.26%
G7-1	7630 393rd Ct	3.09	2,325	Nov-18	$319,900	Sep-04	$247,000	29.51%	170	0.15%	235.98	226.83	4.03%	0.02%
G7-10	5460 367th Ct	7.10	1,612	Feb-17	$201,000	May-07	$226,000	-11.06%	117	-0.10%	220.28	243.35	-9.48%	-0.08%
G7-11	5183 366th St	2.28	1,579	Jul-16	$201,000	Apr-07	$207,000	-2.90%	112	-0.03%	203.03	243.35	-16.57%	-0.16%
G7-3	8628 380th St	5.00	1,978	Jul-17	$275,000	Nov-99	$140,000	96.43%	211	0.32%	220.28	149.86	46.99%	0.18%
G7-4	5967 Birch St	2.65	1,963	Oct-18	$272,000	Jan-96	$102,000	166.67%	273	0.36%	235.98	127.27	85.42%	0.23%
G7-5	39088 More Ferry Rd	5.00	1,906	Mar-19	$266,000	Sep-05	$185,000	43.78%	162	0.22%	248.44	246.73	0.69%	0.00%
G7-9	39779 Elk Ave	3.36	1,620	Jun-17	$255,000	Feb-13	$216,000	18.06%	52	0.32%	220.28	165.02	33.49%	0.56%
G8-2	4406 366th Street	2.50	2,464	Oct-18	$270,000	Jun-05	$260,000	3.85%	160	0.02%	235.98	246.73	-4.36%	-0.03%
G8-4	6670 372nd Street	4.00	2,111	Aug-19	$255,550	Feb-07	$238,000	7.37%	150	0.05%	248.44	243.35	2.09%	0.01%
G9-1	6021 371st Street	5.09	3,754	Jun-19	$385,000	Aug-98	$109,900	250.32%	250	0.50%	248.44	141.08	76.10%	0.23%
G9-5	39221 Edgewater Lane	0.92	2,648	Jan-18	$275,000	Nov-10	$185,000	48.65%	87	0.46%	235.98	179.99	31.11%	0.31%
G9-6	40655 Harvester Cir	1.75	2,936	May-19	$325,000	Aug-01	$204,950	58.58%	213	0.22%	248.44	187.18	32.73%	0.13%
G9-8	7579 397th Street	2.04	2,712	May-18	$281,000	Jan-96	$127,000	121.26%	269	0.30%	235.98	127.27	85.42%	0.23%
Median - Control Area Sales		*3.09*	*1,970*							*0.22%*				*0.18%*

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Most home sites outside of a subdivision in this area are within the 2.00- to 5.00-acre range, as shown in the Control Area Sales table above. The median gross living area for each group differs by approximately 160 square feet of living area; however, the analysis described in this section, does not require adjustments to the sales as we are evaluating the difference in appreciation rates between a sale and resale of the same property.

Conclusion

In our analysis of 102 resales of homes adjacent to the North Star Solar facility and in the surrounding area, when compared to the FHFA home price index for the local zip code, the median monthly appreciation rate of the Test Area Sales group and the Control Area Sales group both outperformed the average for the zip code, as depicted in the far-right column in the tables on the prior page. Additionally, there is no discernable difference between the median rates of appreciation for the Test Area Sales compared to the Control Area Sales. As such, we concur with Assessor Keefe's conclusion that there does not appear to be a consistent detrimental impact on properties adjacent to the North Star Solar Farm.

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SOLAR FARM 2: DOMINION INDY SOLAR III, MARION COUNTY, IN

Coordinates: Latitude 39°39'14.16"N, Longitude 86°15'35.06"W

PIN: 49-13-13-113-001.000-200

Population Density (2019) Marion County: 2,434 people per square mile (Largest City = Indianapolis)

Total Land Size: 129.04 acres

Date Project Announced: August 2012

Date Project Completed: December 2013

Output: 8.6 MW AC (11.9 MW DC)

Aerial imagery retrieved from Google Earth

Overview and Surrounding Area:

The Dominion Indy III Solar Farm was developed by Dominion Renewable Energy and became operable in December 2013. This solar farm has ground-mounted solar panels and has the capacity for 8.6 Megawatts (MW) AC of power. The panels are mounted in a fixed tilt fashion with 12 inverters.

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The Dominion Indy III solar farm is located in Decatur Township, in the southwest portion of Marion County, Indiana. The solar farm is approximately 10 miles southeast of the Indianapolis International Airport and approximately eight and a half miles from the center of Indianapolis.

The Immediate Area:

The solar installation is on the southern side of West Southport Road. Adjoining parcels to the west, south, and east are agricultural in nature, actively farmed primarily with row crops and large areas of mature trees. There is one single family home on 4.78 acres of land at the northwest corner of the solar site, with frontage on West Southport Road, identified in our analysis as Adjoining Property 9.

To the north, across West Southport Road from the solar site, is the single-family residential subdivision known as Crossfield. Originally developed with over 81 acres of land by the Key Life Insurance Company, the one- and two-story homes in the subdivision were built between approximately 1998 and 2011.

All of the adjacent land parcels to the solar farm are used for agricultural or residential purposes.

The solar farm is surrounded by a chain link fence that contains all the solar panels. Additionally, there are some natural shrubs and deciduous trees on all sides of the property; this vegetation was in place before the solar farm was developed.

Prior Use: Agricultural use

Real Estate Tax Information: Prior to development of the solar farm, in 2013, the owner of this 129-acre site paid real estate taxes of $1,788 annually. After development of the solar farm development, in 2015, real estate taxes increased to approximately $16,405, an 818 percent increase in tax revenue for the site.

PIN	Acres
Marion County, IN	
49-13-13-113-001.000-200	129.04
TOTAL	**129.04**

2013 Taxes Paid	2015 Taxes Paid	Tax Increase
$ 1,788	$ 16,405	818%
$ 1,788	**$ 16,405**	**818%**

2013 Assessed Value	2015 Assessed Value	Value Increase
$ 89,400	$ 109,900	23%
$ 89,400	**$ 109,900**	**23%**

Paired Sale Analysis:

The maps on the following pages display the parcels within the solar farm is located (outlined in blue). Properties adjoining this site are numbered for subsequent analysis.

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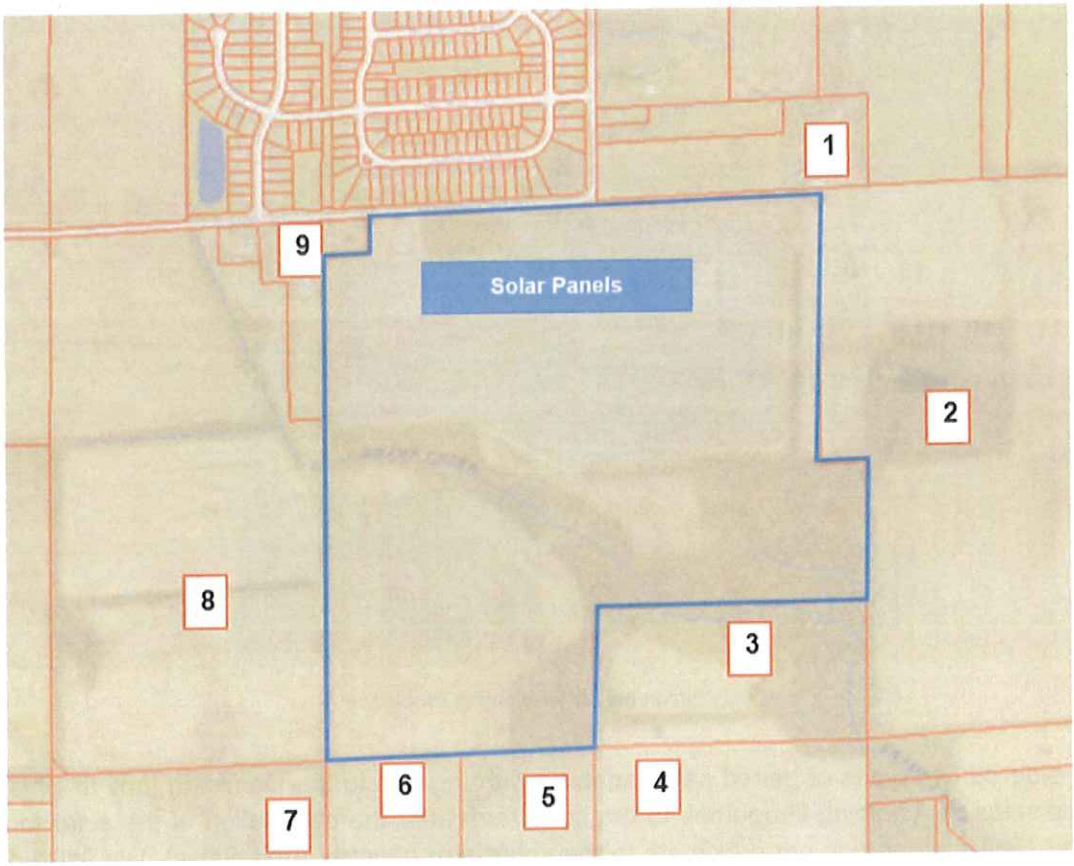

Dominion Indy III - Adjoining Properties

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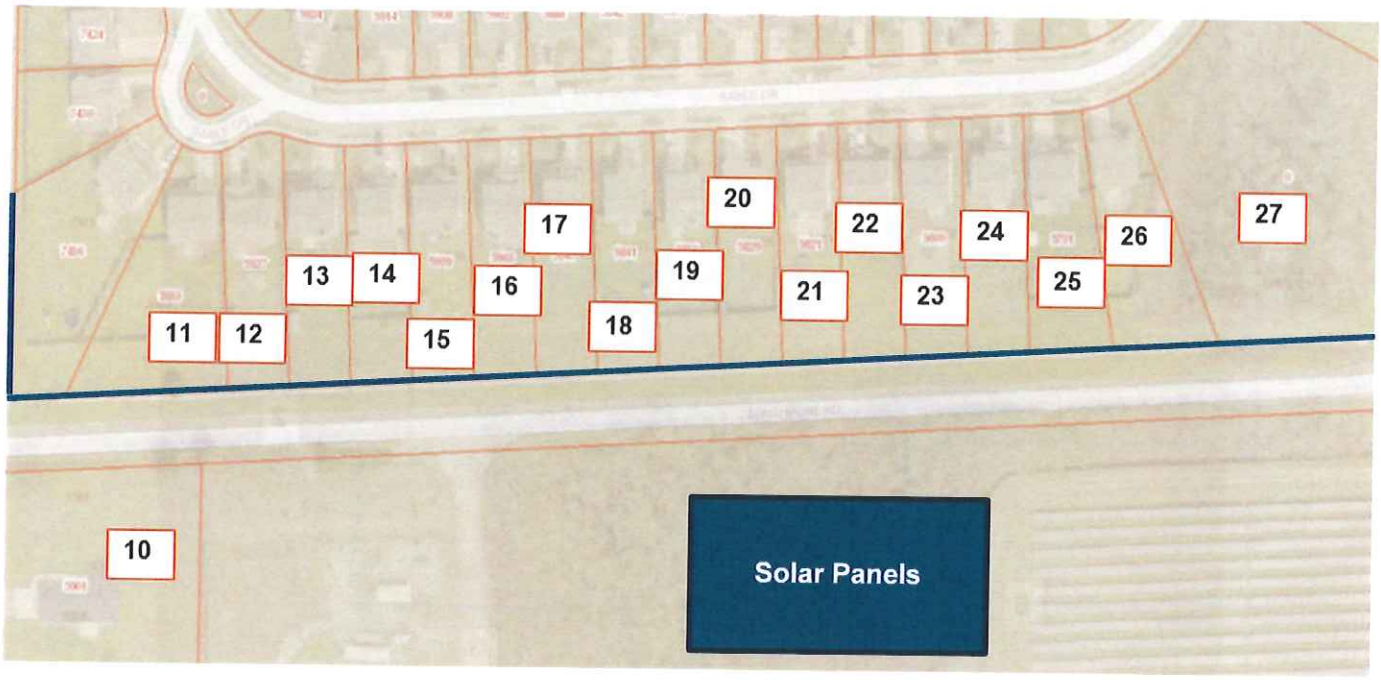

Dominion Indy III - Adjoining Properties

We have considered two types of paired sales analysis with regards to the Dominion Indy III Solar Farm. The first compares sales of Adjoining Properties to the solar farm after the completion of the solar farm site (Test Area Sales) to similar properties not proximate to the solar farm (Control Area Sales). We utilized this type of paired sale analysis for all three Groups of Adjoining Properties under study.

The second type of paired sale analysis is known as a Before and After analysis which compares sales of Adjoining Properties that occurred prior to the announcement of the solar farm with the sales of the same Adjoining Properties after the completion of the solar farm development. We were able to use home sale data from the Crossfield subdivision that is located to the north of the solar site, across West Southport Road.

Group 1 – Agricultural Land

Adjoining Property 2 is a vacant 86.96-acre agricultural parcel located to the east of the solar site. Adjoining Property 2 sold in October 2017 and was considered for a paired sale analysis, known as a Test Area Sale, in Group 1.

The property line of this unimproved parcel is approximately 166 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 2.

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Test Area Sale Group 1 - Agricultural Land								
Adjoining Property #	Address	Sale Price	Site Size (AC)	NCCPI Index	Wetlands	Floodplain	Sale Price/AC	Sale Date
Adjoining Property 2	5755 W Southport Rd, Indianapolis, IN	$738,584	89.96	63.4	1%	Zone X	$8,210	Oct-17

Crop yields have been the basis for establishing a soil productivity index, and are used by county assessors, farmers, and market participants in assessing agricultural land. While crop yields are an integral part in assessing soil qualities, it is not an appropriate metric to rely on because "yields fluctuate from year to year, and absolute yields mean little when comparing different crops. Productivity indices provide a single scale on which soils may be rated according to their suitability for several major crops under specified levels of management such as an average level." The productivity index, therefore, not crop yields, is best suited for applications in land appraisal and land-use planning.

The United States Department of Agriculture's (USDA) National Resources Conservation Services (NRCS) developed and utilizes the National Commodity Crop Productivity Index (NCCPI) as a national soil interpreter and is used in the National Soil Information System (NASIS), but it is not intended to replace other crop production models developed by individual states.[20] The focus of the model is on identifying the best soils for the growth of commodity crops, as the best soils for the growth of these crops are generally the best soils for the growth of other crops.[21] The NCCPI model describes relative productivity ranking over a period of years and not for a single year where external influences such as extreme weather or change in management practices may have affected production. At the moment, the index only describes non-irrigated crops, and will later be expanded to include irrigated crops, rangeland, and forestland productivity.[22]

Yields are influenced by a variety of different factors including environmental traits and management inputs. Tracked climate and soil qualities have been proven by researchers to directly explain fluctuations in crop yields, especially those qualities that relate to moisture-holding capacity. Some states such as Illinois have developed a soil productivity model that considers these factors to describe "optimal" productivity of farmed land. Except for these factors, "inherent soil quality or inherent soil productivity varies little over time or from place to place for a specific soil (map unit component) identified by the National Cooperative Soil Survey (NCSS)."[23] The NRCS Web Soil Survey website has additional information on how the ratings are determined. The **State of Indiana** does not have its own crop production model and utilizes the NCCPI.

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[20] Agricultural land rental payments are typically tied to crop production of the leased agricultural land and is one of the primary reasons the NCCPI was developed, especially since the model needed to be consistent across political boundaries.
[21] Per the User Guide for the National Commodity Crop Productivity Index, the NCCPI uses natural relationships of soil, landscape and climate factors to model the response of commodity crops in soil map units. The present use of the land is not considered in the ratings.
[22] AgriData Inc. Docs: http://support.agridatainc.com/NationalCommodityCropProductivityIndex(NCCPI).ashx
[23] USDA NRCS's User Guide National Commodity Crop Productivity Index (NCCPI)

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In analyzing agricultural land sales for Control Area Sales with similar characteristics to Adjoining Property 12, we have excluded any parcels with NCCPI soil indices less than 50.0 and greater than 85.0.

We identified and analyzed four Control Area Sales that were comparable in location, size, and use that were not located in close proximity to the solar farm. The Control Area Sales for Adjoining Property 2 are land tracts that were larger than 20 acres and utilized specifically as farmland. We excluded sales that were bank-owned, those between related parties, split transactions, and land with significant improvements.

The Control Area Sales were adjusted for market conditions using a regression and trend analysis to identify the appropriate monthly market condition adjustment. Using the agricultural land sale data published in the *Land Sales Bulletin,*[24] from January 2016 through December 2017, which includes reliable and credible data for analysis, we extracted a monthly rate of change of 0.50 percent.

The results of our analysis for Adjoining Property 2, in Group 1 is presented below.

CohnReznick Paired Sale Analysis Dominion Indy III Solar Group 1 - Agricultural Land		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per Acre**
Test Area Sale (Adjoining Property 2)	Yes: Solar Farm was completed by the sale date	$8,210
Control Area Sales (4)	No: Not adjoining solar farm	$8,091
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**1.47%**

It is noted that we have kept this analysis within our study despite it being the sole land-only analysis. While we have not tabulated the difference in our reconciled average of variance (from study to study), this is important because it shows that agricultural land adjacent to solar but also lying in the future path of development does not show any degradation of value.

Noting the relatively low price differential, in which the Test Area Sale was higher than the median for the Control Areas Sales, it does not appear that the Dominion Indy III solar farm had any negative impact on the adjoining agricultural property values.

We idenitified a total of nine Adjoining Properties that sold after the develoment of the solar farm as single-family home uses. Adjoining Properties 11, 13, 14, 15, 18, 20, 22, 24 and 26 were analyzed in two paired sales analyses

[24] https://www.landsalesbulletin.com/

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(Group 2 and Group 3). These nine properties were analyzed as single-family homes and they are located in the Crossfield subdivision, across West Southport Road from the solar site, as seen in the prior aerials.

It should be noted that Adjoining Properties 11 and 24 have sold more than once since the solar farm was constructed, and each sale is included in the analysis. Adjoining Property 11 sold first in December 2015 and later in July 2018, approximately two and a half years later. Adjoining Property 24 sold first in February 2014 and later in April 2019, approximately five years later. Our research indicated that these were arm's-length sales between typically motivated buyers and sellers.

The nine Adjoining Properties that were included in our paired sales analysis were divided into two groups, based on the sale dates of the Test Area Sales.

Group 2

For Group 2 (sales occurring between 2014 – 2016), we analyzed four Control Area Sales with similar location, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Group 2 Test Area Sales described below.

Dominion Indy III Solar Test Area Sales Group 2									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
11, 20, 22, 24	5933 Sable Dr, 5829 Sable Dr, 5813 Sable Dr, 5737 Sable Dr	$129,375	0.23	4	2.0	2008	2,163	Jul-15	$59.10

The Test Area Sales in Group 2 are located between 230 feet and 404 feet from the house to the solar panels. The Control Area Sales for Group 2 are located beyond this area in other areas of the Crossfield subdivision and in other nearby subdivisions. The Control Area Sales did not have a view of the solar farm.

Group 3

For Group 3 (sales between 2017 - 2019), we analyzed a set of seven Control Area Sales with similar locations, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Group 3 Test Area Sales described on the next page.

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Test Area Sales Group 3									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
11, 13, 14, 15, 18, 24, 26	5933 Sable Dr, 5921 Sable Dr, 5921 Sable Dr, 5915 Sable Dr, 5909 Sable Dr, 5841 Sable Dr, 5737 Sable Dr, 5731 Sable Dr	$169,900	0.23	3	2.5	2006	2,412	Jul-18	$72.15

The Test Area Sales in Group 3 are located between 227 feet and 419 feet from the house to the solar panels. The Control Area Sales are located beyond this area, in other areas of the Crossfield Subdivision, and in other nearby subdivisions. The Control Area Sales did not have a view of the solar farm.

Control Area Sales in Groups 2 and 3 were adjusted for market conditions using a regression analysis to identify the appropriate monthly market condition adjustment. The results of our study are presented below.

CohnReznick Paired Sale Analysis Dominion Indy III Solar Group 2		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (4)	Adjoining solar farm	$59.10
Control Area Sales (8)	No: Not adjoining solar farm	$57.84
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		2.18%

CohnReznick Paired Sale Analysis Dominion Indy III Solar Group 3		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (7)	Adjoining solar farm	$72.15
Control Area Sales (11)	No: Not adjoining solar farm	$71.69
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		0.65%

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The Test Area Sales for Group 2 sold with a median of 33 days on market, while the Control Area Sales for Group 2 sold with a median of 31 days on market. The Test Area Sales for Group 3 sold with a median of 17 days on market, while the Control Area Sales for Group 3 sold with a median of 25 days on market. There is no ***significant negative marketing time differential.***

Noting the relatively low price differentials, it does not appear that the Dominion Indy III solar farm has had any negative impact on adjoining residential property values.

Before Announcement and After Construction of the Solar Farm Analysis:

Due to the number of sales over time in the Crossfield subdivision, we were able to conduct an analysis on the unit prices of single-family homes before the solar farm announcement date in comparison to the prices of single-family homes after the construction of the Dominion Indy III solar farm. We have provided our conclusions from the data below and the following page contains a chart with the data.

- 25 Test Area Sales were sold from 2006 to 2019 and 46 Control Area Sales sold from 2008 to 2019.
    - The Test Area Sales are homes located adjoining the Dominion Indy III Solar Farm in the Crossfield subdivision.
    - The Control Area Sales are homes located in the remainder of the Crossfield subdivision, not adjoining the solar farm.

- In both the Test Area Sales (ORANGE) and Control Area Sales (BLUE) plotted on the chart on the following page, new construction homes sold through 2011, prior to announcement of the solar farm.
- The dotted lines are polynomial trend lines plotted by Microsoft Excel in order to illustrate and approximate the "average" trend of each set of data.
- The economic climate improved in the period from 2013 to 2019 as shown by the red line representing the Federal Housing Finance Agency's House Price Index for the East North Central region that includes Indiana. After construction of the solar farm, in parallel with the improving economic climate, it appears that unit prices for both the Test Area Sales and the Control Area Sales appreciated at a similar rate over the period from 2013 to 2019.

A difference in appreciation rates does not appear to exist between Test Area Sale homes versus the Control Area Sale homes.

Sale prices of single-family homes after the construction of the solar farm exhibit a similar appreciation trend as sales prior to the solar farm announcement. Overall, our findings indicate that there *is not a consistent and measurable difference* in prices that exists in association with homes proximate to the Dominion Indy III solar farm.

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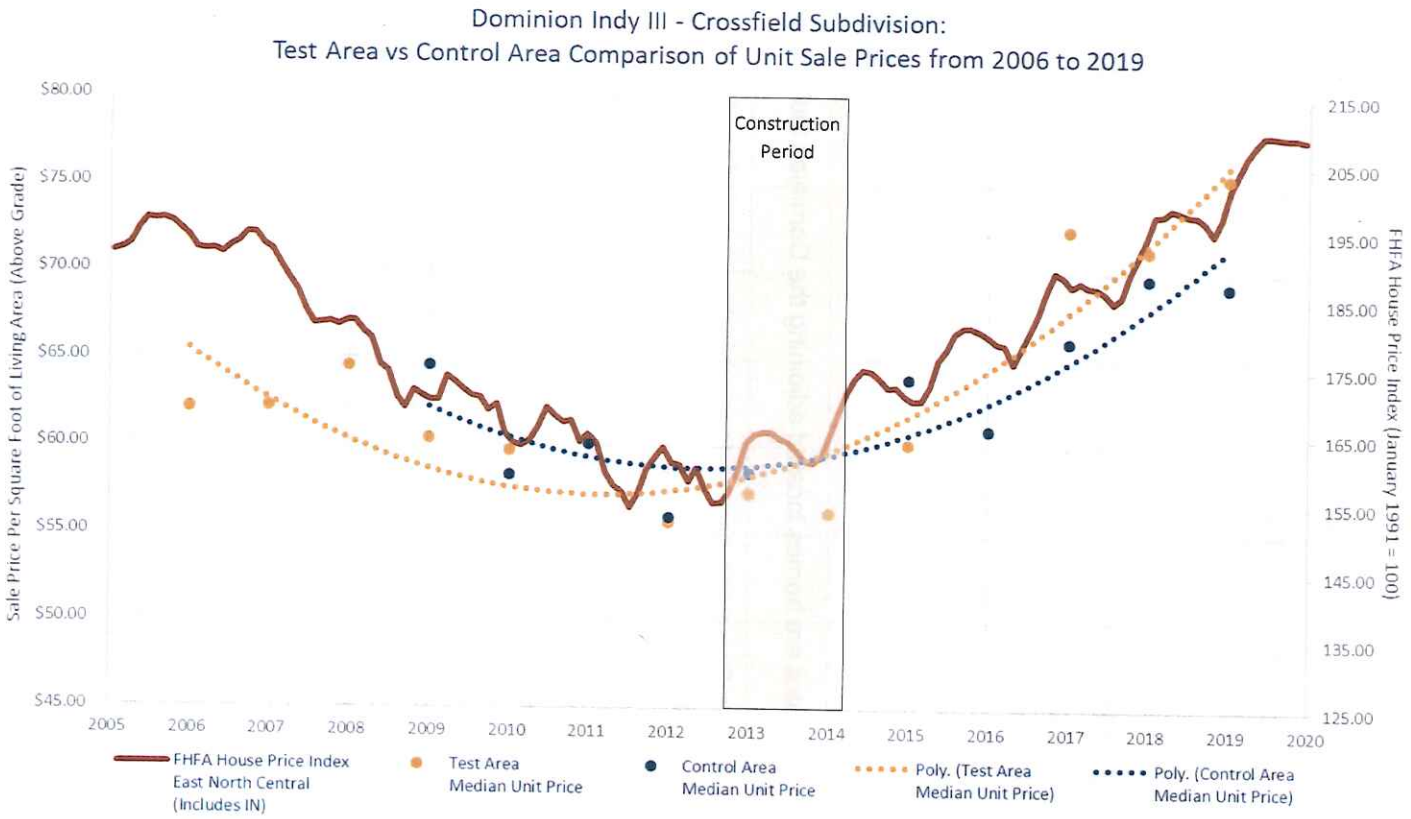
Before Announcement and After Construction of the Solar Farm Analysis:



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SOLAR FARM 3: DOUGHERTY SOLAR, DOUGHERTY COUNTY, GEORGIA

Coordinates: Latitude 31.305614, Longitude 84.022637

PIN: 00144/00001/03D, 00120/00001/007,00146/00001/01B

Population Density (2019) Dougherty County: 288 people per square mile (Largest City = Albany)

Total Land Size: ±1,280.93 Acres

Date Project Announced: August 2018

Date Project Completed: November 2019

Output: 120 MW AC

Aerial imagery retrieved from Google Earth

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The 120 MW AC capacity, Dougherty Solar project was developed by NextEra in 2019. This solar site is expected to generate $10 million in tax revenue over its lifetime. The project sits on a ±1,037.42-acre site which was a former agricultural land site. Georgia Power signed a 30-year Power Purchase Agreement with NextEra Energy to buy the solar generated power and NextEra Energy owns and maintains the installation. The solar facility consists of 5,232 rows of support beams for 440,535 solar panels.

The Surrounding Area: The Dougherty County Solar project is located in unincorporated Dougherty County, with a city of Albany mailing address, Georgia. Georgia Route 3 (Liberty Expressway) is approximately 4.5 mile west of the solar site, and connects the surrounding area to downtown Albany, which is approximately 8 miles northwest of the solar site. We note the nearest interstate, Interstate 75, is approximately 31 miles east of the solar site. The surrounding area is rural in nature with agricultural and low density residential uses surrounding the property.

The Immediate Area: Within a one-mile radius of the solar farm, surrounding uses mainly consist of agricultural land, with some single-family homes to the south and the northwest. Adjacent land parcels to the solar farm are mainly residential, with some agricultural uses. Additional surrounding land uses are an industrial use to the southeast of the southern-most panels. The majority of the residential housing is located to the south of the solar site, along Spring Flats Road, with some homes located along Gaissert Road to the northeast.

The solar site is built on a large, mostly flat agricultural site. The site is bounded by Spring Flats Road and Moultrie Road to the south with single family homes along these roads, agricultural land to the west, vacant land to the east, and agricultural land and more single family homes to the north. The adjoining homes sites are all buffered from the solar site by mature trees, bushes, and other shrubbery.

Prior Use: Agricultural use

Real Estate Tax Information: The assessed value in Dougherty County has not changed for the solar parcel since decreased slightly from 2018, prior to the development of the solar farm, to 2020, after the development of the solar farm. We note $61,000 of this decrease is due to the demolition of existing improvements (Parcel 00120/00001/007). Removing the improvements from the 2018 assessed value only accounts for a decrease of 0.32% from this parcel, although given the solar farm's recent construction it is possible the site would be reassessed during the next cycle. Historical real estate taxes are not available form Dougherty County public records.

PIN	Acres
Dougherty County, GA	
00144/00001/03D	143.75
00120/00001/007	792.98
00146/00001/01B	100.69
00118/00001/07C (Post 2021 split)	125.47
TOTAL	**1,280.93**

2018 Taxes Paid	2020 Taxes Paid	Tax Increase
$ 9,435	$ 9,388	0%
$ 38,909	$ 37,550	-3%
$ 6,884	$ 6,850	0%
Not Released	Not Released	
$ 55,228	**$ 53,787**	**-3%**

2018 Assessed Value	2020 Assessed Value	Value Increase
$ 546,300	$ 546,300	0%
$ 2,253,000	$ 2,185,100	-3%
$ 398,600	$ 398,600	0%
Not Released	Not Released	
$ 3,197,900	**$ 3,130,000**	**-2%**

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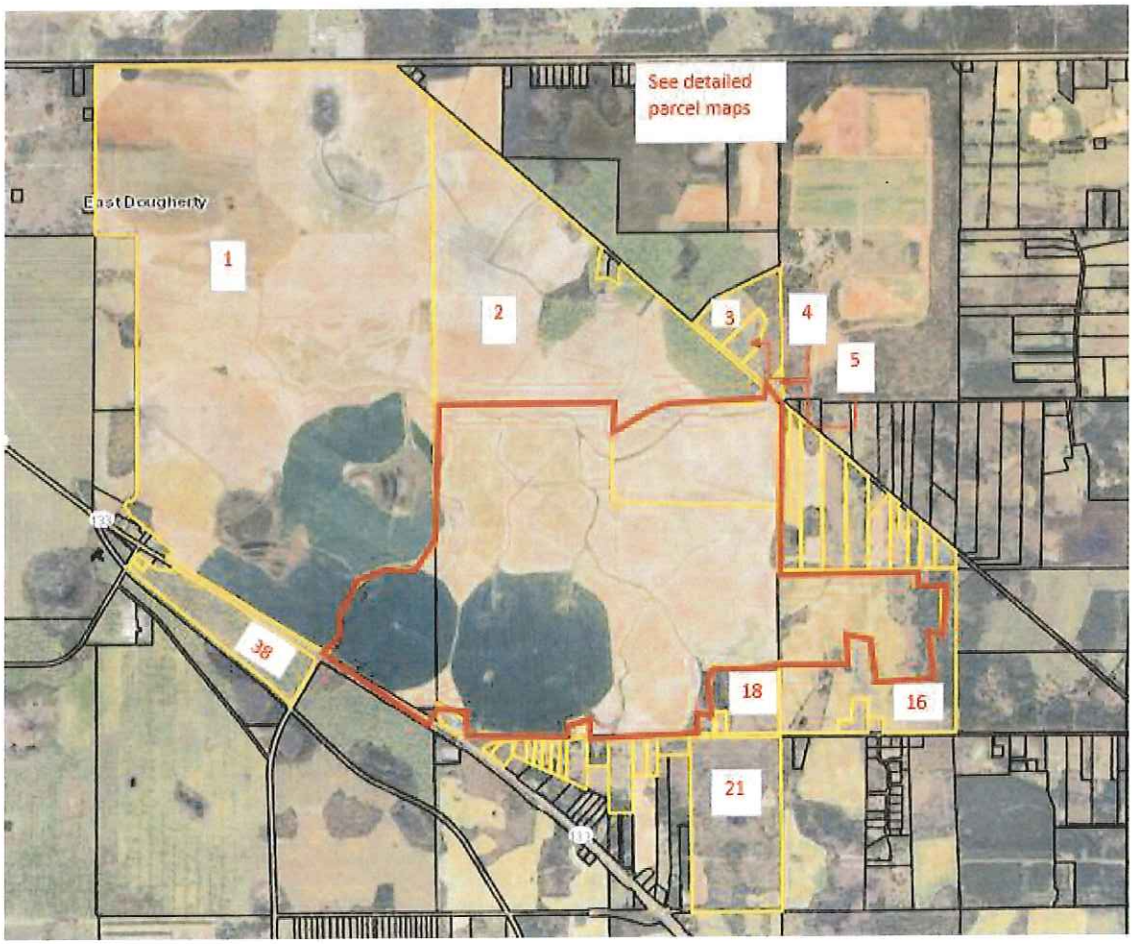
The maps below and following display the solar project (parcels outlined in red). Properties adjoining the solar site are outlined in yellow and numbered for subsequent analysis. We note the Dougherty County GIS has not updated its aerial imagery to include the solar panels on the solar site.



Dougherty Solar - Adjoining Properties

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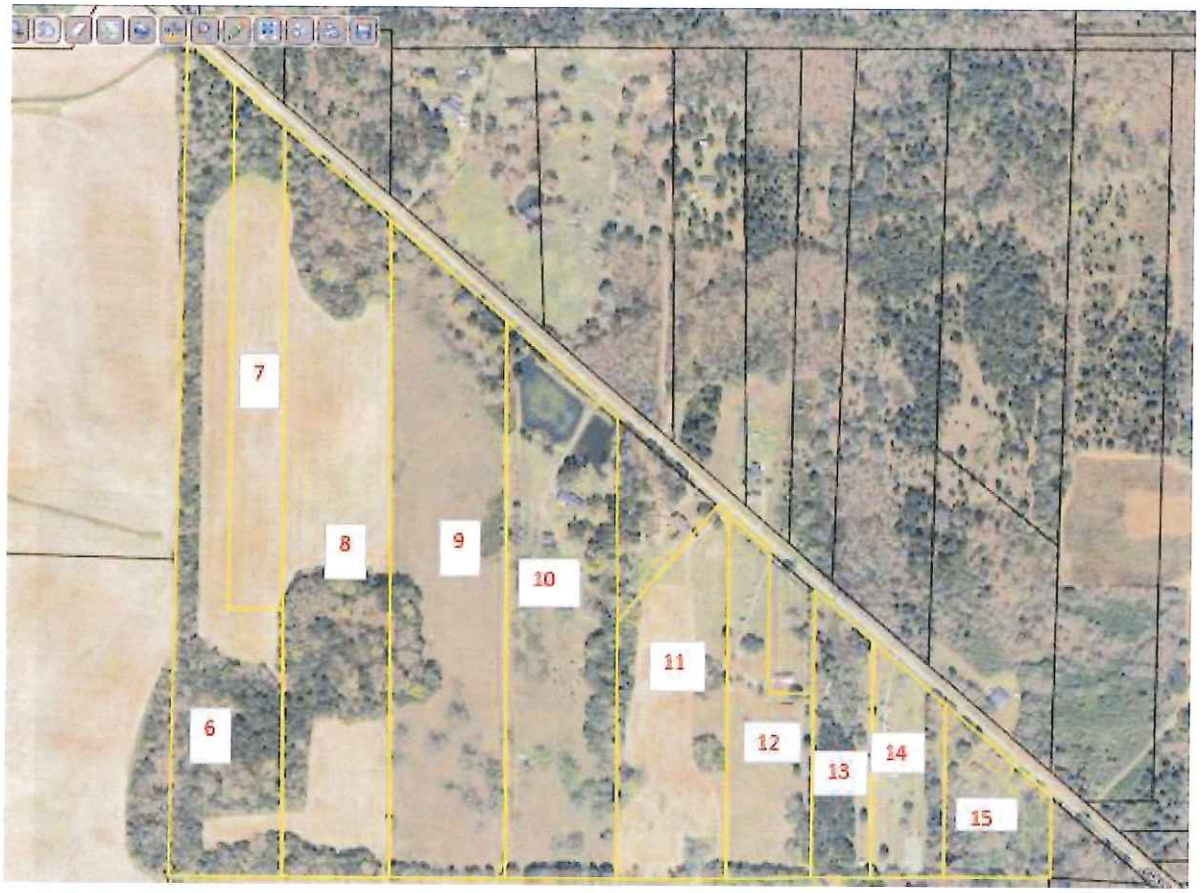

Dougherty Solar - Adjoining Properties

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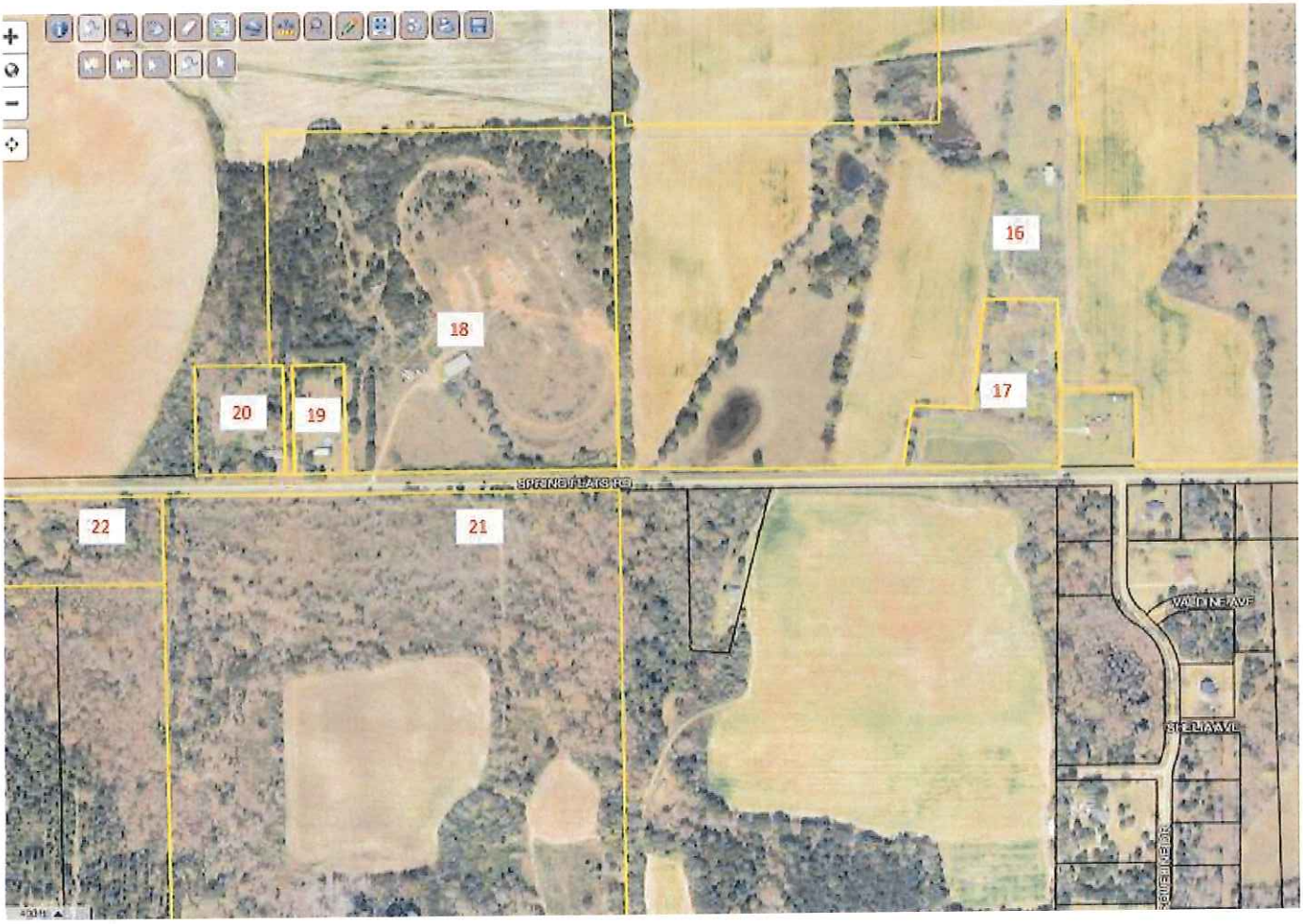

Dougherty Solar - Adjoining Properties

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Dougherty Solar - Adjoining Properties

Adjoining Properties 1-18, 20, 21, 24-31, 33-38 all sold between August 1973 and September 2019, prior to the date of completion of the subject solar site. These properties have been excluded from further analysis.

We do note Adjoining Property 27 was sold in July 2019, during the construction period of the solar farm. Since it was sold during the construction period, we have excluded it from being considered as a Test Area Sale since we cannot extract the external influence of construction on the sale price. We spoke to the selling broker for this transaction, Christy Wingate, with Parker Real Estate Group. She noted the future presence of the solar farm did not impact the sales price at all. Additionally, she noted in her experience, the presence of a solar farm is neither an attraction nor a deterrant for nearby home buyers. She noted a similar case with a new solar farm in Leesburg, Georgia, which is much smaller than the solar farm under analylsis, within a predominately residential area.

Adjoining Property 32 sold in December 2019 and we analyzed it for potential inclusion as a Test Area Sale; however, since the sale was a gift sale with no allocated sales price, we have not analyzed it further since the transaction was not a market transaction.

Adjoining Property 19 was sold in February 2020, however this sale was also a gift sale between family members with no allocated sales price. Therefore we did not analyze it.

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Adjoining Property 22 sold in August 2020 for $19,500, although according to public records does not note this sale was a "Fair Market Sale." Additionally, the county GIS marked this sale as unqualified for a market transactions. Therefore, we did not analyze this sale further.

Paired Sales Analysis:

We have considered only one type of paired sales analysis, which compares sales of properties proximate to the solar farm (Control Area) to the sales of adjoining properties after the completion of the solar farm project (Test Area).

We found one adjoining property that qualified for a paired sales analysis. Adjoining Property 23 (Test Area Sale), circled in blue on the previous page, was considered for a paired sales analysis, and sold in June 2020, after the completion of the solar farm. This property was analyzed as single-family home use.

Adjoining Property 23 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a single-family home use, which is a 2,750 square foot home located on a 3.44- acre parcel that sold in June 2020. The property line of this parcel is approximately 202 feet from the closest solar panel, and the improvements are approximately 312 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 23.

Adjoining Property 23												
Status	Address	City	County	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Square Feet	Improvements	Sale Price/SF	Sale Date
Sold	2916 SPRING FLATS RD	Albany	Dougherty	$205,000	3.44	4	2.5	1980	2,750	1-Story SFR	$74.55	Jun-20

We note that Adjoining Property 23 has an in-ground pool. We have found Control Area Sale data through Zillow and verified these sales through county records, conversations with brokers, and the County Assessor's Office. We excluded sales that were not arm's length, such as REO sales or those transactions between related parties. We have included only sales with a similar number of bedrooms, bathrooms, and living area, as well as land area. Additionally, we only selected Control Area Sales of single-family homes also had an in-ground pool.

It is important to note that these Control Area Sales are not adjoining a solar farm, nor do they have a view of one from the property at the time of their sales. Therefore, the announcement nor the completion of the solar farm use could not have impacted the sales price of these properties. It is informative to note that the average and median marketing time (from list date to off market date) for Control Area Sales was 83 days and 119 days, respectively. The Test Area sale had a marketing time of 99 days. This is an indication that the marketability of the Test Area sale was not negatively influenced by proximity to the Dougherty Solar project. The Control Area Sales are comparable in most physical characteristics and bracket Adjoining Property 23 reasonably.

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Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The results of the paired sales analysis for the Dougherty Solar project are presented below.

CohnReznick Paired Sales Anaysis Dougherty County Solar Facility Adjoining Property 23		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Yes: Adjoining solar farm	$74.55
Control Area Sales (5)	No: Not adjoining solar farm	$76.23
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**-2.21%**

The difference between the unit price of the Test Area Sale and the Adjusted Median Unit Price of the Control Area Sales is considered within the range for a typical market area. One of the Control Area Sales was 20 years newer than the Test Area Sale. A secondary analysis excluding this sale indicated an adjusted median unit sale price of $74.47 per square foot, which is in line with the Test Area Sale unit price of $74.55 per square foot.

Noting no significant price differential, it does not appear that the Dougherty Solar project impacted the sales price of the Test Sale, Adjoining Property 23.

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SOLAR FARM 4: MIAMI-DADE SOLAR ENERGY CENTER, MIAMI DADE COUNTY, FL

Coordinates: Latitude 25°38'34.5"N, 80°29'16.5"W

PIN: 30-5813-000-0020

Population Density (2019): 1,000 people per square mile (Largest City = Miami)

Recorded Owner: Florida Power & Light Company

Total Land Size: 465 acres

Date Project Announced: October 2017

Date Project Completed: January 2019

Output: 74.5 MW AC

2020 Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Miami Dade Solar Energy Center is situated in unincorporated Miami-Dade County, just west of Florida State Road 997. The site comprises approximately 300,000 solar panels on a fixed-tilt system, generating enough energy to power around 15,000 homes.

It is surrounded to the north, west, and south by rural residences and agricultural uses. The Kendall Tamiami Executive Airport is located due east, along the flight path for one of the airport's runways. A canal runs along the west side of the property, and beyond that is 306 acres of federal government land and four agricultural use lots. The predominant lot size in the surrounding area is approximately five acres and uses vary from palm tree farms, equestrian centers, citrus groves, to rural residences. These lots are zoned GU – Interim District, which categorizes land not otherwise specified in the unincorporated areas of Miami Dade County. This designation allows for uses consistent with the surrounding character, or a density of one residence for every 5 acres.[25] As such, development is limited to rural residences or agricultural uses

Prior Use: Agricultural use

Real Estate Tax Info: The chart below shows the increase from 2018 (before construction) to 2019 (after construction) in the assessed value of the parcels and the total real estate taxes.

PIN	Acres
Miami-Dade County 30-5813-000-0020	465.61
TOTAL	**465.61**

2018 Taxes Paid	2019 Taxes Paid	Tax Increase
$ 40,777	$ 179,761	341%
$ 40,777	**$ 179,761**	**341%**

2018 Assessed Value	2019 Assessed Value	Value Increase
$ 2,460,316	$ 10,575,924	330%
$ 2,460,316	**$ 10,575,924**	**330%**

[25] http://www.miamidade.gov/zoning/districts.asp

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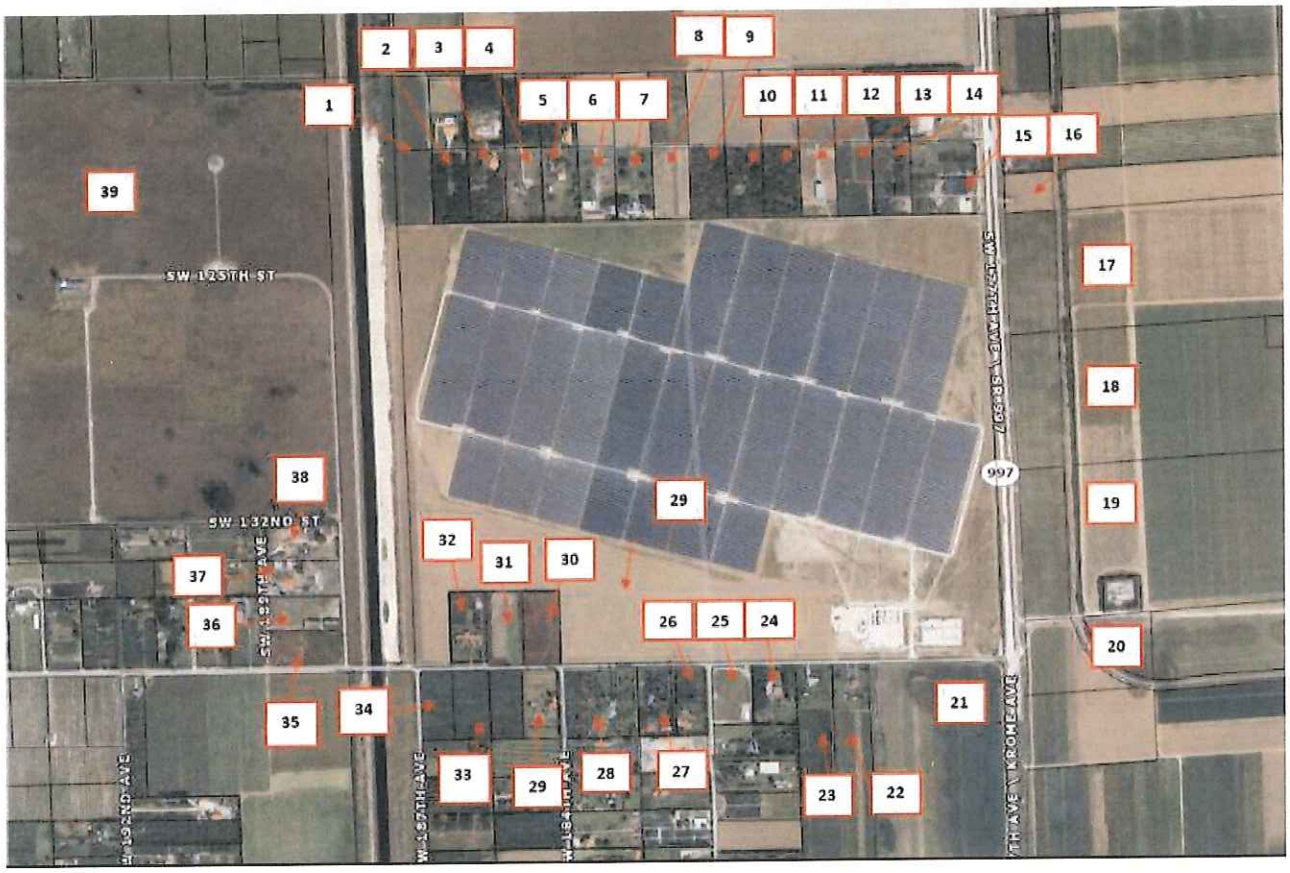
Paired Sale Analysis – Residential Land:

The following map numbers the adjoining parcels for subsequent analysis. The 39 adjoining parcels are a mix of single-family residences, agricultural land, and government land. We have identified five parcels that have transferred since the solar farm was completed, adjoining parcels 3, 13, 31, 33, and 35. Adjoining properties 3 and 33 transferred as deed corrections between related parties and are not considered market sales. Adjoining Property 35 was bought by the owner of the adjoining parcel for assemblage purposes and was also removed from the study. The remaining three parcels, adjoining properties 13, 31, and 33 were considered for a paired sales analysis. These three parcels have an interim agricultural use with residential development allowed under the GU zoning.



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We identified six Control Area sales with similar location, square footages, lot sizes, and ages that sold from a reasonable sale time from the median sales date of the test sales. Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our study is presented below.

CohnReznick Paired Sales Analysis Miami-Dade Solar Energy Center		
No. Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per Acre**
Test Area Sales (3)	Yes: Adjoining solar farm	$82,491
Control Area Sales (6)	No: Not adjoining solar farm	$81,866
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**0.76%**

Noting no negative price differential, it does not appear that the Miami Dade Solar Energy Center impacted the sales price of adjoining properties 13, 31, and 33.

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SOLAR FARM 5: BAREFOOT BAY SOLAR ENERGY CENTER, BREVARD COUNTY, FL

Coordinates: Latitude 27°52'15.5"N, Longitude 80°31'38.3"W

PINs: Several

Population Density (2020): 597 people per square mile (Largest City = Palm Bay)

Recorded Owner: Florida Power & Light Company

Total Land Size: 505 acres

Date Project Announced: January 2017

Date Project Completed: May 2018

Output: 74.5 MW AC

2020 Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Barefoot Bay Solar Energy Center is located north of Sebastian, in the unincorporated community of Micco, in coastal Brevard County, Florida. The solar installation sits on a 462-acre site, on land that was formerly an orange grove. Florida Power & Light held an open house for the area residents in January of 2017. The construction started in June of 2017 and was completed in May of 2018. The solar energy center has a capacity of approximately 74.5 MW AC. The site comprises approximately 300,000 solar panels on a fixed-tilt system, generating enough energy to power around 15,000 homes.

The solar site is approximately 450 feet south of Micco Road, an east-west arterial, approximately 1.5 miles west of U.S. 1, which runs along the shores of the Indian River. The solar installation is surrounded by trees and vegetation and is adjoined by residential development to the north and east. Along Micco Road, to the northwest of the solar farm are several mixed-use lots, with agricultural, rural residential, and industrial uses.

The solar site is surrounded to the north and northeast primarily by the Barefoot Bay manufactured home community. Barefoot Bay is the largest manufactured home community in Florida where homes are permanently built, bought, and sold as real property. The community has three pools, a bar and restaurant, a golf course and other recreational and entertainment activities.

The population is estimated to be over 12,000 persons and approximately 80 percent of residents are over 55 years old, however, there is no age restriction in the community. The entire community sits on approximately 1,000 acres originally purchased and developed starting in 1968, with almost total absorption of lots by 1996. A total of 5,000 lots were platted and lot sizes currently range from 50 feet wide by 80 feet deep (4,000 square feet) to 75 feet wide by 100 feet deep (7,500 square feet). Homes are close together and with the standard setbacks homes can be 15 feet apart from one another.

A longtime local real estate agent and community resident at Barefoot Bay Realty said that the homes that border the solar site to the northeast, along Papaya Circle, are considered perimeter lots and are more desirable due to the lack of backyard neighbors. There is a swale (a broad and shallow ditch with water) that separates the lots from the solar site and the agent noted that many people in the community are unaware that the solar site is even there. The prices and marketing times of homes adjoining the solar farm on Papaya Circle in Barefoot Bay are not impacted by their proximity to the installation, and in fact may benefit from the increased privacy provided by the solar site.

The Barefoot Bay agent reported that small homes on small lots may sell for $70,000 and larger homes on larger and better located lots can sell for over $200,000. In the experience of Barefoot Bay Realty agents, there are typically 80 to 100 homes on the market at any one time and the average marketing time is considered to be 60 days.

To the east of the solar farm are rural residential lots with extended driveways. Several of these parcels are flag lots with secluded residences set back. At the southeast corner of the solar site, are approximately 441 acres of land zoned agricultural-residential by Brevard County owned by a cattle ranch operation.

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To the south of the solar site lies the Wheeler Stormwater Park which is a 300-acre stormwater management area. The site includes 163 acres of park land with dynamic walking and nature trails, which was opened to the public in 2017.

On the western boundary of the solar site is the Sottile Canal, a canal that flows into the north prong of the St. Sebastian River, a major tributary of the Indian River Lagoon. South of Micco Road west of the Canal is the new residential subdivision known as the Lakes at St. Sebastian Preserve, on land platted as Paladin Estates. The Lakes at St. Sebastian Preserve is located approximately 2.3 miles west of the Indian River. The single-family home community features new homes being built by two national homebuilders. The homes will have city water and septic, but the subdivision is outside the city limits of Sebastian in Brevard County. Several homes have been built in the community as of July 2020 but the street with lots that back onto the Sottile Canal (Lago Vista Drive) will be built in a later phase. Real estate salespeople for both builders noted that the view of the solar installation is primarily obstructed from the lots that will back to the Canal and there has been no impact on home sales or interest in the development due to its location proximate to the solar installation.

To the west of the solar site, south of Lakes at St. Sebastian Preserve, is state-owned land utilized for flood control.

Prior Use: Agricultural use

Real Estate Tax Info: The chart below shows the increase from 2016 (before construction) to 2018 (after construction) in the assessed value of the parcels and the total real estate taxes.

PIN	Acres	2016 Taxes Paid	2018 Taxes Paid	Tax Increase	2016 Assessed Value	2018 Assessed Value	Value Increase
Brevard County							
3006694	56.20	$ 1,038	$ 9,426	808%	$ 67,440	$ 618,200	817%
3007862	48.51	$ 896	$ 10,859	1112%	$ 58,210	$ 727,650	1150%
3008628	320.14	$ 6,077	$ 60,433	895%	$ 384,170	$ 4,001,750	942%
3008630	1.00	$ 23	$ 22	-4%	$ 600	$ 600	0%
3008632	9.00	$ 162	$ 1,888	1069%	$ 10,500	$ 126,000	1100%
3010467	69.90	$ 1,291	$ 13,685	960%	$ 83,880	$ 908,700	983%
TOTAL	**504.75**	**$ 9,485**	**$ 96,313**	**915%**	**$ 604,800**	**$ 6,382,900**	**955%**

Paired Sale Analysis:

The maps on the following pages number the adjacent parcels for subsequent analysis. We have identified thirteen sales that have transferred since the solar farm construction, adjacent parcels 6, 7, 13, 14, 18, 30, 37, 40, 47, 50, 51, 76, and 86. Adjoining property 14 was a liquidation sale and removed from consideration. Adjoining properties 37 and 50 transferred off the multiple listing service and are non-owner occupied. Adjoining property 30 has a large, converted patio and is atypical for Barefoot Bay: this sale was considered an outlier and removed from analysis. While adjoining properties 76 and 86 are technically adjacent, they are atypical flag lots with driveways that operate as de facto roads. The residence for property 76 is buffered from the solar farm by

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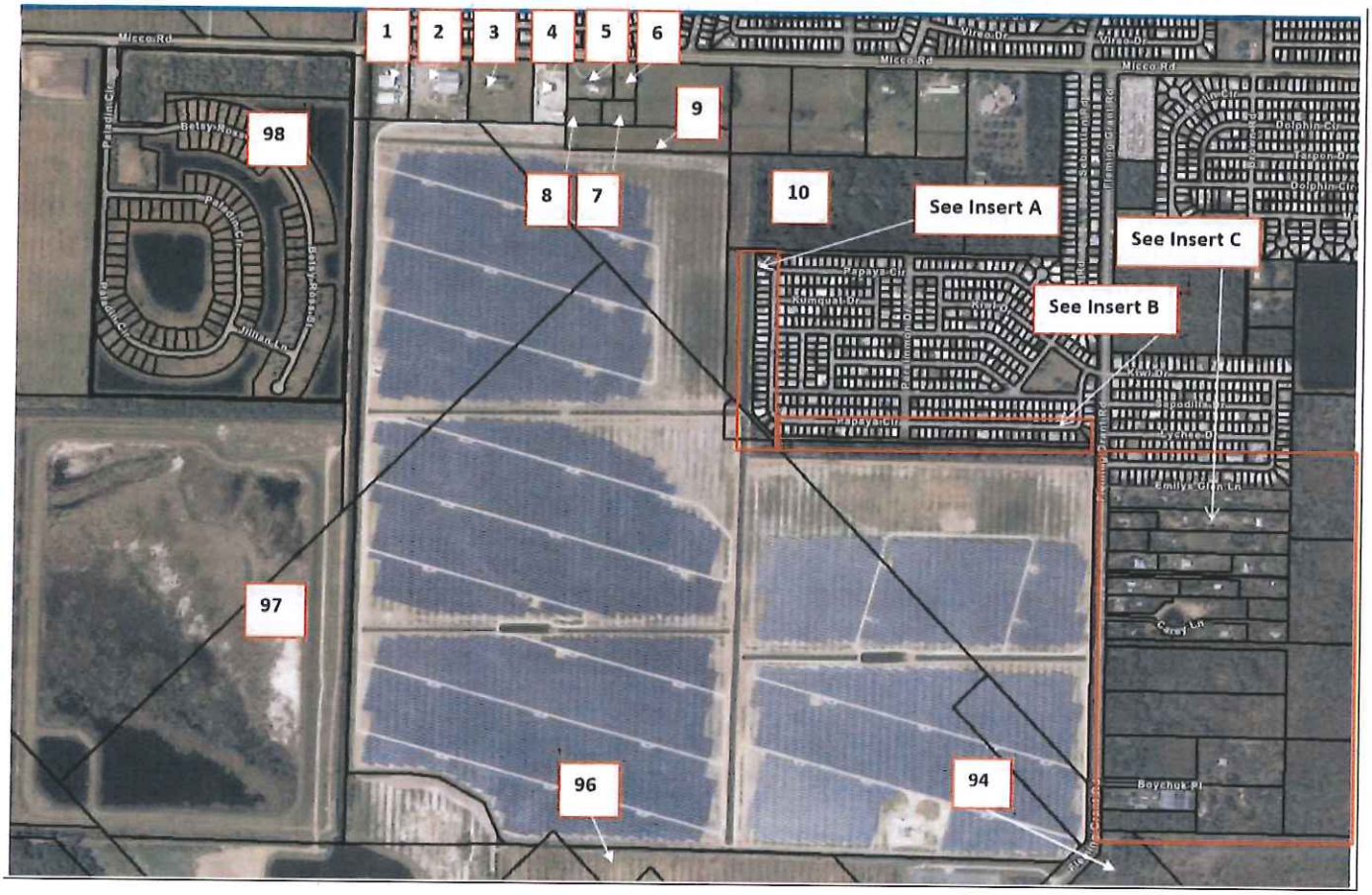
two other residences. Adjoining property 86 is atypically larger than other sales in the market area and is approximately forty percent wetland. Properties 76 and 86 were considered outliers and removed from the study.

The remaining seven parcels, adjoining properties 6, 7, 13, 18, 40, 47, and 51 were considered for a paired sales analysis. We have divided these properties into two groups as discussed further on the following pages.



Barefoot Bay Farm Adjoining Properties

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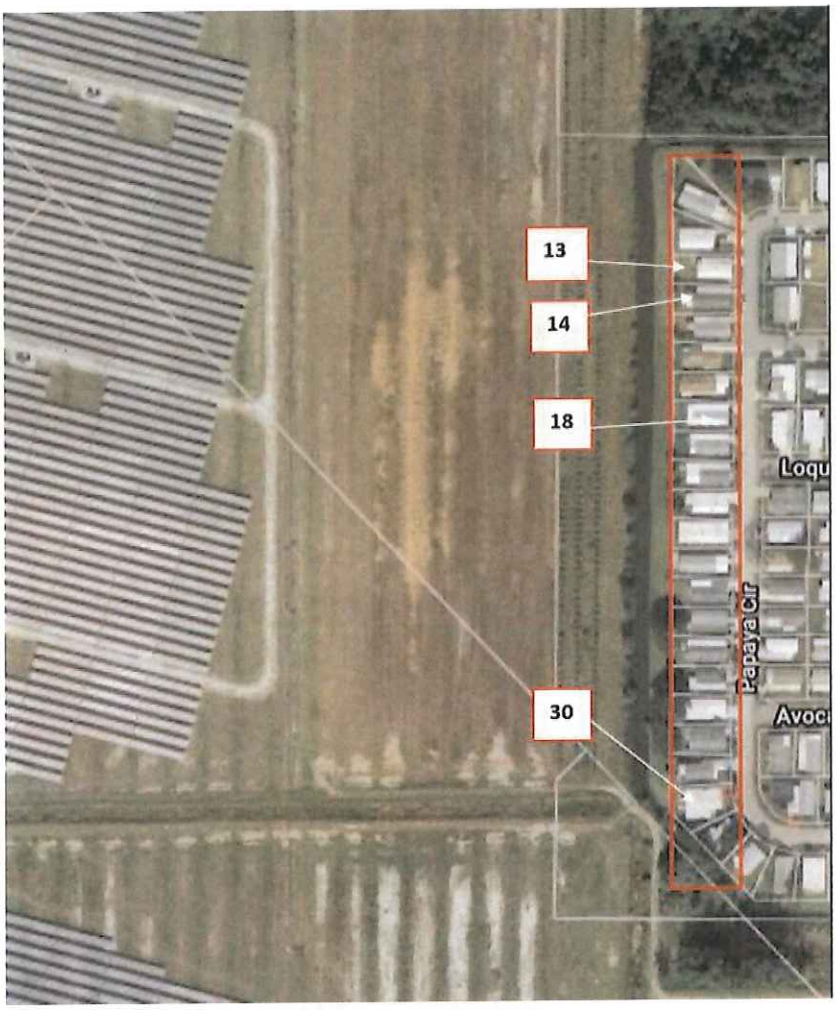

Barefoot Bay Farm Adjoining Properties - Insert A

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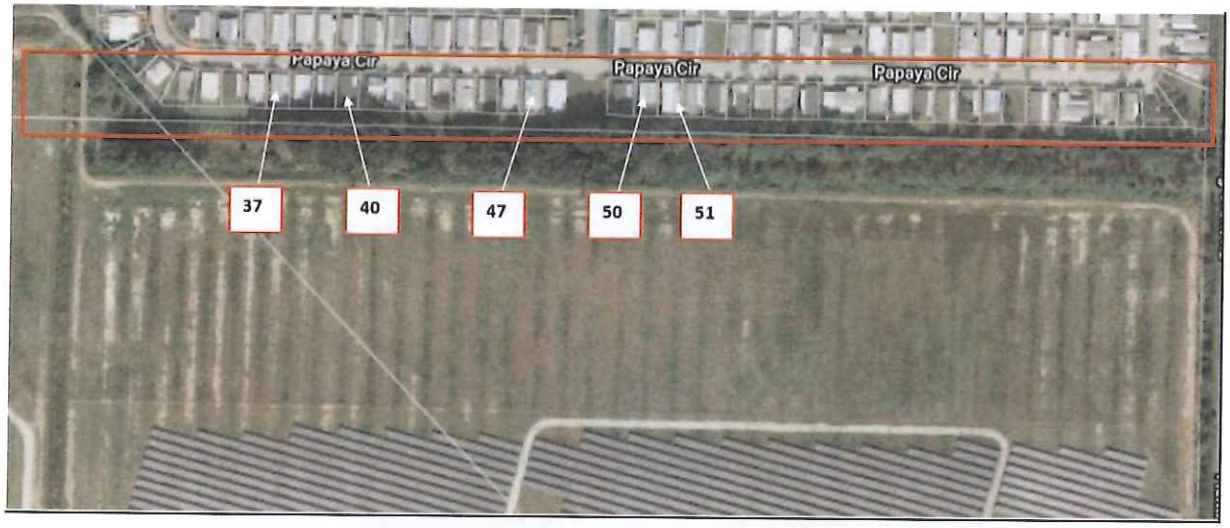

Barefoot Bay Farm Adjoining Properties - Insert B

Barefoot Bay Farm Adjoining Properties - Insert C

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Adjoining properties 6 and 7 are residential lots. They were purchased by the same buyer from two different sellers on different sale dates. We identified seven Control Area Sales with similar location and lot sizes that sold from a reasonable sale time from the median sales date of the test sales. The test sales had a median marketing time of two to three months, as did the control sales. Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our study is presented below.

CohnReznick Paired Sales Analysis Barefoot Bay Solar Energy Center GROUP 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price per Acre**
Test Area Sales (2)	Yes: Adjoining Solar Farm	$54,500
Control Area Sales (7)	No: Not Adjoining Solar Farm	$51,000
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**6.86%**

Adjoining properties 13, 18, 40, 47, and 51 are improved residential dwellings. Since Barefoot Bay is a homogenous subdivision with a large number of residences, we were able to identify 126 control sales located in the Barefoot Bay manufactured home community, all manufactured homes on residential lots, with gross living areas of 1,100 SF to 1,800 SF, that sold from a reasonable sale time from the median sales date of the test sales, excluding outliers and non-arm's length transactions. Barefoot Bay has typical marketing times of two months. The test sales had a median marketing time of approximately a month and a half. Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our study is presented on the following page.

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CohnReznick Paired Sales Analysis Barefoot Bay Solar Energy Center GROUP 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price per SF**
Test Area Sales (5)	Yes: Adjoining Solar Farm	$95.90
Control Area Sales (126)	No: Not Adjoining Solar Farm	$93.95
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**2.07%**

Noting the relatively low price differential, in which the Test Area Sales were higher than the median for the Control Areas Sales, it does not appear that the Barefoot Bay Solar Energy Center had any negative impact on adjoining property values or marketing times.

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Summary of Before and After Construction of the Solar Farm Analysis:

Due to the frequency of sales in the Barefoot Bay subdivision, we were able to conduct an analysis on the prices of manufactured homes before the solar farm announcement date in comparison to the prices of manufactured homes after the construction of the solar farm. We have provided our conclusions from the data below and the following page contains a chart with the data.

Nine Test Area sales and 903 Control Area Sales were identified from Q2 2015 to Q1 2020.

- The Test area sales (ORANGE) are located adjoining to the Barefoot Bay Solar Energy Center.
- The Control area sales (BLUE) are located in the remainder of the Barefoot Bay subdivision.

The dotted lines are polynomial trend lines plotted by Microsoft Excel in order to illustrate and approximate the "average" trend of each set of data. After construction of the solar farm, in parallel with the improving economic climate, it appears that unit prices for both the test and control areas appreciated at a similar rate over the period from Q2 2015 to Q1 2020. A difference in appreciation rates does not appear to exist between homes in the Test Area versus homes in the Control Area.

Sale prices of manufactured homes after the construction of the solar farm exhibit a similar appreciation trend as sales prior to the solar farm announcement. Overall, our findings indicate that there is not a consistent and measurable difference that exists in association with proximity to a solar farm.

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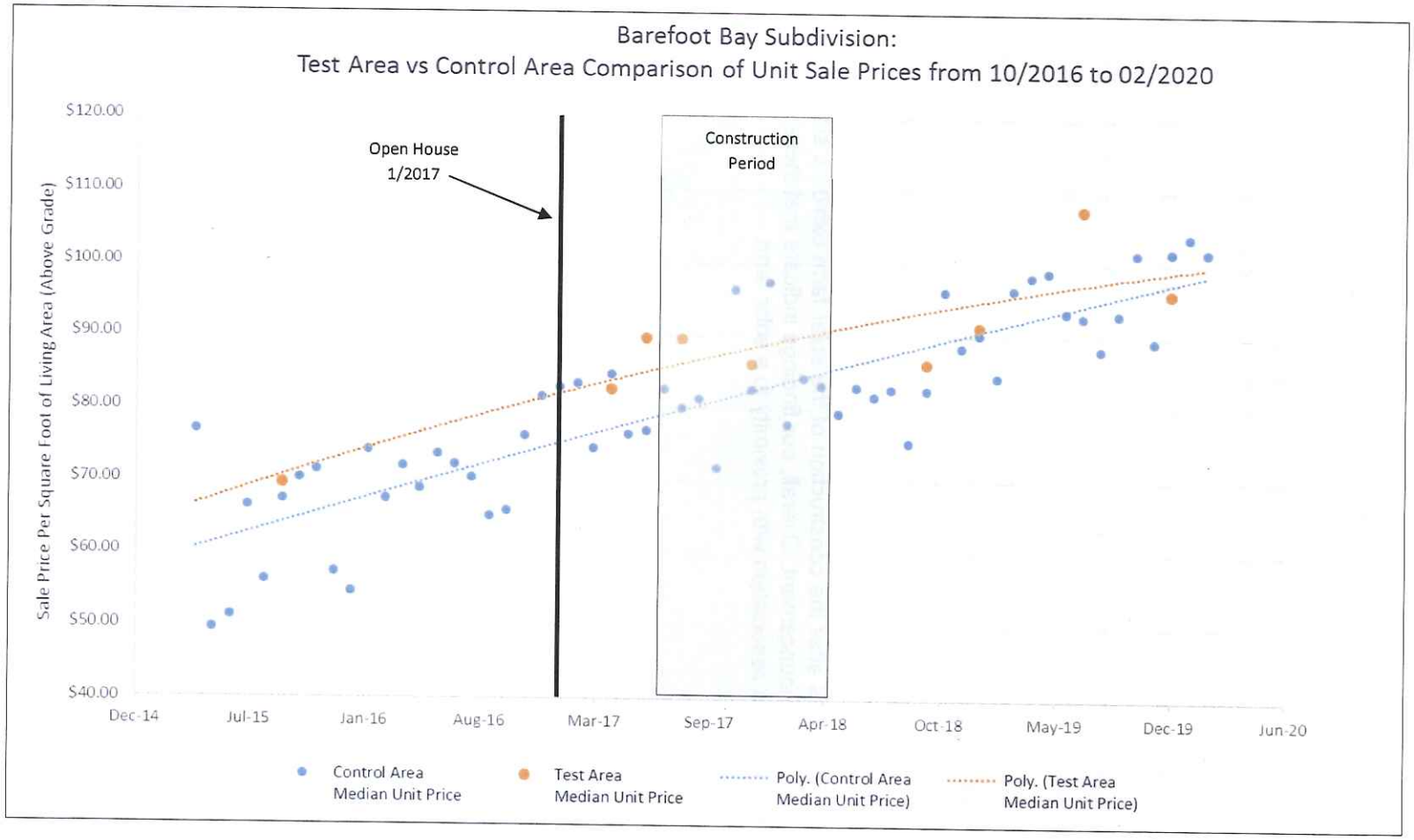

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SOLAR FARM 6: INNOVATIVE SOLAR 42, BLADEN AND CUMBERLAND COUNTIES, NC

Coordinates: Latitude 34.847627, Longitude -78.877360

Cumberland County PIN: 0339-67-3814

Bladen County PINs: 033900553698, 033900751483, 033900658763

Population Density (2019): 501 people per square mile (Largest City = Fayetteville, Cumberland Cty)
(2018): 40 people per square mile (Largest City = Elizabethtown, Bladen Cty)

Total Land Size: 414 acres

Date Project Announced: May 2014

Date Project Completed: September 2017

Output: 71 MW AC

Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

Innovative Solar Farm 42 was developed by Innovative Solar Systems and became operational in September 2017. There are over 271,000 solar arrays on the farm that can generate power for approximately 12,000 homes.

Innovative Solar Farm 42 is located in unincorporated Bladen and Cumberland Counties, in North Carolina, approximately 17 miles south of Fayette, North Carolina and 21 miles north of Elizabethtown, North Carolina. The county line bisects the solar farm, with Cumberland County on the north side and Bladen County on the south side. Innovative Solar Farm is located just south of County Line Road in Cumberland County and approximately one mile west of North Carolina Highway 87.

The Immediate Area: The solar farm is surrounded by residential land to the north, residential and forest land to the west, and agricultural and forest land to the south and east.

Landscaping: The solar farm is buffered from the residences along County Line Road with a chain link fence, and tree plantings. The solar farm is clearly visible.

Prior Use: Agricultural use

Real Estate Tax Info: The chart below shows the increase from 2017 (before construction) to 2018 (after construction) in the assessed value of the parcels and the total real estate taxes.

PIN	Acres	2017 Taxes Paid	2018 Taxes Paid	Tax Increase	2017 Assessed Value	2018 Assessed Value	Value Increase
Cumberland County, NC							
0339-67-3814	261.39	$ 5,263	$ 37,699	616%	$ 541,500	$ 3,920,850	624%
Bladen County, NC							
33900553698	82.48	$ 920	$ 947	2.96%	$ 108,870	$ 108,870	0.00%
33900751483	17.92	$ 234	$ 241	2.96%	$ 27,690	$ 27,690	0.00%
033900658763	52.20	$ 622	$ 640	2.96%	$ 73,600	$ 73,600	0.00%
TOTAL	**413.99**	**$ 7,039**	**$ 39,527**	**462%**	**$ 751,660**	**$ 4,131,010**	**450%**

Paired Sale Analysis:

We found two Adjoining Properties that qualified for a paired sales analysis: Adjoining Property 11 and Adjoining Property 2. Adjoining Property 2 was a speculative construction home built after the completion of the solar farm (see further discussion in the Solar Farm Factors in Harmony of Use section). The map on the following page displays the parcels adjoining to the solar farm panels (outlined in red), these parcels are numbered for subsequent analysis. Note, that the GIS map views do not have updated aerial imagery that display the solar panels in the image on the following page.

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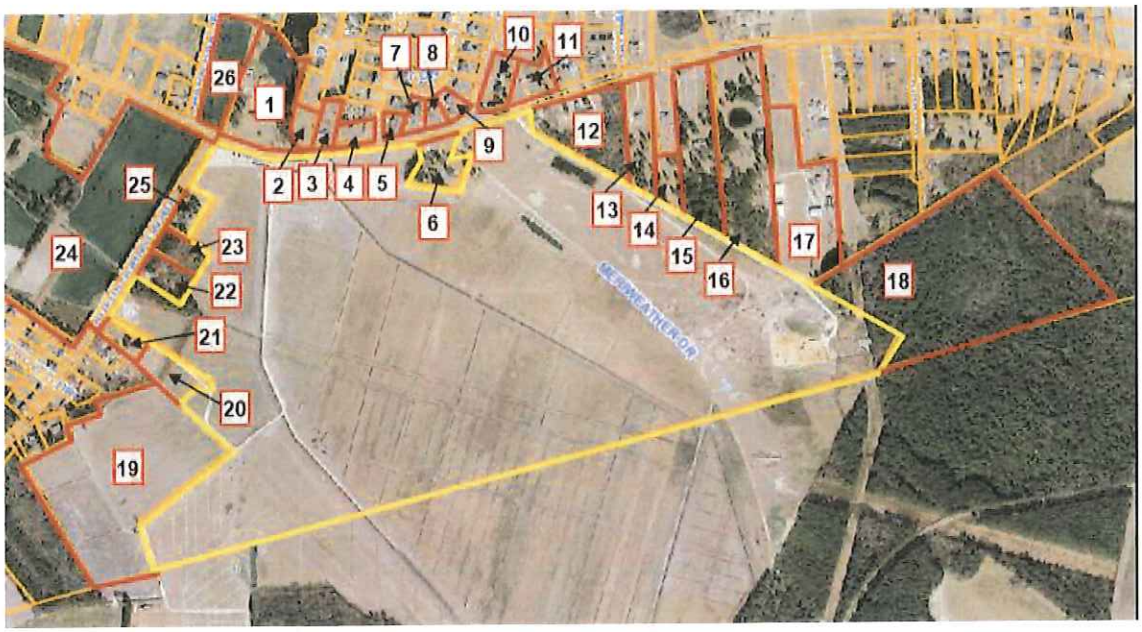
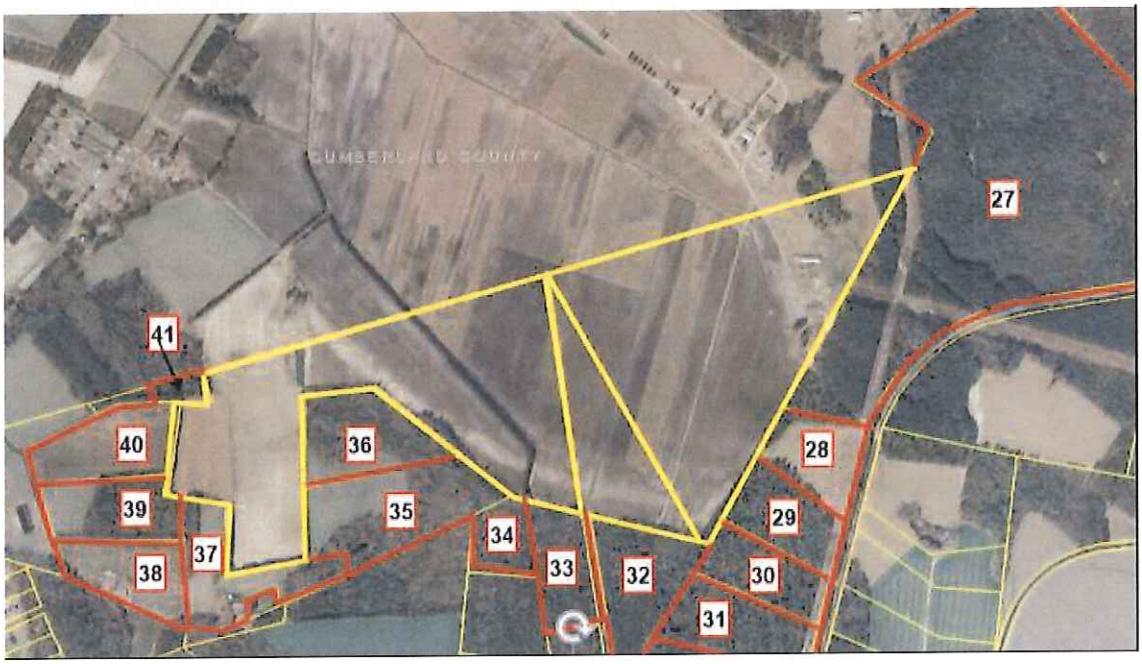
Cumberland County Map



Innovative Solar 42 - Adjoining Properties

Bladen County Map



Innovative Solar 42 - Adjoining Properties

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Group 1

Adjoining Property 11 was considered for a paired sales analysis, and sold during the construction period of the solar farm. The property was analyzed as a single-family home use.

The Control Area Sales were 1-story homes, with three bedrooms and two or three bathrooms with comparble sizes that sold within a reasonable time frame. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Innovative Solar 42 – Group 1e are presented below.

CohnReznick Paired Sale Analysis Innovative Solar 42 Group 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$107.09
Control Area Sales (7)	No: Not adjoining solar farm	$100.18
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**6.91%**

The Test Area Sale sold after 71 days on market (2-3 months), while the Control Area Sales ranged from 1 day on market to 175 days on market (0-6 months), with a median of 116 days on market. We note ***no negative marketing time differential.***

Noting no negative price differential, with the Test Area Sale having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales, it does not appear that the Innovative Solar 42 energy use had any negative impact on adjacent property values.

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Group 2

Adjoining Property 2 was considered for a paired sales analysis, and sold after completion of the solar farm. We discussed this sale with the listing broker, Kevin Grullon, who said the solar farm did not impact the sales price nor the marketing time.

The Control Area Sales were 2-story homes, with three and four bedrooms and two to four bathrooms with comparble sizes that sold within a reasonable time frame. We excluded sales that were bank-owned, and those between related parties. For Adjoining Property 2, we analyzed seven Control Area Sales.

Control Area Sales were adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Innovative Solar 42 – Group 2 are presented below.

CohnReznick Paired Sale Analysis Innovative Solar Group 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$111.77
Control Area Sales (7)	No: Not adjoining solar farm	$105.34
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**6.10%**

The Control Area Sales ranged from 13 days on market to 225 days on market (0-8 months), with a median of 46 days on market. The Test Area Sale sold after 153 days on market (3-4 months) and it was listed during construction, which explains the above average time on market since closing can only occur after the home had been completed.

Noting no negative price differential, with the Test Area Sale having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales, it does not appear that the Innovative Solar 42 energy use had any negative impact on adjacent property values.

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SOLAR FARM 7: RUTHERFORD FARM, RUTHERFORD COUNTY, NC

Coordinates: Latitude 35.257778, Longitude -81.830560

PIN: 1556-31-0185

Population Density (2018): 120 people per square mile (Largest City = Forest City)

Total Land Size: 489 acres

Date Project Announced: November 24, 2015

Date Project Completed: December 2016

Output: 61 MW AC

Aerial imagery retrieved from Google Earth

Overview and Surrounding Area:

The Rutherford Farm Solar use is located in unincorporated Rutherford County, North Carolina. The solar farm was developed by Cypress Creek Renewables and became operational in December 2016. Southern Power

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and Turner Renewable Energy purchased the solar facility on July 8, 2016. The solar farm has over 289,000 solar modules that can generate power for approximately 12,000 homes.

The Rutherford Farm solar use is approximately 7 miles southeast of Forest City, in Rutherford County, in southwestern North Carolina. The solar facility is situated approximately 3 miles northeast of the intersection of Chase High Road and US 221, a major thoroughfare that traverses the county.

The Immediate Area:

Surrounding land uses consists of residential and forest land to the north, forest and commercial to the east, vacant and forest land to the south. All of the adjacent land parcels to the solar farm are used for agricultural or residential purposes.

The solar farm has a hedge buffer along portions of the farms where the residential development is closest. Along all solar panels areas adjacent to residential, a row of trees buffers the view of the panels.

Prior Use: Wooded

Real Estate Tax Information:

Prior to development of the solar farm, the assessed value of the property was $466,200 and ownership paid $3,156 in taxes. In 2018, after the completion of the solar farm, the assessed value of the solar farm property increased to $1,075,800 and taxes increased to $7,391, a 131 percent increase in tax revenue.

PIN	Acres
Rutherford County 1556-31-0185	488.84
TOTAL	488.84

2016 Taxes Paid	2018 Taxes Paid	Tax Increase
$ 3,203	$ 7,391	131%
$ 3,203	$ 7,391	131%

2016 Assessed Value	2018 Assessed Value	Value Increase
$ 466,200	$ 1,075,800	131%
$ 466,200	$ 1,075,800	131%

Paired Sale Analysis:

In reviewing adjoining properties to study in a Paired Sale Analysis, seven properties and sales were considered in total but six were eliminated from further consideration as discussed below.

The map on the following page displays the Adjoining Properties (outlined in red) to the solar farm parcel (outlined in yellow). Properties adjoining this parcel are numbered for subsequent analysis.

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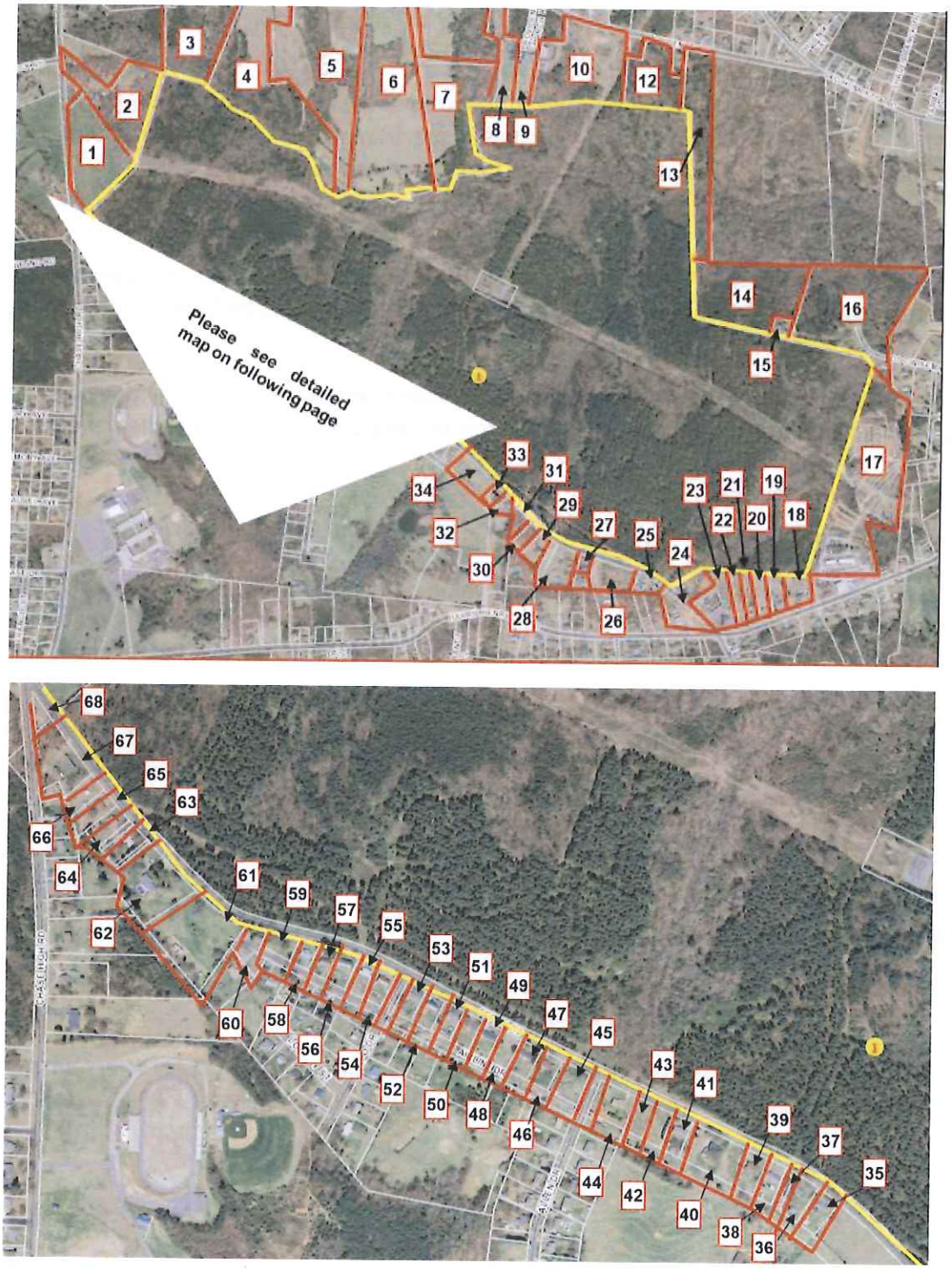

Rutherford Farm Solar - Adjoining Properties

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Five Adjoining Properties (21, 22, 36, 56, and 57) were eliminated from further consideration because they were sales with no recorded sales value or property transfers in off-market transactions. Adjoining Property 2 was a transfer between related parties. Adjoining Property 55 sold in October 2020; however, this property is a duplex with one two-bedroom unit rented. We were not able to locate sales of other duplex properties in the surrounding area that are comparable to the property. As additional duplex sales occur, we will monitor and generate a paired sale analysis for this property at a later date.

We found one Adjoining Property that qualified for a Paired Sale analysis. Adjoining Property 46, the Test Area Sale, was considered for a paired sales analysis. The property was analyzed as a single-family home use. It should be noted that this sale occurred after announcement but prior to construction of the solar farm. We spoke with the selling broker for this property, Brent Washburn, who confirmed that the solar farm had not been constructed at the time of sale, and *said the announcement had no impact on the sale.*

Adjoining Property 46 was considered for a paired sales analysis, and we analyzed this properties as single-family home use. The improvements on this property are located 139 feet to the nearest solar panel.

Test Area Sale Rutherford Farm Solar									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
46	434 Ferry Rd	$85,000	0.41	3	2.0	1977	1,590	Jan-16	$53.46

We analyzed six Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages, use that were not located in close proximity to the solar farm, that also sold within a reasonable time frame from the median sale date of the Test Area Sale. The Control Area Sales are one-story homes with 3 bedrooms and one to two bathrooms. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression to identify the appropriate monthly market conditions adjustment. The results of our analysis for the Rutherford Farm solar facility are presented on the next page.

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CohnReznick Paired Sale Analysis Rutherford Farm Solar		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$53.46
Control Area Sales (6)	No: Not adjoining solar farm	$52.49
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**1.85%**

Noting no significant price differential, with the Control Area Sales having a slightly lower median unit sale price than the unit sale price of the Test Area Sale, it does not appear that the Rutherford Farm Solar energy use had any negative impact on adjacent property values.

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SOLAR FARM 8: ELM CITY SOLAR FACILITY, WILSON COUNTY, NC

Coordinates: Latitude 35.781111, Longitude -77.846940

PINs: 3744-33-6758.01, 3744-11-9000.000

Population Density (2019): 221 people per square mile (Largest City = Wilson)

Total Land Size: 354 acres

Date Project Announced: September 2014

Date Project Completed: July 2012

Output: 40 MW AC

Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Elm City Solar use is located in Elm City, North Carolina. Duke Energy owns the solar facility and selected HelioSage Energy to develop it. The solar farm went into operation in March 2016 and can generate power for approximately 7,000 homes. Nearly a half million solar panels comprise the farm.

Wilson County is located in central North Carolina. The county is primary rural in nature, with the city of Wilson being the county seat. Elm City is actually a town with a population of less than 1,200. The Elm City Solar Farm is located to the southeast of Elm City, approximately a third of a mile to the east of State Highway 301. Surrounding land uses consist of residential and forest land to the north; forest and agricultural land to the east; vacant, forest, and residential land to the south; and residential, industrial, vacant, and forest land to the west.

The Immediate Area:

All of the adjacent land parcels to the solar farm are used for agricultural, residential, and/or industrial purposes.

Landscaping: The Elm City Solar Farm is buffered from the adjoining residential lots with a fence and tree plantings.

Prior Use: Agricultural use

Real Estate Tax Info: In 2016, prior to the property being assessed as a solar farm, the assessed value of the property was $206,220 and ownership paid $2,805 in real estate taxes. In 2017, the assessed value increased to $1,779,830 and the real estate tax increased to $24,206.

PIN	Acres	2016 Taxes Paid	2017 Taxes Paid	Tax Increase	2016 Assessed Value	2017 Assessed Value	Value Increase
Wilson County							
3744119000.000	249.00	$ 2,805	$ 14,624	421%	$ 206,220	$ 1,075,330	421%
3744336758.01*	105.00	$ 1,494	$ 9,581	541%	$ 117,881	$ 704,500	498%
TOTAL	**354.00**	**$ 4,298**	**$ 24,206**	**463%**	**$ 324,101**	**$ 1,779,830**	**449%**

** This parcel was split from it's parent prior to construction. The 2016 Assessed Value is based on the pro-rata amount for the entire 471.53 acre parent parcel.*

Paired Sale Analysis:

The map on the following page displays the parcels adjoining the solar farm (outlined in red). Properties adjoining the solar parcels are numbered for subsequent analysis.

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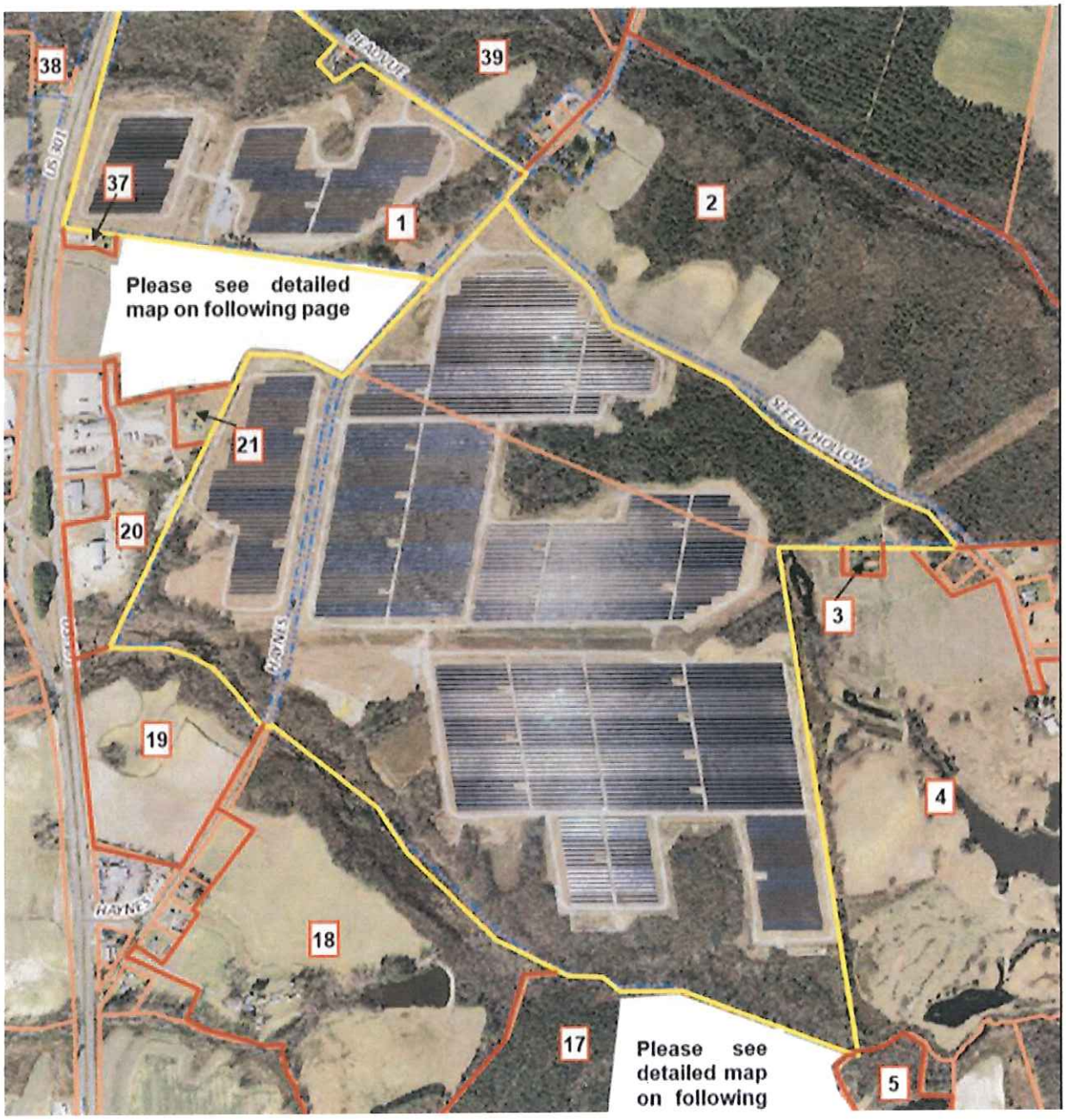

Elm City Solar - Adjoining Properties

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Elm City Solar - Adjoining Properties

Elm City Solar - Adjoining Properties

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Adjoining Property 23 (Test Area Sale) was considered for a paired sales analysis, which sold after development of the solar farm. The property was analyzed as a single-family home use. We discussed this sale with Selby Brewer with First Wilson Properties, Inc who sold the property. He said the buyers "did not even mention" the solar farm, and he saw ***no market difference.***

For Adjoining Property 23, we analyzed eight Control Area Sales that sold within a reasonable time frame from the sale date of Adjoining Property 23. The Control Area Sales are ranch homes with three bedrooms and one and two bathrooms. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Elm City Solar is presented below.

CohnReznick Paired Sale Analysis Elm City Solar		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$56.60
Control Area Sales (8)	No: Not adjoining solar farm	$55.57
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**1.85%**

Noting no negative marketing time differential, the days on market for the Test Area Sale was 38 days (0-1 month), while the Control Area Sales ranged from five to 204 days on market (0-8 months).

Noting no negative price differential, it does not appear that the Elm City Solar impacted the sales price of the Test Sale, Adjoining Property 23. This was confirmed by the real estate agent who marketed and sold this home.

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SOLAR FARM 9: WOODLAND SOLAR FARM, ISLE OF WIGHT COUNTY, VA

Coordinates: Latitude 36.890000, Longitude -76.611000

PINs: 41-02-004, 41-02-001, 41-02-001A, 41-02-005

Population Density (2018): 97 people per square mile (Largest City = Smithfield)

Total Land Size: 211.12 acres

Date Project Announced: August 4, 2015

Date Project Completed: December 2016

Output: 19.0 MW AC

Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Woodland Solar Farm is located in unincorporated Isle of Wight County, Virginia, and was developed by Dominion Virginia Power in 2016. This solar farm has a capacity of 19.0 Megawatts (MW) AC of power, which is enough to power 4,700 homes. The solar farm sits on 204 acres, part of Oliver Farms, a 1,000-acre site that was chosen for its flat land and proximity to power lines. The land under the solar arrays was previously farmed and used to grow broccoli, collards, peas, strawberries and butter beans. The solar installation includes 79,648 solar panels and was one of the largest of its kind at the time of construction.

Isle of Wight County is in the southeast part of Virginia and has shoreline along the James River on its eastern border. The county is predominantly rural and has two incorporated towns, Smithfield and Windsor. The Woodland Solar facility is approximately 27 miles northwest of Norfolk, Virginia, across the Elizabeth River and the Nansemond River. The solar site is also approximately 21 miles southwest of Newport News, Virginia. The town of Smithfield is approximately nine miles northeast of the solar facility and the town of Windsor is approximately 12 miles southwest. The solar facility is near the intersection of State Route 600 (Oliver Drive) and State Route 602 (Longview Drive).

The Immediate Area:

Land uses surrounding the Woodland Solar facility include forests and agricultural land to the north, west, and south, and residential and farmland to the east.

Landscaping around the solar site consists of the naturally occurring vegetation and forests. It should be noted that the landowner that leases the land to the developer has agricultural buildings and other structures along Longview Drive and the nearest solar panels are approximately 220 feet from the property line.

Prior Use: Agricultural use

Real Estate Tax Info: In 2015, prior to the property being assessed as a solar farm, the assessed value of the property was approximately $542,200 and ownership paid $4,609 in real estate taxes (see below). In 2016, the assessed value increased to $3,021,600 and the real estate tax increased to $27,844.

PIN	Acres	2015 Taxes Paid	2016 Taxes Paid	Tax Increase	2015 Assessed Value	2016 Assessed Value	Value Increase
Isle of Wight County, VA							
41-02-004	107.32	$ 2,250	$ 15,985	610%	$ 264,700	$ 1,728,100	553%
41-02-001	62.66	$ 1,369	$ 8,601	529%	$ 161,000	$ 939,900	484%
41-02-001A	8.08	$ 230	$ 1,193	420%	$ 27,000	$ 110,700	310%
41-02-005	33.06	$ 761	$ 2,065	171%	$ 89,500	$ 242,900	171%
TOTAL	**211.12**	**$ 4,609**	**$ 27,844**	**504%**	**$ 542,200**	**$ 3,021,600**	**457%**

Paired Sale Analysis:

The map below displays the Adjoining Properties to the solar farm (outlined in red). Properties adjoining the solar farm parcels are numbered for subsequent analysis.

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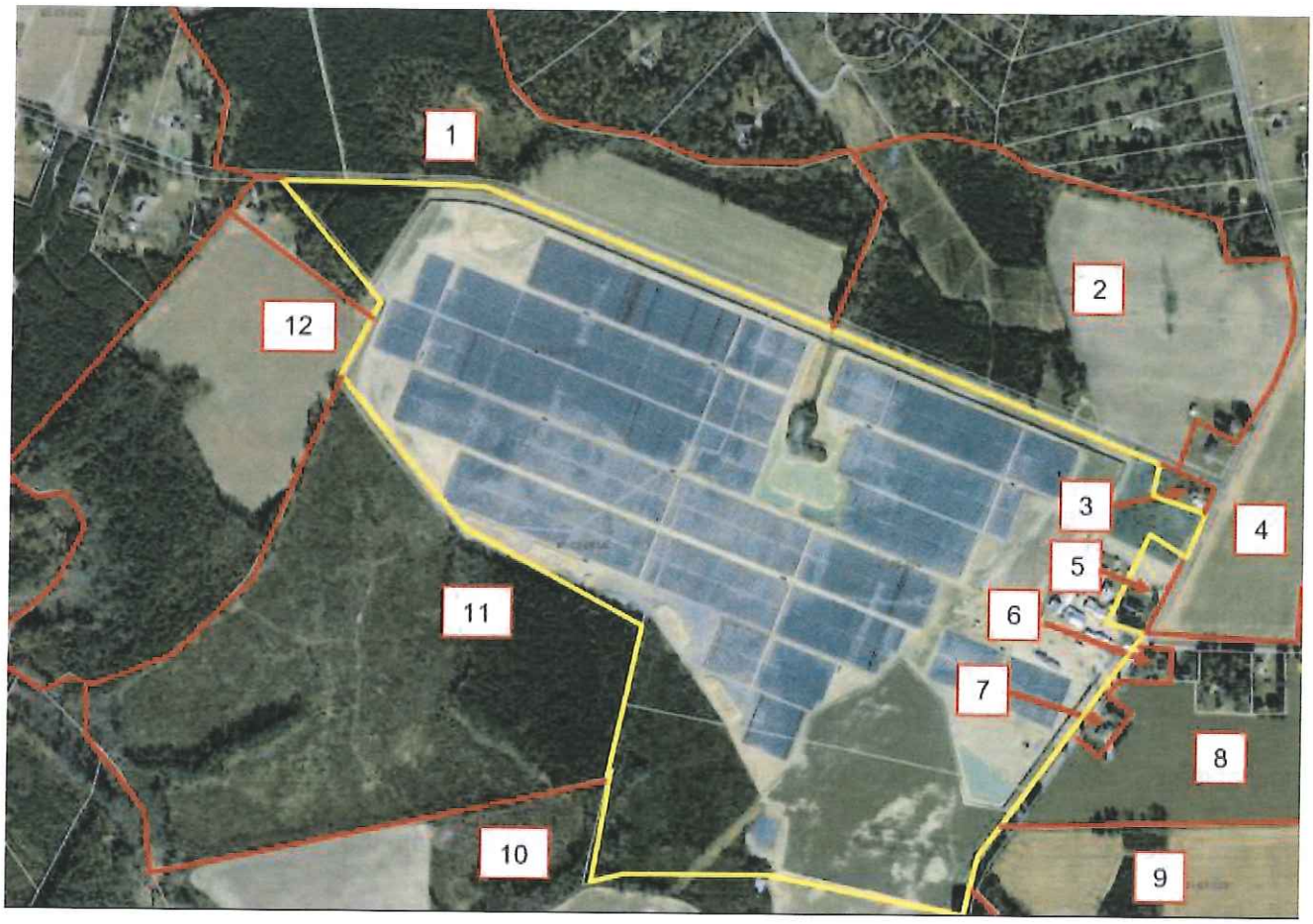

Woodland Solar - Adjoining Properties

In reviewing Adjoining Properties to study in a Paired Sale Analysis, several properties and sales were considered but eliminated from further consideration as discussed below.

We identified three Adjoining Properties that sold since the solar farm started operations in December 2016: Adjoining Property 3, and two parcels included in Adjoining Property 5. The two properties that were considered part of Adjoining Property 5, sold between related parties, and were sales between family members of the land lessor for the solar site. These two sales were excluded from further analysis.

Adjoining Property 3 was considered for a paired sales analysis, and we analyzed this property as single-family home use. The improvements on this property is located approximately 600 feet to the nearest solar panel.

Test Area Sale - Adjoining Property 3									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median GLA (SF)	Median Sale Date	Median Price PSF
3	18146 Longview Drive	$175,000	1.00	3	1	1978	1,210	Jun-16	$144.63

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We analyzed five Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the median sale date of the Test Area Sale. The Control Area Sales one-story homes with three bedrooms and one and two bathrooms. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Woodland Solar Farm is presented below.

CohnReznick Paired Sales Anaysis Woodland Solar Farm Adjoining Property 3		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Yes: Adjoining solar farm	$144.63
Control Area Sales (5)	No: Not adjoining solar farm	$137.76
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**4.99%**

The difference between the unit price of the Test Area Sale and the Adjusted Median Unit Price of the Control Area Sales is considered within the range for a typical market area.

Noting no negative marketing time differential, the Test Area Sale sold in 33 days (1-2 months), while the Control Area Sales sold between 17 and 37 days (0-2 months), with a median time on market of 28 days.

Noting no negative price differential, with the Test Area Sale having a higher unit sale price than the Control Area sales, it does not appear that the Woodland Solar Farm had any negative impact on adjacent property values.

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SOLAR FARM 10: DTE'S LAPEER SOLAR PROJECT, LAPEER, MICHIGAN

Coordinates: Latitude 43.0368219316, Longitude -83.3369986251

PINs: L20-95-705-050-00, L20-98-008-003-00

Population Density (2020): 137 people per square mile (Largest City = Lapeer)

Owner of Record: DTE Electric Company & City of Lapeer

Total Land Size: ±365 Acres

Date Project Announced: 2016

Date Project Completed: May 2017

Output: 48.28 MW AC

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Overview and Surrounding Area:

The DTE Lapeer solar farm is located just south of the City of Lapeer, in Lapeer County, Michigan and is a joint project between the City of Lapeer and DTE Electric Company. The solar farm was developed with Inovateus Solar MI, LLC to meet Michigan renewable energy standards. The solar farm features over 200,000 panels, a power output of 48.28 MW AC, and produces enough energy to power 14,000 homes. The Lapeer solar project was developed in two phases: the Demille Solar installation and the Turrill Solar installation. For purposes of our study, taken together, both installations are considered one solar farm.

DTE's Lapeer Solar Projects Demille and Turrill Solar installations

Lapeer is considered to be in the Tri-Cities area of central Michigan and is approximately 21 miles east of the City of Flint. Interstate-69 serves Lapeer and runs east-west just south of the solar farm. The two phases of the solar installation are on the east and west sides of Michigan State Route 24 from each other.

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The Immediate Area:

Land uses surrounding the Demille installation include a correctional facility and industrial uses to the west, buffered by a mature stand of trees, a retail center to the northeast, other commercial uses to the east along MI-24/South Lapeer Road, and residential homes to the southeast. Interstate-69 runs south of the Demille solar installation.

The Turrill installation is surrounded to the north by a residential subdivision, to the north and east by industrial uses, to the south by vacant land and residential homes, and to the west by light commercial and professional uses along MI-24/South Lapeer Road. Hunter's Creek divides two sets of solar arrays in the Turrill installation.

The Demille installation adjoins Interstate-69 to the South; while a residential subdivision adjoins the solar farm to the east. To the northeast corner of the solar panels is a senior living facility, Stonegate Health Campus, developed before the solar facility.

Prior Use: Agricultural use

Real Estate Tax Information:

Prior to the development of the solar farm, the land under the Demille and Turrill solar installations were municipal-owned and were not subject to property tax. After development, in 2017, the land became taxable and taxes were $82,889 total, as shown below.

PIN	Acres	2016 Taxes Paid	2017 Taxes Paid	Tax Increase	2016 Assessed Value	2017 Assessed Value	Value Increase
Lapeer County, MI							
L20-98-008-003-00*	110.84	$ -	$ 34,294	N/A	$ -	$ 726,700	N/A
L20-95-705-050-00*	254.84	$ -	$ 48,595	N/A	$ -	$ 1,029,750	N/A
TOTAL	**365.68**	**$ -**	**$ 82,889**	**N/A**	**$ -**	**$ 1,756,450**	**N/A**

* Prior to development as a solar farm, the parcels were municpal property without a taxable value.

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Paired Sale Analysis:

The maps, below, and on the following pages display properties adjoining the solar sites that are numbered in red for subsequent analysis.

Demille Solar Farm

DTE's Lapeer Solar Projects - Demille Adjoining Properties

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DTE's Lapeer Solar Projects - Demille Adjoining Properties

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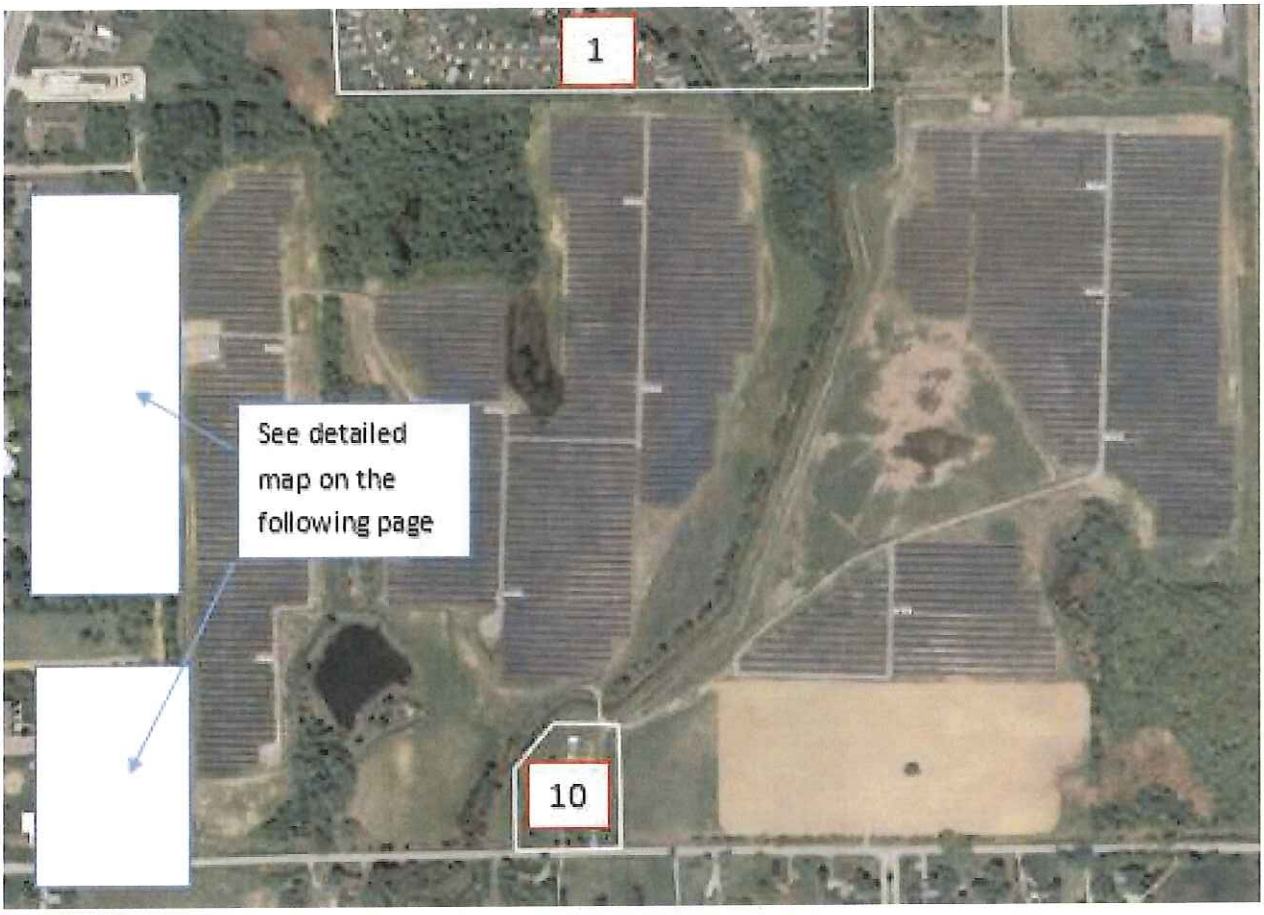
Turrill Solar Farm



DTE's Lapeer Solar Projects - Turrill Adjoining Properties

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DTE's Lapeer Solar Projects - Turrill Adjoining Properties

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In reviewing Adjoining Properties to study in a Paired Sale Analysis, several properties and sales were considered but eliminated from further consideration as discussed below.

We identified eight Adjoining Properties that sold since the solar farm started operations in May of 2017: Adjoining Properties 3, 4, 7, 9, 10, and 16 for the Demille Solar Farm, and Adjoining Properties 3 and 4 for the Turrill Solar Farm. Of these properties, three were considered atypical for the area.

Adjoining Property 7 adjacent to the Demille Solar farm is a split-level home with a finished walk out basement with a pool. The typical home in the area has a traditional basement and pools are atypical. The unusual nature of this sale was confirmed with the selling broker, Renee Voss (see comments below). We note that this home sold twice after the construction of the solar farm, once in September 2018 and again in August 2019. The appreciate rate between the two sale dates are analyzed further later in this section.

Adjoining Property 16 just south of the Demille Solar Farm is a 10.1-acre lot that is buffered by trees. The home is atypical for the area, as most homes are situated on lots between 1-acre and 1.5-acres in size and were built before 1980; this home was built in 2008. We interviewed the broker Josh Holbrook (see comments below) who confirmed the atypical nature of this property.

Adjoining Property 3, just west of the Turrill Solar Farm, was a ranch home with 1,348 square feet on a lot that was just over one acre. Comparables for homes of this size, type, and lot size were not available in the immediate market area. It should be noted that the price per square foot for this home ($108.01) is significantly higher than median price per square foot of either data set we studied.

As a part of our research, we interviewed three local real estate brokers that sold homes adjacent to the Lapeer Solar farm. According to the brokers, there was no impact on the home prices or marketability due to the homes' proximity to the solar arrays.

Renee Voss of Coldwell Banker, selling broker of the raised ranch at 1138 Don Wayne Drive (Adjoining Property 7), which is adjacent to the Demille solar farm at the southeast corner, noted that there was no impact on this sale from the solar farm located to the rear. The home, which has a pool in the backyard, sold quickly with multiple offers, Voss stated.

Josh Holbrook, the selling broker of 1408 Turrill Road (known as Adjoining Property 16), located just south of the Demille Solar Farm, said the solar farm had no impact on the sale and that the community takes pride in the solar farm.

Anne Pence of National Realty Centers, the selling broker for 1126 Don Wayne Drive, a single-family home adjacent to the Demille solar farm (known as Test Area Sale 9), reported that "the solar farm did not have any effect on the sale of this home. The buyers did not care one bit about the solar field in the back yard. The fact is that you know no one is going to be behind you when they develop a solar farm in your back yard. And [sometimes the developer] put up trees to block the view. My in-laws also actually live at end of that street, even though they haven't sold or put their house on market, they don't mind the solar panels either. It's not an eyesore. And another house sold on that block, a raised ranch home, and it sold with no problems."

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Group 1 – Demille:

Adjoining Properties 3, 4, and 9 to the Demille Solar Farm were considered for a paired sales analysis, and we analyzed these properties as single-family home uses in Group 1. The improvements on these properties are located between 275 to 305 feet to the nearest solar panel.

Test Area Sales Group 1 - Demille Solar									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
3, 4, 9	1174 Alice Dr, 1168 Alice Dr, 1126 Don Wayne Drive	$165,000	0.50	3	2.0	1973	1,672	Jan-19	$105.26

We analyzed six Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the median sale date of the Test Area Sales in Group 1. The Control Area Sales for Group 1 are ranch homes with three bedrooms and one and a half to two bathrooms. We excluded sales that were bank-owned, and those between related parties.

Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our analysis for DTE's Lapeer Solar Project - Group 1 is presented below.

CohnReznick Paired Sale Analysis DTE Lapeer Solar Group 1 - Demille Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (3)	Adjoining solar farm	$105.26
Control Area Sales (6)	No: Not adjoining solar farm	$99.64
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**5.65%**

The days on market for the three Test Area Sales had a median of 29 days on market (ranging from 5 to 48 days), while the median days on market for the Control Area sales was 21 days (ranging from 5 to 224 days), ***and we note no significant marketing time differential.***

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Group 2 – Demille:

Adjoining Property 10 to the Demille Solar Farm was considered for a paired sales analysis, and we analyzed this property as a single-family home use in Group 2. The improvements on this property is located approximately 315 to the nearest solar panel.

Test Area Sale Group 2 - Demille Solar										
Adj. Property #	Address	Sale Price	Median Site Size (AC)	Bedrooms	Bathrooms	Year Built/Renovated	Square Feet	Other Features	Sale Date	Price PSF
10	1120 Don Wayne Drive	$194,000	0.47	3	2.5	1976/2006	1,700	Above Ground Pool, Two Car Garage	Nov-19	$114.12

We analyzed five Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the median sale date of the Test Area Sales in Group 2. The Control Area Sales for Group 2 are similarly sized homes in Lapeer County with three to four bedrooms and two to three bathrooms, with a pool and an attached garage. We excluded sales that were bank-owned, and those between related parties.

Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our analysis for DTE's Lapeer Solar Project - Group 2 is presented below.

CohnReznick Paired Sale Analysis DTE Lapeer Solar Group 2 - Demille Solar		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$114.12
Control Area Sales (5)	No: Not adjoining solar farm	$113.01
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**0.98%**

The days on market for the Test Area Sales was 90 days on market, while the median days on market for the Control Area sales was 34 days (ranging from 3 to 73 days). We note the Test Area sale was initially listed above its market value, as there was a listing price decline after a month of marketing. We note since the final drop of the list price, there was only 51 days on market, which is within the range exhibited by the Control Area sales.

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Group 3 – Turrill:

Adjoining Property 4 to the Turrill Solar Farm was analyzed separately since it is a two-story home on a larger lot as Group 2. The home on Adjoining Property 4 is 290 feet from the property line to the nearest solar panel.

Test Area Sale Group 3 - Turrill Solar									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
4	1060 Cliff Drive	$200,500	1.30	4	2.5	1970	2,114	Sep-18	$94.84

We analyzed four Control Area single-family homes sales with similar construction that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the sale date of Adjoining Property 4.

The Control Area Sales for Group 3 are 2-story homes with between two and four bedrooms and 2.5 to 3.0 bathrooms. We excluded sales that were bank-owned, and those between related parties.

Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our analysis for DTE's Lapeer Solar Project – Group 3 is presented below.

CohnReznick Paired Sale Analysis DTE Lapeer Solar Group 3 - Turrill Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	$94.84
Control Area Sales (4)	No: Not adjoining solar farm	$96.32
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		-1.53%

The days on market for the Test Area Sale was 2 days, while the median days on market for the Control Area sales was 35 days (ranging from 11 to 177 days), ***and we note no negative marketing time differential.***

Noting no significant price differential, it does not appear that the DTE's Lapeer Solar had any negative impact on adjacent property values.

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Before & After Analysis – Demille Solar Project:

We note two of the Test Area Sales in Group 1 of the Demille Solar project (Adjoining Properties 4 and 9), one sale in Group 2 of the Demille Solar Farm (Adjoining Property 10), as well as Adjoining Property 7 have sold at least twice over the past 15 years. To determine if any of the rates of appreciation for these identified home sales were affected by the proximity to the Demille Solar farm, we prepared a Repeat-Sales Analysis on each identified adjoining property. First, we calculated the total appreciation between each sale of the same property, the number of months that elapsed between each sale, and determined the monthly appreciation rate. Then, we compared extracted appreciation rates reflected in the Federal Housing Finance Agency (FHFA) Home Price Index for Michigan's 48446 zip code (where the identified homes are located) over the same period. The index for zip codes is measured on a yearly basis and is presented below.

48446 Zip Code - Housing Price Index Change (Year over Year) Not Seasonally Adjusted					
Five-Digit ZIP Code	Year	Annual Change (%)	HPI	HPI with 1990 base	HPI with 2000 base
48446	2004	2.02	438.38	206.29	111.35
48446	2005	3.68	454.53	213.89	115.45
48446	2006	-1.76	446.53	210.12	113.42
48446	2007	-6.35	418.17	196.78	106.22
48446	2008	-8.37	383.17	180.31	97.33
48446	2009	-10.62	342.49	161.16	86.99
48446	2010	-8.94	311.86	146.75	79.21
48446	2011	-6.89	290.37	136.64	73.75
48446	2012	0.29	291.22	137.04	73.97
48446	2013	7.27	312.39	147.00	79.35
48446	2014	7.10	334.56	157.43	84.98
48446	2015	5.10	351.63	165.47	89.32
48446	2016	6.10	373.08	175.56	94.76
48446	2017	6.74	398.23	187.39	101.15
48446	2018	5.96	421.96	198.56	107.18
48446	2019	5.74	446.17	209.95	113.33
48446	2020	4.99	468.43	220.43	118.98

We have presented the full repeat sales analysis on the following page.

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Repeat Sales Analysis											48446 Zip Code - FHFA House Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Year of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate
4	1168 Alice Drive	0.46	1,672	10/9/2019	$176,000	12/8/2017	$144,000	22.22%	22	0.92%	446.17	398.23	12.04%	0.52%
4	1168 Alice Drive	0.46	1,672	12/8/2017	$144,000	10/1/1993	$100,000	44.00%	290	0.13%	398.23	238.05	67.29%	0.18%
9	1126 Don Wayne Drive	0.50	1,900	5/21/2018	$160,000	12/21/2007	$119,000	34.45%	125	0.24%	446.17	418.17	6.70%	0.05%
10	1120 Don Wayne Drive	0.47	1,700	11/8/2019	$194,000	10/15/2014	$173,200	12.01%	61	0.19%	446.17	334.56	33.36%	0.47%
7	1138 Don Wayne Drive	0.47	2,128	9/7/2018	$179,900	8/22/2014	$148,500	21.14%	49	0.40%	446.17	334.56	33.36%	0.60%
7	1138 Don Wayne Drive	0.47	2,128	8/28/2019	$191,000	9/7/2018	$179,900	6.17%	12	0.51%	446.17	446.17	0.00%	0.00%
	Median - Test Area Sales	*0.47*	*1,800*							*0.32%*				*0.33%*
	Median - Before/After	*0.49*	*2,019*							*0.21%*				*0.11%*

Conclusion

When compared to the FHFA home price index for the local zip code, the median monthly appreciation rate of the sales of properties adjoining the Demille Solar Farm that sold before construction of the solar farm and again after construction of the solar farm outperformed the median for the zip code, as depicted in the far-right column in the table above (and highlighted in orange). Additionally, the extract appreciation rate for the resales of Adjoining Properties 4 and 7 that sold twice after the solar farm was constructed exhibited higher rates of appreciation than the Home Price Index for the zip code (highlighted in white). As such, we have concluded that there does not appear to be a consistent detrimental impact on properties adjacent to the Demille Solar Farm.

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NEW ROAD SOLAR, MIDDLESEX COUNTY, NEW JERSEY

Coordinates: Latitude 40.403238, Longitude -74.56779

PINs: 1221_96_39.03, 1221_96_39.01, 1221_96_43.01, 1221_96_36

Population Density (2021): 1,112 people per square mile (Largest City = New Brunswick)

Total Land Size: approximately 68 acres

Date Project Completed: June 2018

Output: 10 MW AC

The New Road Solar project is located in the southwest portion of Middlesex County, New Jersey, in South Brunswick Township. The 10 MW AC solar facility became operational in June 2018 and sits on approximately 68 acres. The site was a landfill from 1959 to 1979. From 1982 to 1985, it underwent remediation to rid the area of any hazardous materials. The Superfund site had remained unused until it was redeveloped with the solar facility. Given the length of time between closure of the previous use and the development of the solar facility,

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we believe enough time passed that the market regards the site as a passive, open space use; thus, no original negative influence was perceived to persist that might otherwise taint the study.

The 40,000 solar panels are owned, operated, and maintained by CEV, the renewable energy subsidiary of New Jersey Resources and the project was redeveloped in partnership with CEP Renewables, a firm specializing in remediated sites.

The Surrounding Area: The New Road solar installation is in Kendall Park, a census designated place, in South Brunswick Township. Much of the town of South Brunswick's 42 square miles remain undeveloped and there are still significant amounts of wetlands, woodlands, and open space within the community.

The solar site is approximately nine miles southwest of New Brunswick, nine miles northeast of Princeton and 17 miles from Trenton, the state capital. New Jersey Transit's northeast corridor trains stop in Princeton and a new station is being built in North Brunswick that will take commuters directly into New York City's Penn Station.

The Immediate Area: The immediate area is primarily residential with supporting commercial uses, and there are some industrial warehouse uses to the southeast of the site in Dayton. In neighboring Franklin Township, there is an active quarry approximately four miles southwest of the solar site.

The solar site is on the west side of New Road that runs roughly north-south between NJ-27 and US Route 1. Along New Road is the Kendall Park First Aid and Rescue Squad facility, a preschool, and across the New Road from the solar site is the municipal Woodlot Park with baseball fields, tennis courts and a recreation center.

The solar site is buffered from neighboring residential developments by thick groves of woodlands, as seen in the image on the following page.

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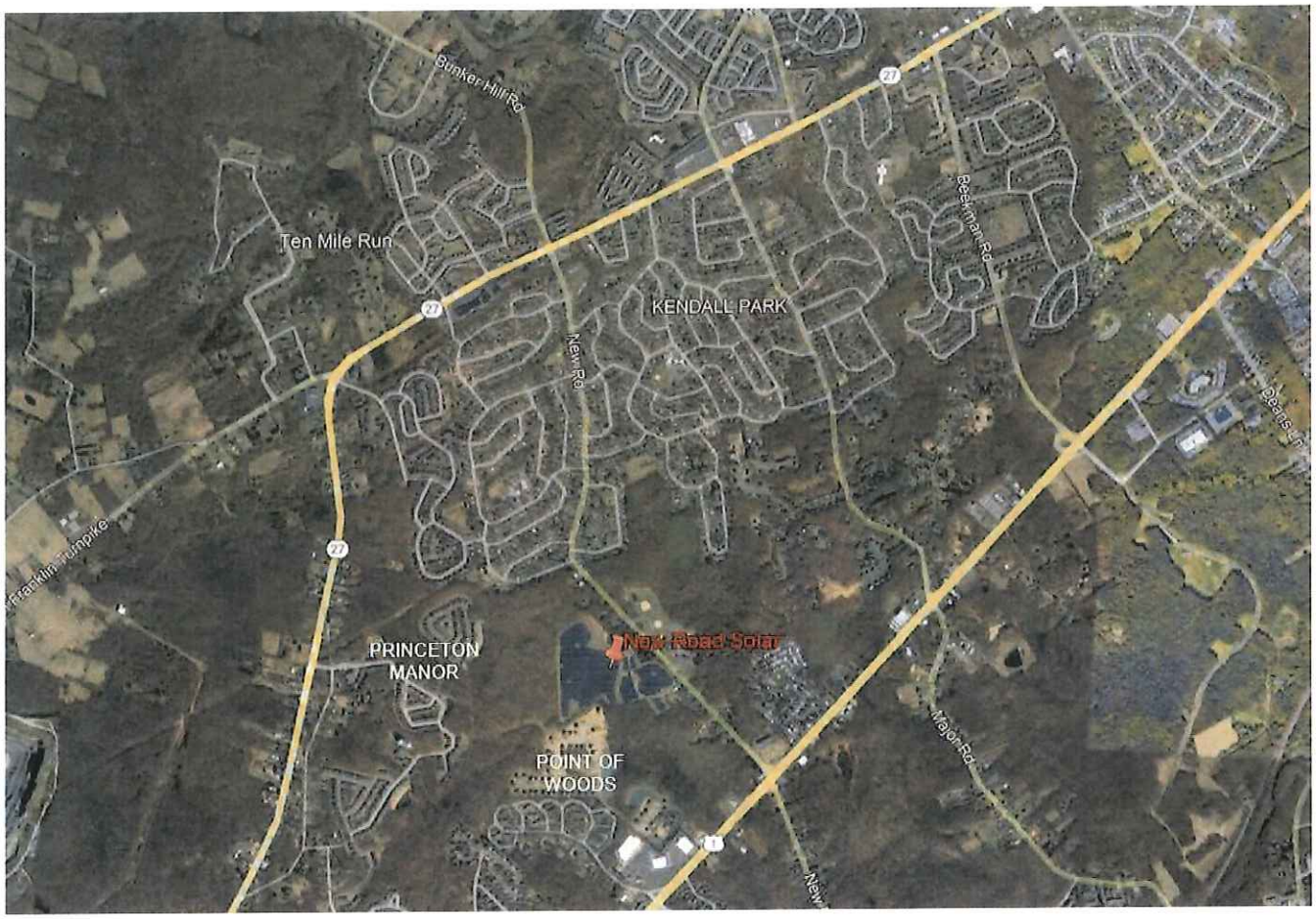

New Road Solar – Overview Map of Surrounding Subdivisions

Kendall Park is a planned residential community of 1,500 houses built between 1956 and 1961, adjacent to the north and northeast of the solar site. The development was built in three stages: the initial development in 1956-67 (between New Road and Sand Hill Road-the middle section), the Constable development in 1959 (south of New Road-the south section), followed by the Greenbrook development (north of Sand Hill Road-the north section) in 1961. The initial development offered two styles of three-bedroom, one and a half bath ranch-style homes, mostly built on one third-acre lots. The subsequent sections offered a wider selection of styles, including four-bedroom ranches and four-bedroom colonial-style homes. The development of Kendall Park doubled the population of South Brunswick Township and marked the beginning of its transformation from a rural farming area to a suburban bedroom community. Several other nearby tracts developed after Kendall's original development are also part of the Census Designated Place known as Kendall Park.

National homebuilders, Toll Brothers, developed the luxury active adult age restricted community (55+) of single family homes to the west of the solar site, called Princeton Manor. Sales of the 349-home community started in 2006 and the last homes, closest to the solar site, were built circa 2015-2017. Home models range from 1,814

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to 2,821 square feet, and some homes had an additional basement option. The community includes an 11,000 square foot clubhouse with spa facilities, bocce and tennis courts, billiards, an outdoor swimming pool and spa, and jogging and bicycle trails. The homeowner's association handles exterior maintenance of homes and mows lawns and handles snow removal for all homes. Monthly homeowner's fees are in the $300s.

Point of Woods is a luxury home subdivision of 72 single family homes built in the last several years by the Kaplan Companies that is adjacent to the solar site to the south. The community has homes with four different floorplans. The houses feature four or five bedrooms, three or four bathrooms, two- or three-car garages and full basements, as well as custom options. Floorplans range from 3,638 to 4,291 square feet of above grade living space and prices ranged from $900,000 to recent home sales of over $1.3 million.

The homes in the Point of Woods subdivision that are the closest to the solar site there are approximately 150 to 250 feet between the homes and the panels.

The detailed descriptive data on the homes backing to the solar site that details square footage and bedrooms and bathrooms is not publicly available and was not able to be obtained from the developer. The homes were not listed on the Multiple Listing Service (MLS) at the time of sale; therefore, we could not reliably conduct a paired sale analysis on them. However, in public recording documents the sale prices for the five homes sold adjacent to the solar site, since development of the solar facility, range from $998,778 to $1,336,613. Given the difficulty in obtaining the official home and lot sizes of the recent sales within the Point of Woods subdivision, we have not performed a paired sales analysis of these homes. However, we do note the relatively large sale prices of the homes in this subdivision are approximately 150 to 250 away from solar panels.

Real Estate Tax Information: The solar farm is located on municipal government owned land and is not subject to real estate taxation.

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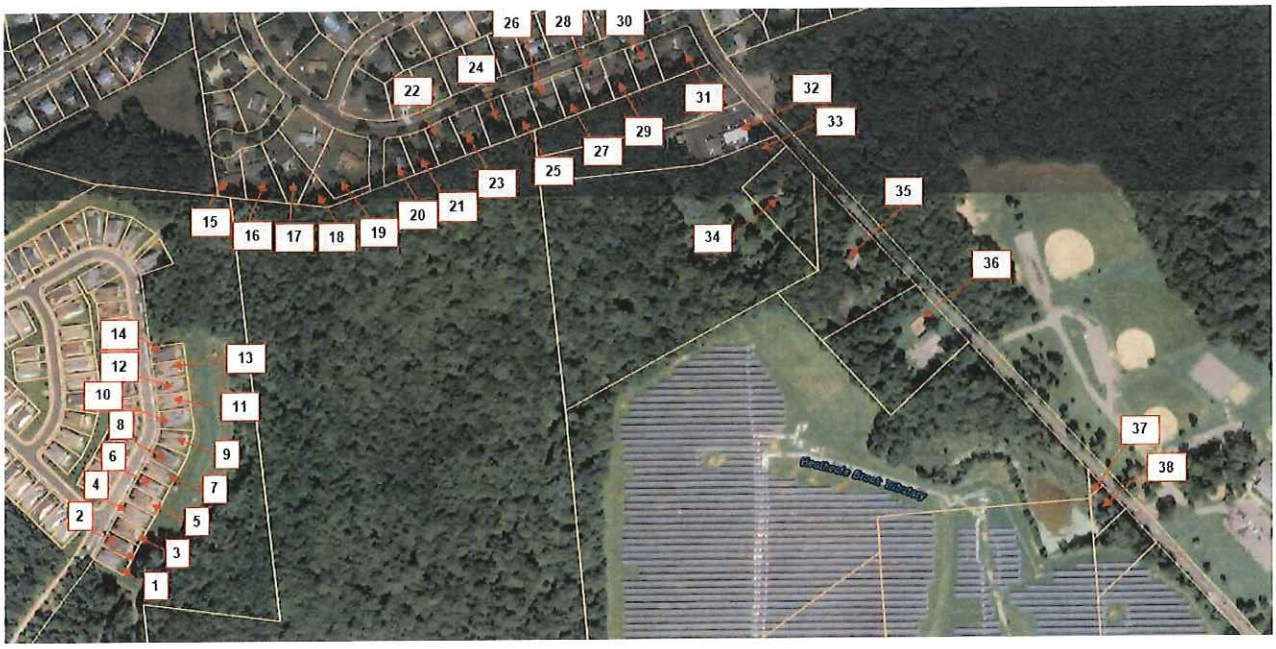
The map below displays the properties adjoining the solar arrays and are numbered for subsequent analysis in red boxes.



New Road Solar –Map of Adjoining Properties

Paired Sales Analysis

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the solar farm (Control Area Sales) to the sales of adjoining properties after the completion of the solar farm project (Test Area Sales). We identified two groups of Test Area Sales based on primarily on location and home type. We have analyzed sales of homes that occurred after the completion of the solar farm, starting in June 2018. The first group comprises the one sale in the Princeton Manor subdivision that occurred after the completion of the solar farm. The second group consists of homes in the Kendall Park subdivision.

We have excluded one home sale that was initially considered for a Test Area Sale, the home located at 12 Wheeler Road in the Kendall Park subdivision, Adjoining Property 27. After speaking with the listing broker, we determined that the condition of this home at sale was far inferior to all others in the marketplace. The broker commented that the home needed at least $30,000 of repairs to cure deferred maintenance, (for example, the roof needed replacement, the foundation had shifted, and the kitchen floor was slanted), and the interior finishes had never been updated since construction in 1958. Additionally, the garage had been illegally converted to living space with poor construction, so the property did not have covered parking unlike virtually every other home in the Kendall Park market. The seller made a $10,000 concession at closing to cover more issues

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discovered at inspection as well. Due to the inferior condition of the home, we considered it to be an outlier and could not find comparable properties to use as Control Area Sales.

We have found Control Area Sale data through the RealQuest database which aggregates real estate sales from public records and verified marketing information through online sources such as Zillow.com, Redfin.com and Realtor.com. We have verified these sales through county records, and conversations with brokers and sellers. We excluded sales that were not arm's length, such as REO sales or bank-owned properties, or those between related parties.

It is important to note that these Control Area Sales are not adjoining to any solar farm, nor do they have a view of one from the property. Therefore, the announcement nor the completion of the solar farm use could not have impacted the sales price of these properties.

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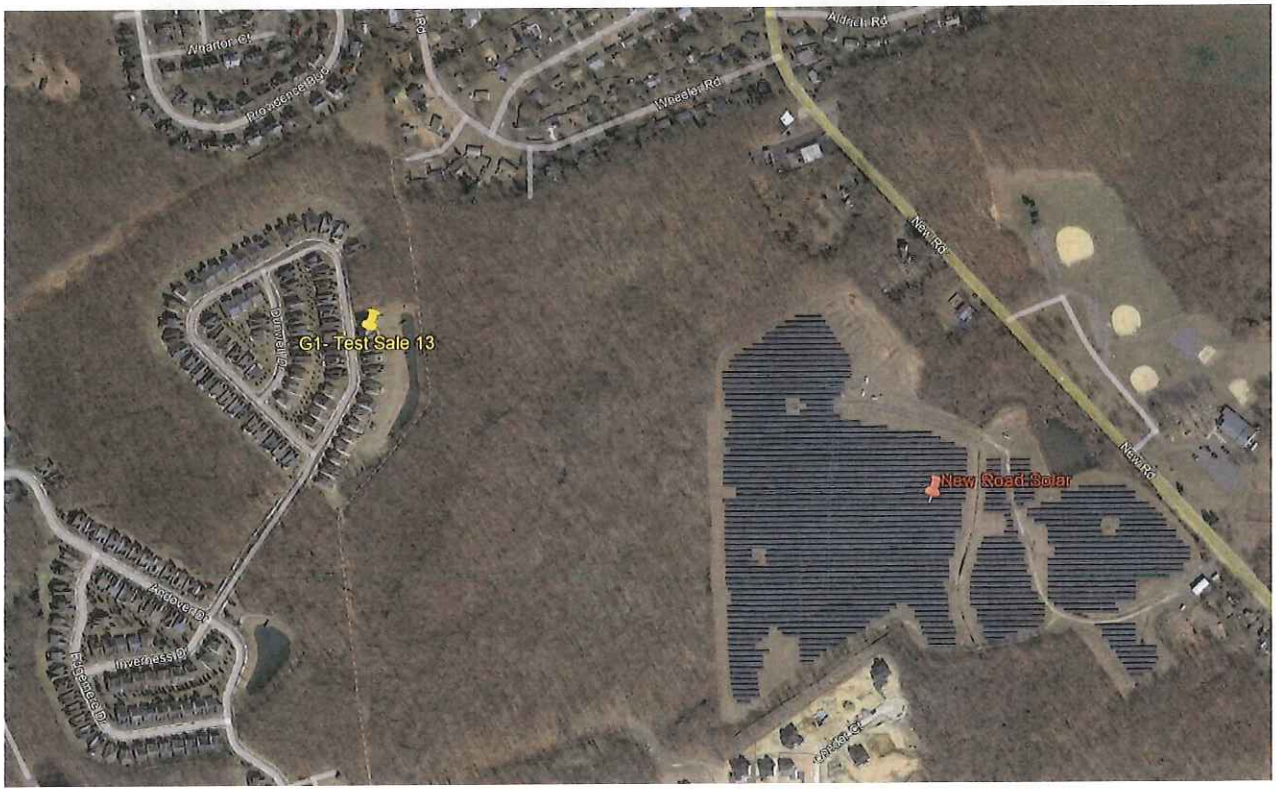
Group 1

Adjoining Property 13 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a single-family home use, a two-story, four bedroom and three bathroom, 2,884 square foot home located on a 0.15- acre parcel that sold in July 2020. This home is in the Princeton Manor subdivision. The property line is approximately 1,492 feet from the closest solar panel, and the improvements are approximately 1,520 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 13.

New Road Solar Test Area Sales - Group 1									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	GLA (SF)	Sale Date	Price PSF
13	54 Inverness Drive	$630,000	0.15	4	3	2016	2,884	Jul-20	$218.45



We have utilized two-story single-family home sales for Control Area Sales also located exclusively in the Princeton Manor subdivision as those are each similar in square footage and layout, as well as quality of construction as the Test Area Sale.

We analyzed nine Control Area Sales and adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from January 2019 to the end of December 2020, the most recent data available, (24 months).

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When adjusting sales prices for market conditions (time between date of Test Area Sale and Control Area Sale date) throughout this analysis we have used regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Middlesex County for the average monthly rate of appreciation. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[26]

The results of the paired sales analysis for Group 1 - Adjoining Property 13 are presented below.

CohnReznick Paired Sale Analysis New Road Solar Group 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$218.45
Control Area Sales (9)	No: Not adjoining solar farm	$201.78
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**8.26%**

The difference between the unit price of the Test Area Sale and the Adjusted Median Unit Price of the Control Area Sales is considered reasonable, especially given the age of the home, which was built in 2016. Out of nine Control Area Sales only two were built after 2013 (2015 and 2016, respectively), and the median year built was 2012.

Noting no negative price differential, it does not appear that the New Road Solar installation impacted the sale price of the Test Area Sale, Adjoining Property 13. We note that the distance from the panels to the Test Area Sale is over 1,500 linear feet and that heavy woods interrupts any views from the house to the solar panels. Given these characteristics, we have excluded this paired sales analysis from our reconciliation at the end of this report but have retained the analysis for information purposes.

[26] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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Group 2

We have grouped four home sales in the Kendall Park subdivision that sold after the completion of the solar farm and studied them together. The single-story ranch homes had either three or four bedrooms and either two or three bathrooms, and ranged in size from 1,572 to 2,464 square feet. Because these homes were built over a four year period (1958 to 1961) and are similar in style, we considered them on the whole comparable to 20 Control Area Sales in the same subdivision that share the range of physical characteristics. The solar panels range from 905 feet from panel to property line of the Test Area Sales to 1,370 feet, and 945 feet to 1,483 feet from solar panel to home improvement. The homes are separated from solar panels by dense woodlands.

The table below outlines the other important characteristics of the homes in Group 2.

New Road Solar Test Area Sales - Group 2									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
16	6 Quentin Road	$485,000	0.42	4	3.0	1958/2018	2,464	Jul-18	$196.83
22	22 Wheeler Road	$380,500	0.31	4	3.0	1958	1,959	Aug-20	$194.23
29	8 Wheeler Road	$358,000	0.31	4	2.0	1958	2,220	Nov-19	$161.26
31	2 Wheeler Road	$365,000	0.51	3	2.0	1958	1,572	Jun-18	$232.19
Median		**$372,750**	**0.37**	**4**	**2.5**	**1958**	**2,090**	**Mar-19**	**$195.53**

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We have utilized single-family home sales for Control Area Sales also located exclusively in the Kendall Park subdivision as those were built during the same time-frame and are each similar in square footage and layout, as well as quality of construction as the Test Area Sales. In Group 2, we have excluded homes that had an in-ground pool.

We analyzed 18 Control Area Sales and adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from January 2018 to the end of December 2020, the latest data available (36 months).

The results of the paired sales analysis for Group 2 are presented below.

CohnReznick Paired Sale Analysis New Road Solar Group 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (4)	Adjoining solar farm	$195.53
Control Area Sales (18)	No: Not adjoining solar farm	$199.89
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**-2.18%**

The small differential between the Test Area Sales and the Control Area Sales is within the range of normal market variance, and therefore it does not appear that the New Road Solar installation impacted the sale price of the Test Area Sales in the Kendall Park subdivision. We note that the control data had a smaller median home size, which likely explains the relative difference in adjusted median price per square foot. Again, we note that the linear distance from the Test Area Sales to the adjacent panels is over 900 feet and that there is heavy wooded screening between the Test Area Sales and the solar facility. Given these physical characteristics, we have included this paired sales analysis as an additional consideration in our analysis but have excluded it from the reconciliation at the end of this report.

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TECHNIQUE 3: MARKET COMMENTARY

Additionally, we have contacted market participants such as appraisers, brokers, and developers familiar with property values around solar farms. Commentary from our conversations with these market participants is recorded below.

Cheryl Bundek, the Supervisor of Assessments of Kent County, Delaware, reported that when she worked in the city of Dover's tax assessor's office, they had never received a complaint or appeal request about assessed values from home owners in nearby manufactured home communities regarding the Dover Sun Park solar farm.

Nancy Cook in the South Brunswick Township tax assessor's office, in Middlesex County, New Jersey, said that to her recollection there had been no complaints or appeals filed about the presence of the New Road Solar facility in the township from nearby subdivision homeowners.

The Interim Assessor for the town of Whitestown in Oneida County, New York, Frank Donato, stated that he *has seen no impact on property values of properties nearby solar farms.*

Steve Lehr at the Department of Assessment for Tompkins County, New York, mentioned that the appraisal staff *has made no adjustments regarding assessed values of properties surrounding solar farms. Marketing times for properties have also stayed consistent.* Lehr noted that a few of the solar farms in Thompkins County are on land owned by colleges and universities and a few are in rural areas.

At this point in time, Al Fiorille, Senior Valuation Specialist in the Tompkins County Assessment department in New York, reported that he *cannot measure any negativity from the solar farms and arrays that have been installed within the county.*

Mason Hass, the Riverhead Assessor in Suffolk County, on Long Island, New York stated that the solar farms in his town are in industrial zoned areas, and he *has not seen any impact on adjacent properties.*

The Assessor for the town of Smithtown in Suffolk County, New York, Irene Rice, *has not seen any impact on property values as a result of their location near the newly built solar farms in her town.*

In the Assessor's office in the town of Seneca, Ontario County, New York, Shana Jo Hamilton stated that she *has seen no impact on property values of properties adjacent to solar farms*.

Michael Zazzara, Assessor of the City of Rochester in Monroe County, New York commented that the City has a couple of solar farms, and they *have seen no impact on nearby property values and have received no complaints from property owners.*

While there are one or two homes nearby to existing solar farms in the town of Lisbon in St. Lawrence County, New York, Assessor Stephen Teele *has not seen any impact on property values in his town.* The solar farms in the area are in rural or agricultural areas in and around Lisbon.

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The Assessor for the Village of Whitehall in Washington County, New York, Bruce Caza, noted that there are solar farms located in both rural and residential areas in the village and *he has seen no impact on adjacent properties, including any concerns related to glare form solar panels.*

Laurie Lambertson, the Town Assessor for Bethlehem, in Albany County, New York noted that the solar farms in her area are tucked away in rural or industrial areas. *Lambertson has seen no impact on property values in properties adjacent to solar farms.*

A Miami Dade County, Florida Assessor stated that they *do not reduce assessed property values for adjacency to solar farms*.

A Putnam County, Florida Assessor stated that they *have not seen a reduction in assessed value for adjacency to solar farms.*

Renee Davis, Tax Administrator for Bladen County, North Carolina, stated that she *has not seen any effect on property values due to proximity to a solar farm.*

We spoke with Jim Brown, an appraiser for Scotland County, North Carolina, who stated that he *has seen no effect on property values due to proximity to a solar farm.*

We spoke with Gary Rose, a tax assessor for Duplin County, North Carolina, who stated that *he has seen no effect on property values with regard to proximity to a solar farm.*

Kathy Renn, a property Valuation Manager for Vance County, North Carolina, stated that she has *not noticed any effect on property values due to proximity to a solar farm.*

Larry Newton, a Tax Assessor for Anson County, North Carolina, stated that there are six solar farms in the county ranging from 20 to 40 acres and he *has not seen any evidence that solar farms have had any effect on property values due to proximity to a solar farm.*

We spoke with Patrice Stewart, a Tax Administrator for Pasquotank County, North Carolina, and she has seen *no effect on land or residential property values due to proximity to the solar farms in Pasquotank County.*

We spoke with the selling broker of the Adjoining Property for Elm City Solar, in North Carolina, Selby Brewer, who said the solar farm *did not impact the buyer's motivation.*

We spoke with Amy Carr, Commissioner of Revenue in Southampton County, Virginia, who stated that most of the solar farms are in rural areas, but she *has not seen any effect or made any adjustments on property values.* They have evaluated the solar farmland considering a more intense use, which increased the assessed value.

Lisa Ruhlen, Real Estate Clerk in the Hardin County, Ohio Auditor's office reported that as of first quarter 2022, *there have been no complaints or petitions to lower assessed values on homes near the Hardin Solar farm*. Primarily because the solar facility went into operation in 2021 and there has not been a tri-annual reassessment

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of the county yet. However, in the northern part of the county, where solar facilities have been in operation longer, there have still been no complaints about property value impacts.

Bill Nichols, Chief Appraiser with the Trumbull County Auditor in Ohio, stated that he has seen *no effect on property values in properties near a solar farm* and no one has come in to complain to the Auditor's office about an impact on their property value.

Beth Fritz, the Valuation Specialist in the Wood County, Ohio Auditor's office *has seen no effect or impact on residential, commercial, or agricultural property values on any properties with proximity to a solar farm*.

Jarra Underwood, Wayne County Auditor in Ohio reported that she *has seen no impact on property values due to their location near a solar farm*. There is one solar fam in the county near residential properties and while it is not a highly sought after location, Underwood has still not seen an effect on those property values due to the nearby solar farm.

We spoke with Ken Surface, a Senior Vice President of Nexus Group. Nexus Group is a large valuation group in Indiana and has been hired by 20 counties in Indiana regarding property assessments. Mr. Surface is familiar with the solar farm sites in Harrison County (Lanesville Solar Farm) and Monroe County (Ellettsville Solar Farm) and stated he has noticed *no impact on property values from proximity to these sites*.

We interviewed Missy Tetrick, a Commercial Valuation Analyst for the Marion County Indiana Assessor. She mentioned the Indy Solar III sites and stated that she saw *no impact on land or property prices from proximity to this solar farm*.

We spoke with Dorene Greiwe, Decatur County Indiana Assessor, and she stated that solar farms have only been in the county a couple of years, but she has seen *no impact on land or property prices due to proximity to this solar farm*.

Connie Gardner, First Deputy Assessor for Madison County Indiana, stated that there are three solar farms in her county, and she has seen *no impact on land or property prices due to proximity to these solar farms*.

We spoke with Tara Shaver, Director of Administration for Marion County, Indiana Assessor/Certified Assessor, and she stated that she has seen *no impact on land or property prices due to proximity to solar farms*.

Candace Rindahl of ReMax Results, a real estate broker with 16 years of experience in the North Branch, Minnesota area, said that she has been in most of the homes surrounding the North Star Solar Farm and personally sold two of them. She reported that the neighboring homes sold at market rates comparable to other homes in the area not influenced by the solar farm, and they sold within 45 days of offering, at the end of 2017, *which was in line with the market.*

Dan Squires, Chisago County Tax Assessor, confirmed that the Chisago County Assessor's Office completed their own study on property values adjacent to and in close vicinity to the solar farm from January 2016 to October

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2017. From the study, the assessor determined the residential homes adjacent to the North Star Solar Farm *were in-line with the market and were appreciating at the same rate as the market.*[27]

A Clark County, Kentucky Property Valuation Administrator, Jason Neely, noted there have been no complaints regarding East Kentucky Power Cooperative, Inc.'s Cooperative Solar One project installed in November 2017 located in the county, which has a capacity to generate 8.5 MW of electricity. Additionally, Neely stated he has not seen any evidence of lowered property values in the area and *no reduction in assessed property values has been made due to proximity to the solar farm.*

A Grant County, Kentucky Assessor stated that *they have not seen a reduction in assessed property values or market values for adjacency to solar farms.*

A McNairy County, Tennessee Assessor stated that they *have not applied reductions to assessed value for adjacency to solar farms.*

[27] Chisago County Press: County Board Real Estate Update Shows No "Solar Effects" (11/03/2017)

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SOLAR FARM FACTORS ON HARMONY OF USE

Zoning changes and conditional use permits often require that the proposed use is compatible with surrounding uses.

The following section analyzes specific physical characteristics of solar farms and is based on research and CohnReznick's personal solar farm site visits and indicate that solar farms are generally harmonious with surrounding property and compliant with most zoning standards.

Appearance: Most solar panels have a similar appearance to a greenhouse or single-story residence can range from 8 to 20 feet but are usually not more than 15 feet high. As previously mentioned, developers generally surround a solar farm with a fence and often leave existing perimeter foliage, which minimizes the visibility of the solar farm. The physical characteristics of solar farms are compatible with adjoining agricultural and residential uses.

Sound: Solar panels in general are effectively silent and sound levels are minimal, like ambient sound. There are limited sound-emitting pieces of equipment on-site, which only produce a quiet hum (e.g., substation). However, these sources are not typically heard outside the solar farm perimeter fence.

Odor: Solar panels do not produce any byproduct or odor.

Greenhouse Gas (GHG) Emissions: Much of the GHG produced in the United States is linked to the combustion of fossil fuels, such as coal, natural gas, and petroleum, for energy use. Generating renewable energy from operating solar panels for energy use does not have significant GHG emissions, promoting cleaner air and reducing carbon dioxide (CO_2) emissions to fight climate change.

Traffic: The solar farm requires minimal daily onsite monitoring by operational employees and thus minimal operational traffic.

Hazardous Material: Modern solar panel arrays are constructed to U.S. government standards. Testing shows that modern solar modules are both safe to dispose of in landfills and are also safe in worst case conditions of abandonment or damage in a disaster.[28] Reuse or recycling of materials would be prioritized over disposal. Recycling is an area of significant focus in the solar industry, and programs for both batteries and solar panels are advancing every year. While the exact method of recycling may not be known yet as it is dependent on specific design and manufacturer protocol, the equipment is designed with recyclability of its components in mind, and it is likely that solar panel and battery energy storage recycling and reuse programs will only improve in 25 years' time.

Examples of homes built adjoining to solar farms are presented on the following pages.

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[28] Virginia Solar Initiative - Weldon Cooper Center for Public Service – University of Virginia (https://solar.coopercenter.org/taxonomy/term/5311)

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For the Dominion Indy III solar farm, the adjacent land to the west was acquired and subsequently developed with a large estate home – after the solar panels had been in operation for years.

Dominion Indy III Solar Farm
September 2014

Dominion Indy III Solar Farm
October 2016

Estate home adjacent to Dominion Indy III Solar Farm

In ground pool and attached garage (home cost estimated at $450,000 - October 2015)

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Innovative Solar 42 (2017)
Cumberland County, NC

Innovative Solar 42 (2019)
Cumberland County, NC

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Developer Built Home
Sold 6/18/19 for $265,900 ($110.75/sf)
Cumberland County, NC (adjacent to Innovative 42 solar farm)

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Portage Solar Farm, IN
October 2015

Portage Solar Farm, IN
October 2016

4,255 square foot estate home under construction, adjacent to Portage Solar Farm located in Indiana

On-site pond and attached garage (cost estimated at $465,000) April 2018

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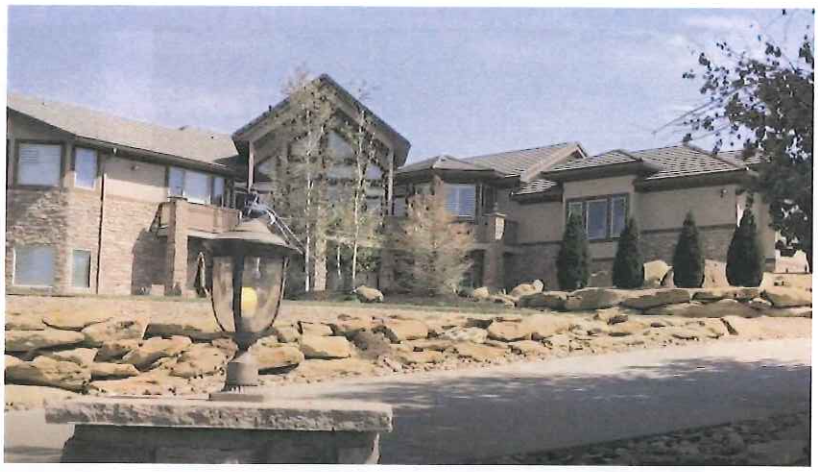
The Brighton PV Solar farm became operational in December 2012. Located in Adams County, north of Denver, CO, this solar farm has a capacity of 1.8 MW AC and is located on a triangular parcel of land east of an area of existing custom-built estate homes. A photo of one home (15880 Jackson Street) located directly north of the circled area below is presented to the right.



In December 2012, the 2.55-acre lot encircled in red below (15840 Jackson Street) was purchased for future development of a single-family home. This home was built in 2017, and per the county assessor, the two-story home is 3,725 square feet above ground with 4 bedrooms and 3.5 bathrooms. According to the building permit issued in August 2016, the construction cost was budgeted at $410,000.

Brighton PV Solar, Adams County, CO
June 2016

Brighton PV Solar, Adams County, CO
June 2017

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SUMMARY OF ADJOINING USES

The table below summarizes each Existing Solar Farm's adjoining uses.

		Composition of Surrounding Uses (% of Surrounding Acreage)					
Solar Farm #	Solar Farm	Acreage % of Surrounding Agricultural Uses	Acreage % of Surrounding Residential Uses	Acreage % of Surrounding Industrial Uses	Acreage % of Surrounding Office Uses	Acreage % of Surrounding Other Uses	Avg. Distance from Panels to Improvements (Feet)
1	North Star	75.00%	15.00%	0.00%	0.00%	10.00%	325
2	Dominion Indy Solar III	97.70%	2.30%	0.00%	0.00%	0.00%	474
3	Dougherty Solar	76.42%	22.46%	1.12%	0.00%	0.00%	350
4	Miami-Dade Solar Energy Center	56.10%	10.00%	0.00%	0.00%	34.00%	915
5	Barefoot Bay Solar Energy Center	0.00%	9.71%	88.08%	0.00%	2.20%	734
6	Innovative Solar 42	20.00%	25.00%	0.00%	0.00%	55.00%	405
7	Woodland Solar	25.00%	5.00%	0.00%	0.00%	60.00%	615
8	Rutherford Farm	10.00%	40.00%	10.00%	0.00%	40.00%	180
9	Elm City Solar	20.00%	15.00%	10.00%	0.00%	50.00%	295
10	Lapeer Solar	60.00%	35.00%	0.00%	0.00%	5.00%	260

Overall, the vast majority of the surrounding acreage for each comparable solar farm is made up of agricultural land, some of which have homesteads. There are also smaller single-family home sites that adjoin the solar farms analyzed in this report. Generally, these solar farms are sound comparables to Brookfield Renewable, U.S.'s proposed solar project in terms of adjoining uses, location, and size.

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SUMMARY AND FINAL CONCLUSIONS

The purpose of this property value impact report is to determine whether the presence of a solar farm has caused a measurable and consistent impact on adjacent property values. Under the identified methodology and scope of work, CohnReznick reviewed published methodology for measuring impact on property values as well as published reports that analyzed the impact of solar farms on property values. These studies found little to no measurable and consistent difference between Test Area Sales and Control Area Sales attributed to the solar farms.

A summary of the chosen CohnReznick impact studies prepared is presented below.

CohnReznick Solar Analysis Conclusions

#	Solar Farm	Number of Test Area Sales	Number of Control Area Sales	Median Adjoining Property Sale (Test Area) Price per Unit	Control Area Sales Median Price per Unit	Difference (%)	Avg. Feet from Panel to Lot	Avg. Feet from Panel to House	Impact Found?
Single-Family Residential									
1	North Star Solar Group 1	3	11	$151.93	$139.50	+8.91%	123	358	No Impact
	North Star Solar Group 2	1	10	$119.82	$116.33	+3.00%	152	225	No Impact
	North Star Solar Group 3*	1	10						
	North Star Solar Group 4	1	7	$172.41	$170.86	+0.91%	90	180	No Impact
	North Star Solar Group 5	1	8	$205.09	$170.88	+20.02%	90	280	No Impact
	North Star Solar Group 6	1	4	$114.48	$120.49	-4.99%	130	730	No Impact
	North Star Solar Group 7	1	11	$156.84	$135.63	+15.64%	200	330	No Impact
	North Star Solar Group 8	1	5	$139.70	$132.68	+5.29%	295	800	No Impact
	North Star Solar Group 9	1	8	$101.63	$103.95	-2.22%	115	285	No Impact
2	Indy Solar III Group 2	4	8	$59.10	$57.84	+2.18%	240	350	No Impact
	Indy Solar III Group 3	7	11	$72.15	$71.69	+0.65%	165	300	No Impact
3	Dougherty Solar	1	5	$74.55	$76.23	-2.21%	202	312	No Impact
5	Barefoot Bay Solar Energy Center Group 2	5	126	$95.90	$93.95	+2.07%	675	750	No Impact
6	Innovative Solar 42 Group 1	1	7	$107.09	$100.18	+6.91%	215	405	No Impact
	Innovative Solar 42 Group 2	1	7	$111.77	$105.34	+6.10%	240	300	No Impact
7	Rutherford Farm	1	6	$53.46	$52.49	+1.85%	135	180	No Impact
8	Elm City Solar	1	8	$56.60	$55.57	+1.85%	255	295	No Impact
9	Woodland Solar	1	5	$144.63	$137.76	+4.99%	420	615	No Impact
10	DTE Lapeer Solar Group 1	3	6	$105.26	$99.64	+5.65%	205	285	No Impact
	DTE Lapeer Solar Group 2	1	5	$114.12	$113.01	+0.98%	225	315	No Impact
	DTE Lapeer Solar Group 3	1	4	$94.84	$96.32	-1.53%	160	290	
Median Variance in Sale Prices for Test to Control Areas						**+2.13%**			

38 Adjoining Test Sales studied and compared to 272 Control Sales

** Note, the paired sale analysis for this group is an outlier as determined earlier in this report and was excluded from this summary table.*

Land (Agricultural/Single Family Lots)									
2	Indy Solar III Group 1	1	4	$8,210	$8,091	+1.47%	280	-	No Impact
4	Miami-Dade Solar Energy Center	3	6	$82,491	$81,866	+0.76%	766	-	No Impact
5	Barefoot Bay Solar Energy Center Group 1	2	7	$54,500	$51,000	+6.86%	475	-	No Impact
Median Variance in Sale Prices for Test to Control Areas						**+1.47%**			

6 Adjoining Test Sales studied and compared to 17 Control Sales

As summarized above, we evaluated 44 property sales adjoining existing solar facilities (Test Area Sales) and 289 Control Area Sales. In addition, we studied a total of 62 Test Area Sales and 1,035 Control Area Sales in four Before and After analyses. In total, we have studied over 1,430 sale transactions.

The solar farms analyzed reflected sales of property adjoining an existing solar farm (Test Area Sales) in which the unit sale prices were effectively the same or higher than the comparable Control Area Sales that were not near a solar farm. The conclusions support that there is no negative impact for improved residential homes adjacent to solar, nor agricultural acreage. This was confirmed with market participants interviews, which

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provided additional insight as to how the market evaluates farmland and single-family homes with views of the solar farm.

It can be concluded that since the Adjoining Property Sales (Test Area Sales) were not adversely affected by their proximity to the solar farm, that properties surrounding other proposed solar farms operating in compliance with all regulatory standards will similarly not be adversely affected, in either the short or long term periods.

Based upon the examination, research, and analyses of the existing solar farm uses, the surrounding areas, and an extensive market database, we have concluded that ***no consistent negative impact has occurred to adjacent property values that could be attributed to proximity to the adjacent solar farm***, with regard to unit sale prices or other influential market indicators. Additionally, in our workfile we have retained analyses of additional existing solar farms, each with their own set of matched control sales, which had consistent results, indicating no consistent and measurable impact on adjacent property values. This conclusion has been confirmed by numerous county assessors who have also investigated this use's potential impact on property values.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

CohnReznick LLP

Andrew R. Lines, MAI
Principal - Valuation Advisory Services
Certified General Real Estate Appraiser

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Florida License No. RZ3899
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Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services
Certified General Real Estate Appraiser

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Sonia K. Singh, MAI
Director – Valuation Advisory Services
Certified General Real Estate Appraiser

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CERTIFICATION

We certify that, to the best of our knowledge and belief:

1. The statements of fact and data reported are true and correct.
2. The reported analyses, findings, and conclusions in this consulting report are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, findings, and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. We have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. We have no bias with respect to the property that is the subject of this report, or the parties involved with this assignment.
6. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value finding, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
8. Our analyses, findings, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which includes the Uniform Standards of Professional Appraisal Practice (USPAP).
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.
11. We have not relied on unsupported conclusions relating to characteristics such as race, color, religion, national origin, gender, marital status, familial status, age, and receipt of public assistance income, handicap, or an unsupported conclusion that homogeneity of such characteristics is necessary to maximize value.
12. Michael F. Antypas, TJ Schemmel, and Amanda G. Edwards provided significant appraisal consulting assistance to the persons signing this certification, including data verification, research, and administrative work all under the appropriate supervision.
13. We have experience in reviewing properties similar to the subject and are in compliance with the Competency Rule of USPAP.
14. As of the date of this report, Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have completed the continuing education program for Designated Members of the Appraisal Institute.

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Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services
Certified General Real Estate Appraiser

Indiana License No. CG49600131
Expires 6/30/2022
North Carolina License No. A8131
Expires 6/30/2022
Virginia License No. 4001016998
Expires 3/31/2024
Michigan License No. 1201072979
Expires 7/31/2022

Sonia K. Singh, MAI
Director – Valuation Advisory Services
Certified General Real Estate Appraiser

Virginia License No. 4001017615
Expires 3/31/2024

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ASSUMPTIONS AND LIMITING CONDITIONS

The fact witness services will be subject to the following assumptions and limiting conditions:

1. No responsibility is assumed for the legal description provided or for matter pertaining to legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated. The legal description used in this report is assumed to be correct.
2. The property is evaluated free and clear of any or all liens or encumbrances unless otherwise stated.
3. Responsible ownership and competent management are assumed.
4. Information furnished by others is believed to be true, correct, and reliable, but no warranty is given for its accuracy.
5. All engineering studies are assumed to be correct. The plot plans and illustrative material in this report are included only to help the reader visualize the property.
6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for obtaining the engineering studies that may be required to discover them.
7. It is assumed that the property is in full compliance with all applicable federal, state, and local and environmental regulations and laws unless the lack of compliance is stated, described, and considered in the evaluation report.
8. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in the evaluation report.
9. It is assumed that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
10. It is assumed that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
11. The date of value to which the findings are expressed in this report apply is set forth in the letter of transmittal. The appraisers assume no responsibility for economic or physical factors occurring at some later date which may affect the opinions herein stated.
12. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the property, was not observed by the appraisers. The appraisers have no knowledge of the existence of such substances on or in the property. The appraisers, however, are not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, radon gas, lead or lead-based products, toxic waste contaminants, and other potentially hazardous materials may affect the value of the property. The value estimate is predicated on the

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assumption that there is no such material on or in the property that would cause a loss in value. No responsibility is assumed for such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

13. The forecasts, projections, or operating estimates included in this report were utilized to assist in the evaluation process and are based on reasonable estimates of market conditions, anticipated supply and demand, and the state of the economy. Therefore, the projections are subject to changes in future conditions that cannot be accurately predicted by the appraisers, and which could affect the future income or value projections.

14. Fundamental to the appraisal analysis is the assumption that no change in zoning is either proposed or imminent, unless otherwise stipulated. Should a change in zoning status occur from the property's present classification, the appraisers reserve the right to alter or amend the value accordingly.

15. It is assumed that the property does not contain within its confined any unmarked burial grounds which would prevent or hamper the development process.

16. The Americans with Disabilities Act (ADA) became effective on January 26, 1992. We have not made a specific compliance survey and analysis of the property to determine if it is in conformance with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect on the value of the property. Unless otherwise noted in this report, we have not been provided with a compliance survey of the property. Any information regarding compliance surveys or estimates of costs to conform to the requirements of the ADA are provided for information purposes. No responsibility is assumed for the accuracy or completeness of the compliance survey cited in this report, or for the eventual cost to comply with the requirements of the ADA.

17. Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in this report.

18. Any proposed improvements are assumed to have been completed unless otherwise stipulated; any construction is assumed to conform with the building plans referenced in this report.

19. Unless otherwise noted in the body of this report, this evaluation assumes that the subject does not fall within the areas where mandatory flood insurance is effective.

20. Unless otherwise noted in the body of this report, we have not completed nor are we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property.

21. This report should not be used as a basis to determine the structural adequacy/inadequacy of the property described herein, but for evaluation purposes only.

22. It is assumed that the subject structure meets the applicable building codes for its respective jurisdiction. We assume no responsibility/liability for the inclusion/exclusion of any structural

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component item which may have an impact on value. It is further assumed that the subject property will meet code requirements as they relate to proper soil compaction, grading, and drainage.

23. The appraisers are not engineers, and any references to physical property characteristics in terms of quality, condition, cost, suitability, soil conditions, flood risk, obsolescence, etc., are strictly related to their economic impact on the property. No liability is assumed for any engineering-related issues.

The evaluation services will be subject to the following limiting conditions:

1. The findings reported herein are only applicable to the properties studied in conjunction with the Purpose of the Evaluation and the Function of the Evaluation as herein set forth; the evaluation is not to be used for any other purposes or functions.
2. Any allocation of the total value estimated in this report between the land and the improvements applies only to the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are not valid if so used.
3. No opinion is expressed as to the value of subsurface oil, gas or mineral rights, if any, and we have assumed that the property is not subject to surface entry for the exploration or removal of such materials, unless otherwise noted in the evaluation.
4. This report has been prepared by CohnReznick under the terms and conditions outlined by the enclosed engagement letter. Therefore, the contents of this report and the use of this report are governed by the client confidentiality rules of the Appraisal Institute. Specifically, this report is not for use by a third party and CohnReznick is not responsible or liable, legally or otherwise, to other parties using this report unless agreed to in writing, in advance, by both CohnReznick and/or the client or third party.
5. Disclosure of the contents of this evaluation report is governed by the by-laws and Regulations of the Appraisal Institute has been prepared to conform with the reporting standards of any concerned government agencies.
6. The forecasts, projections, and/or operating estimates contained herein are based on current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to changes with future conditions. This evaluation is based on the condition of local and national economies, purchasing power of money, and financing rates prevailing at the effective date of value.
7. This evaluation shall be considered only in its entirety, and no part of this evaluation shall be utilized separately or out of context. Any separation of the signature pages from the balance of the evaluation report invalidates the conclusions established herein.
8. **Possession of this report, or a copy thereof, does not carry with it the right of publication, nor may it be used for any purposes by anyone other than the client without the prior written consent of the appraisers, and in any event, only with property qualification.**

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9. The appraisers, by reason of this study, are not required to give further consultation or testimony or to be in attendance in court with reference to the property in question unless arrangements have been previously made.

10. Neither all nor any part of the contents of this report shall be conveyed to any person or entity, other than the appraiser's client, through advertising, solicitation materials, public relations, news, sales or other media, without the written consent and approval of the authors, particularly as to evaluation conclusions, the identity of the appraisers or CohnReznick, LLC, or any reference to the Appraisal Institute, or the MAI designation. Further, the appraisers and CohnReznick, LLC assume no obligation, liability, or accountability to any third party. If this report is placed in the hands of anyone but the client, client shall make such party aware of all the assumptions and limiting conditions of the assignment.

11. This evaluation is not intended to be used, and may not be used, on behalf of or in connection with a real estate syndicate or syndicates. A real estate syndicate means a general or limited partnership, joint venture, unincorporated association or similar organization formed for the purpose of, and engaged in, an investment or gain from an interest in real property, including, but not limited to a sale or exchange, trade or development of such real property, on behalf of others, or which is required to be registered with the United States Securities and Exchange commissions or any state regulatory agency which regulates investments made as a public offering. It is agreed that any user of this evaluation who uses it contrary to the prohibitions in this section indemnifies the appraisers and the appraisers' firm and holds them harmless from all claims, including attorney fees, arising from said use.

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ADDENDUM A:
APPRAISER QUALIFICATIONS

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Patricia L. McGarr, MAI, CRE, FRICS, CRA

Principal and CohnReznick Group – Valuation Advisory National Director

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-508-5802
patricia.mcgarr@cohnreznick.com

Patricia L. McGarr, MAI, CRE, FRICS, CRA, is a principal and National Director of CohnReznick Advisory Group's Valuation Advisory Services practice. Pat's experience includes market value appraisals of varied property types for acquisition, condemnation, mortgage, estate, ad valorem tax, litigation, zoning, and other purposes. Pat has been involved in the real estate business since 1980. From June 1980 to January 1984, she was involved with the sales and brokerage of residential and commercial properties. Her responsibilities during this time included the formation, management, and training of sales staff in addition to her sales, marketing, and analytical functions. Of special note was her development of a commercial division for a major Chicago-area brokerage firm.

Since January 1984, Pat has been exclusively involved in the valuation of real estate. Her experience includes the valuation of a wide variety of property types including residential (SF/MF/LIHTC), commercial, industrial, and special purpose properties including such diverse subjects as quarries, marinas, riverboat gaming sites, shopping centers, manufacturing plants, and office buildings. She is also experienced in the valuation of leasehold and leased fee interests. Pat has performed appraisal assignments throughout the country, including the Chicago Metropolitan area as well as New York, New Jersey, California, Nevada, Florida, Utah, Texas, Wisconsin, Indiana, Michigan, and Ohio. Pat has gained substantial experience in the study and analysis of the establishment and expansion of sanitary landfills in various metropolitan areas including the preparation of real estate impact studies to address criteria required by Senate Bill 172. She has also developed an accepted format for allocating value of a landfill operation between real property, landfill improvements, and franchise (permits) value.

Over the past several years, Pat has developed a valuation group that specializes in the establishment of new utility corridors for electric power transmission and pipelines. This includes determining acquisition budgets, easement acquisitions, corridor valuations, and litigation support. Pat has considerable experience in performing valuation impact studies on potential detrimental conditions and has studied properties adjoining solar farms, wind farms, landfills, waste transfer stations, stone quarries, cellular towers, schools, electrical power transmission lines, "Big Box" retail facilities, levies, properties with restrictive covenants, landmark districts, environmental contamination, airports, material defects in construction, stigma, and loss of view amenity for residential high rises. Most recently, the firm has studied property values adjacent to Solar Farms to address criteria required for special use permits across the Midwest.

Pat has qualified as an expert valuation witness in numerous local, state, and federal courts.

Pat has participated in specialized real estate appraisal education and has completed more than 50 courses and seminars offered by the Appraisal Institute totaling more than 600 classroom hours, including real estate transaction courses as a prerequisite to obtaining a State of Illinois Real Estate Salesman License.

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Pat has earned the professional designations of Counselors of Real Estate (CRE), Member of the Appraisal Institute (MAI), Fellow of Royal Institution of Chartered Surveyors (FRICS) and Certified Review Appraiser (CRA). She has also been a certified general real estate appraiser in 21 states (see below).

Education

- North Park University: Bachelor of Science, General Studies

Professional Affiliations

- National Association of Realtors
- CREW Commercial Real Estate Executive Women
- IRWA International Right of Way Association

Licenses and Accreditations

- Member of the Appraisal Institute (MAI)
- Counselors of Real Estate, designated CRE
- Fellow of Royal Institution of Chartered Surveyors (FRICS)
- Certified Review Appraiser (CRA)
- Alabama State Certified General Real Estate Appraiser
- California State Certified General Real Estate Appraiser
- Connecticut State Certified General Real Estate Appraiser
- Colorado State Certified General Real Estate Appraiser
- District of Columbia Certified General Real Estate Appraiser
- Illinois State Certified General Real Estate Appraiser
- Indiana State Certified General Real Estate Appraiser
- Louisiana State Certified General Real Estate Appraiser
- Maryland State Certified General Real Estate Appraiser
- Massachusetts Certified General Real Estate Appraiser
- Michigan State Certified General Real Estate Appraiser
- North Carolina State Certified General Real Estate Appraiser
- New Jersey State Certified General Real Estate Appraiser
- Nevada State Certified General Real Estate Appraiser
- New York State Certified General Real Estate Appraiser
- Pennsylvania State Certified General Real Estate Appraiser
- South Carolina State Certified General Real Estate Appraiser
- Tennessee State Certified General Real Estate Appraiser
- Texas State Certified General Real Estate Appraiser
- Virginia State Certified General Real Estate Appraiser
- Wisconsin State Certified General Real Estate Appraiser

Appointments

- Appointed by two Governors of Illinois to the State Real Estate Appraisal Board (2017 & 2021)
- Chairwoman of the State of Illinois Real Estate Appraisal Board (2021)

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Andrew R. Lines, MAI

Principal, CohnReznick Advisory

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-508-5892
andrew.lines@cohnreznick.com

Andrew R. Lines is a principal in CohnReznick's Valuation Advisory Services group where he specializes in Real Estate, Affordable Housing, Cannabis and Renewable Energy. Andrew leads a group of appraisers across the country performing valuations on a wide variety of real estate property types including residential, commercial, industrial, hospitality and special purpose properties: landfills, waste transfer stations, marinas, hospitals, universities, self-storage facilities, racetracks, CCRCs, and railroad corridors. Affordable Housing experience includes Market Studies, Rent Compatibility Studies and Feasibility Analysis for LIHTC and mixed-income developments. Cannabis assignments have covered cultivation, processing, and dispensaries in over 10 states, including due diligence for mergers and acquisitions of multi-state operational and early stage companies. Renewable Energy assignments have included preparation of impact studies and testimony at local zoning hearings in eight states.

He is experienced in the valuation of leasehold, leased fee, and partial interests and performs appraisals for all purposes including financial reporting, litigation, and gift/estate planning. Andrew is a State Certified General Real Estate Appraiser in the states of Illinois, Indiana, Maryland, Georgia, Florida, Ohio, New York, New Jersey, Arizona, Kentucky, and the District of Columbia.

Before joining CohnReznick, Andrew was with Integra Realty Resources, starting as analyst support in 2002 and leaving the firm as a director in late 2011 (including two years with the Phoenix chapter). His real estate experience also includes one year as administrator for the residential multifamily REIT Equity Residential Properties Trust (ERP), in the transactions department, where he performed due diligence associated with the sale and acquisition of REIT properties and manufactured home communities.

Education

- Syracuse University: Bachelor of Fine Arts
- MAI Designation (Member of the Appraisal Institute)

Professional Affiliations

- Chicago Chapter of the Appraisal Institute
  - Alternate Regional Representative (2016 - 2018)
  - MAI Candidate Advisor (2014 - Present)
- International Real Estate Management (IREM)
- National Council of Real Estate Investment Fiduciaries (NCREIF)

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Community Involvement

- Syracuse University Regional Council – Active Member
- Syracuse University Alumni Association of Chicago, Past Board member
- Chicago Friends School – Treasurer & Board Member

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Sonia K. Singh, MAI

Director – Valuation Advisory Services

7501 Wisconsin Avenue, Suite 400E
Bethesda, Maryland 20814
301-280-5193
sonia.singh@cohnreznick.com

Sonia K. Singh, MAI is a director in CohnReznick Advisory Group's Valuation Advisory practice and based in the Bethesda office. For the past ten years, she has engaged in real estate valuation and other real estate consulting services and valued over $5 billion in real property.

Sonia is adept at valuing a variety of commercial real estate across the United States, including the following complex property types: athletic clubs; full-service hotels and beach resorts; marinas; historic redevelopment projects; recycling facilities; single-family rental home portfolios; master planned communities; and for-sale residential units or subdivisions. She has also performed real estate appraisals involving leasehold interests, air rights ownership, and right-of-way fee simple and easement acquisitions for utility corridors. She has performed these and other appraisals others for purposes including financial reporting, estate planning, gift and estate tax, bond and conventional financing, litigation (eminent domain), and asset management, with the ability to handle appraisals of large portfolios in expedited timeframes. With significant experience in the appraisal of senior living facilities including continuing care retirement communities, skilled nursing facilities, assisted living and memory care facilities, as well as age-restricted housing, Ms. Singh has elevated the firm's modelling of complex healthcare property ownership structures to help illuminate debt/income and lease coverage ratios for federal courts, resulting in millions of dollars in recovered credits for clients.

Additionally, Sonia is experienced in purchase price allocations (GAAP, IFRS, and IRC 1060) for financial reporting, including the early adoption of ASU 2017-01. She has also provided valuation services related to highest and best use analysis, market feasibility studies, and useful life analysis. She has prepared impact studies measuring the possible detrimental impact of economic and environmental influences on property values, including those related to high-voltage transmission lines, distribution warehouses, wind farms, and solar farms. She has provided expert witness testimony at local county zoning hearings for proposed solar energy uses and their potential detrimental impacts on adjacent property values.

Education

- University of Illinois: Bachelor of Science, Actuarial Science

Professional Affiliation, Licenses, and Exams

- MAI - Appraisal Institute, Designated Member
- Urban Land Institute, Associate Member
- Certified General Real Estate Appraiser with Active Licenses in DC and the States of MD, MO, and VA
- Successful completion of the following actuarial exams: Probability (1/P), Financial Mathematics (2/FM), and Models for Financial Economics (3/MFE)

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Awards and Recognitions

- 2019 National Association of Certified Valuators and Analysts (NACVA) and the Consultants Training Institute (CTI) 40 Under Forty Honoree

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Michael F. Antypas

Manager, Valuation Advisory Services

7501 Wisconsin Ave, Suite 400E
Bethesda, Maryland 20814
301-280-2741
Michael.Antypas@cohnreznick.com

Michael Antypas is a manager in CohnReznick's Valuation Advisory Services practice group and is based in the Bethesda office. He has assisted other associates and appraisers in the valuation of a variety of retail shopping centers, hotels, market rate and restricted rental apartment properties, industrial properties, Class A office complexes with GSA tenants, mixed-use properties, developable land, master planned communities, subdivisions, and single-family rental home portfolios owned by REITs. He has also completed solar farm impact studies, appraisals for eminent domain disputes, above/below market lease analyses, as well as purchase price allocations on various senior living facilities, medical office buildings, industrial buildings, retail centers, and cannabis facilities. In addition, Michael is certified in working with Argus Enterprise valuation software. He is a practicing affiliate in the Appraisal Institute and is working towards becoming a Certified General Real Estate Appraiser.

He graduated from the Villanova School of Business in May of 2016. Some of his other experience working in Real Estate originated through interning with commercial brokers. Throughout his senior year in college, Michael interned with Newmark Grubb Knight Frank as a Capital Markets intern. There he helped create and revise many marketing packages for the firm's senior managing directors. He also assisted in developing underwriting models and projections for offering memorandums. He also worked with a boutique restaurant broker in Washington D.C, Papadopoulos Properties where he compiled market research for his client's use and surveyed prospective restaurants to gauge their interest in expanding to the Washington D.C. market.

Education

- Villanova University Bachelor of Business Administration, Finance and Real Estate, Minor in Business Analytics

Certifications

- Argus Enterprise Certified

Professional Affiliations

- Appraisal Institute, Practicing Affiliate

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TJ Schemmel

Manager, Valuation Advisory Services

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-788-6057
TJ.Schemmell@cohnreznick.com
www.cohnreznick.com

TJ Schemmel is a manager in CohnReznick Advisory Group's Valuation Advisory Services practice and is based in the Chicago office. For the past two years, he has completed real estate valuation and other real estate consulting services valued at over $2 billion in real property.

TJ has acquired competency in valuing a variety of commercial real estate across the United States, including the following complex property types: full-service hotels, single family rental home portfolios, cannabis cultivation facilities, hospitals, utility corridors, and for-sale residential units or subdivisions. He has also performed real estate appraisals involving leasehold interests, air rights ownership, and right-of-way fee simple and easement acquisitions for utility corridors. He has performed these and other appraisals for purposes including financial reporting, estate planning, bond and conventional financing, litigation (eminent domain and LaSalle factors), and asset management, with the ability to handle complex appraisals in expedited timeframes. TJ has also participated in assignments to determine the highest and best use of subject properties, which included determining the value of the properties under potential zoning designations and determining the likelihood of potential rezoning.

Education

- University of Cincinnati: Bachelor of Business Administration

Professional Affiliations

- Thomas Schemmel, Practicing Affiliate, Appraisal Institute
- Routes to Success, Incorporated (HOBY Ohio West) - Board President
- Chicago Tutoring - Associate Board Member

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Amanda G. Edwards

Valuation Research Specialist, Valuation Advisory Services

200 S. Wacker Drive, Suite 2600
Chicago, Illinois 60606
312-508-5453
amanda.edwards@cohnreznick.com

Amanda Edwards is a valuation research specialist in CohnReznick's Valuation Advisory Services practice group and is based in Chicago. Amanda has assisted other appraisers in the valuation of a variety of industrial properties, medical offices, hotels, multifamily properties, condominium developments, retail and mixed-use properties, developable and open space land, and single family subdivisions. She has also assisted with appraisals and continuing consulting for eminent domain litigation. Additionally, Amanda has provided audit support for Assurance clients of the firm.

Before joining CohnReznick, Amanda worked at the Inland Group of companies valuing properties and underwriting, as well as assisting in the closing of commercial mortgage loans, nationwide. Property types included industrial, office, multi-family, retail, and hotel, with an emphasis on value-add properties and new construction projects. Amanda has also worked as a commercial lender for builder-developer housing at Fifth Third Bank, specializing in the Chicago metro area. She has also worked valuing senior housing properties and associated business models for acquisition purposes at a senior housing developer/operator.

Amanda has spent considerable time in the consulting environment, developing and conducting in-depth interviews for primary research in a variety of industries such as technology, financial institutions, and industrial manufacturing for private equity clients.

Education

- Bryn Mawr College, Bachelor of Arts

Professional Affiliations

- Appraisal Institute - Practicing Affiliate
- Chicago Real Estate Council - Member

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Received at Public Hearing 5. 12. 2022.

FREEMAN SOLAR LLC

Conditional Use Application 2298

PROPOSED FINDINGS OF FACT & CONDITIONS OF APPROVAL

1. This is an application for a conditional use to install a solar farm consisting of approximately 75 Megawatts (MW) of photovoltaic electric generation on 350.96± acres located in the Cedar Creek Hundred of Sussex County, situated along both sides of Calhoun Road (Sussex County Road 621), being known as Tax Parcel Nos. 130-3.00-246.00, 130-3.00-247.00, 130-3.00-247.02, 130-6.00-75.00, 130-6.00-76.00, 130-6.00-92.00, 130-6.00-94.00, 130-6.00-95.00, 130-6.00-96.00 and 130-6.00-97.00 (the "Property").

2. Individual parcels of the Property are owned separately by Clarence D. Calhoun, Jr. and Calhoun Ventures, LLC.

3. The Applicant, Freeman Solar LLC, is a subsidiary of Brookfield Renewable U.S. with 120 years of providing renewable energy solutions in the United States and has a lease for the Property.

4. The proposed 75-Megawatt (MW) facility is a transmission level facility that would connect to the substation operated by Delmarva Power & Light adjacent to the Delaware Solid Waste Authorities' Milford Transfer Station on DuPont Boulevard (U.S. Route 113).

5. On the 2045 Future Land Use Map in the 2018 Sussex County Comprehensive Plan, a portion of the Property is identified for purposes of future land use as being within a Developing Area, a "Growth Area," and a portion of the Property is identified as being within a Low Density Area, a "Rural Area." Some of the properties that immediately surround this Property are also in the Developing Area and the Low Density Area with other surrounding properties being located within an Industrial Area and within the municipal limits of the City of Milford. The proposed project is consistent with the guidelines for projects within these areas as it provides a renewable source of energy with minimal need for infrastructure or other governmental-related services.

6. The 2020 Delaware Strategies for State Policies and Spending identify the Property as being located within Investment Level 2 and 3 areas, where the State anticipates growth in the near and long term. The proposed conditional use does not require public funds for the use of the Property.

7. The Property contains the following three zoning classifications: GR (General Residential District), MR (Medium Residential District) and AR-1 (Agricultural Residential District). The surrounding properties in Sussex County contain these same three zoning classifications as well as HI (Heavy Industrial District). The adjacent properties within

the municipal limits of the City of Milford are within the City's C-3 (Highway Commercial District) and R-3 (Garden Apartment and Townhouse District).

8. The Property is presently used for agricultural purposes and the adjacent properties are used for agricultural purposes, residential purposes, utilities (substation), refuse/recycling (DSWA Milford Transfer Station and Fitzgerald's Salvage & Recycling), and other agri-commercial uses (Milford Grain Company).

9. The Property is not within a floodplain based upon FEMA Map Number 10005C0130K, dated March 16, 2015, as it is in an area designated as Zone "X" (unshaded), which is an area determined to be outside the 500-year floodplain.

10. There are wetlands located on the Property which have been delineated and the solar field will stay a minimum of twenty-five feet (25') from the delineated wetlands.

11. There is no need for public water and sewer for the facility because once the construction is complete there are no on-site employees. Any need for water on the Property will be handled by the existing agricultural wells.

12. DelDOT responded to the Service Level Evaluation Request and, pursuant to its Memorandum of Understanding for Land Development Coordination with Sussex County, found that the proposed conditional use would have a "Diminutive" impact, which means that it will create less than 50 vehicle trips per day. In fact, on most days, it will generate zero vehicle trips per day.

13. As the site plan is finalized, DelDOT's approval will be required to provide for safe vehicular and pedestrian movement within the site and onto Calhoun Road.

14. The proposed facility will involve minimal grading as the Property is flat and already in excellent condition for the installation of solar arrays.

15. As a part of final site plan approval, stormwater management design and permitting will be required for the installation of the internal roads; thus, assuring neighboring lands will be protected from the use of the Property.

16. As confirmed by the Office of State Planning Coordination, the project "will bring more renewable energy to Sussex County and it will have minimal land use and environmental impacts."

17. The entire project will be surrounded by a seven-foot (7') high fence as required by Section 110.31 of the National Electric Code.

18. Locations within the project that are immediately adjacent to residential uses will have a buffer planted and maintained in such a manner as to screen the view of the solar farm from the residential properties while allowing the solar arrays to function optimally.

19. Based upon the studies performed by the Applicant, the proposed facility will easily meet all sound and noise level requirements in the Delaware Code and will not reduce the value of adjacent properties.

20. The proposed facility promotes Goal 7.3 of the 2018 Sussex County Comprehensive Plan which encourages the use of renewable energy options like solar farms.

21. With the conditions and limitations proposed by the Applicant, the conditional use will not adversely affect the neighboring and adjacent properties.

22. The proposed use provides a renewable energy source that is a benefit to the residents and businesses of Sussex County. The intended use meets the general purpose of the Zoning Ordinance as a public or semi-public use, essential and desirable for the general convenience and welfare, orderly growth, convenience, order, prosperity and welfare of the County.

This recommendation of approval is subject to the following proposed conditions:

A. No storage facilities shall be constructed on the site.

B. Lighting at the facility shall only consist of perimeter lighting needed for security purposes. All lighting shall be downward screened so that it does not shine on neighboring properties or roadways.

C. One unlighted sign, not to exceed 32 square feet in size, shall be permitted on Calhoun Road.

D. The site shall be secured by 7-foot-high fencing pursuant to the National Electric Code with gates secured by a "Knox Box" or similar device to accommodate emergency access by the local fire company or other emergency responders. The fencing shall be shown on the Final Site Plan.

E. The Applicant shall submit as part of the Final Site Plan a landscape plan showing the proposed landscape design for the location of screening/buffering shown on the Preliminary Site Plan during the public hearing. All of the grounds, including the aforementioned screening and buffering and the areas outside of the fence shall be maintained so that they do not become overgrown.

F. Any inverters or transformers, other than the proposed substation adjacent to Delmarva Power & Light's substation, shall be centrally located on the site away from nearby residential uses.

G. Stormwater management and erosion and sedimentation control facilities shall be constructed in accordance with all applicable State and County requirements. These facilities shall be operated in a manner that is consistent with Best Management Practices.

H. The Final Site Plan shall include the approval of the Sussex Conservation District for the design and location of all stormwater management areas and erosion and sedimentation control facilities.

I. The applicant shall comply with all other statutes, laws ordinances, rules or regulations of any federal, state, county, or other governmental entity having subject matter jurisdiction over the proposed use of the Property.

J. The Final Site Plan shall depict or note these conditions and shall be subject to the review and approval of the Planning and Zoning Commission.

Jamie Whitehouse

From: Donnie Calhoun <donniecjr@verizon.net>
Sent: Thursday, May 12, 2022 9:12 AM
To: Jamie Whitehouse
Subject: C/U 2298 Freeman Solar,LLC project

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or reply unless you recognize the sender and know the content is safe. Contact the IT Helpdesk if you need assistance.

To whom it may concern,
I am Clarence D. Calhoun, owner of some of the property that's up for review tonight. I want to say that because of work related issues , I can not be there in person. I am in favor of the project and I can say that I have heard no opposition from our neighbors. A meeting was conducted at our property on May 3,2022, with many neighbors attending. Many questions were raised, but in the end , the questions were answered very well . I would appreciate it if the council would vote yes to this project as I believe wind and solar projects are very important in our future and is a very clean way to produce energy. Thank you for your consideration on this matter!

Clarence D Calhoun

FILE COPY

RECEIVED

MAY 12 2022

SUSSEX COUNTY
PLANNING & ZONING

SUPPORT EXHIBIT

FREEMAN SOLAR GROUND MOUNT PHOTOVOLTAIC GENERATING FACILITY CONDITIONAL USE SITE PLAN

CEDAR CREEK HUNDRED, SUSSEX COUNTY, DE

PREPARED FOR:
FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281
(646) 992-2400

SITE DATA:

1. TAX MAP NUMBER: 130-3.00 PARCELS 247.00, 246.00 & 247.02; 130-6.00 PARCELS 75.00, 76.00, 92.00, 94.00, 95.00, 96.00, & 97.00
2. OWNERS: 130-3.00 PARCELS 247.00 & 246.00 CALHOUN CLARENCE D JR. 7237 CALHOUN ROAD MILFORD, DE 19963

   130-6.00 PARCELS 75.00, 76.00, 92.00, 94.00, 95.00, 96.00, 97.00 & 130-3.00-247.02 CALHOUN VENTURES LLC 6714 DUPONT BLVD MILFORD, DE 19963
3. DEVELOPER NAME: FREEMAN SOLAR, LLC 200 LIBERTY STREET, 14TH FLOOR NEW YORK, NEW YORK 10281
4. TOWN/HUNDRED/COUNTY: MILFORD / CEDAR CREEK HUNDRED / SUSSEX
5. CURRENT ZONING: AR-1 (AGRICULTURAL RESIDENTIAL DISTRICT) GR (GENERAL RESIDENTIAL DISTRICT) MR (MEDIUM RESIDENTIAL DISTRICT)

   PROPOSED ZONING: AR-1 (AGRICULTURAL RESIDENTIAL DISTRICT) GR (GENERAL RESIDENTIAL DISTRICT) MR (MEDIUM RESIDENTIAL DISTRICT)
6. PRESENT USE: AGRICULTURAL
7. PROPOSED USE: SOLAR FARM
8. REQUIRED SETBACKS (B.R.L.):

   AR-1 (115-25 C.)

DEPTH OF FRONT YARD (FEET)	40'
WIDTH OF SIDE YARD (FEET)	15'
DEPTH OF REAR YARD (FEET)	20'
MINIMUM LOT WIDTH	100'

   GR (115-42 B.)

DEPTH OF FRONT YARD (FEET)	40'
WIDTH OF SIDE YARD (FEET)	10'
DEPTH OF REAR YARD (FEET)	10'
MINIMUM LOT WIDTH	75'

   MR (115-33 C.)

DEPTH OF FRONT YARD (FEET)	40'
WIDTH OF SIDE YARD (FEET)	10'
DEPTH OF REAR YARD (FEET)	10'
MINIMUM LOT WIDTH	75

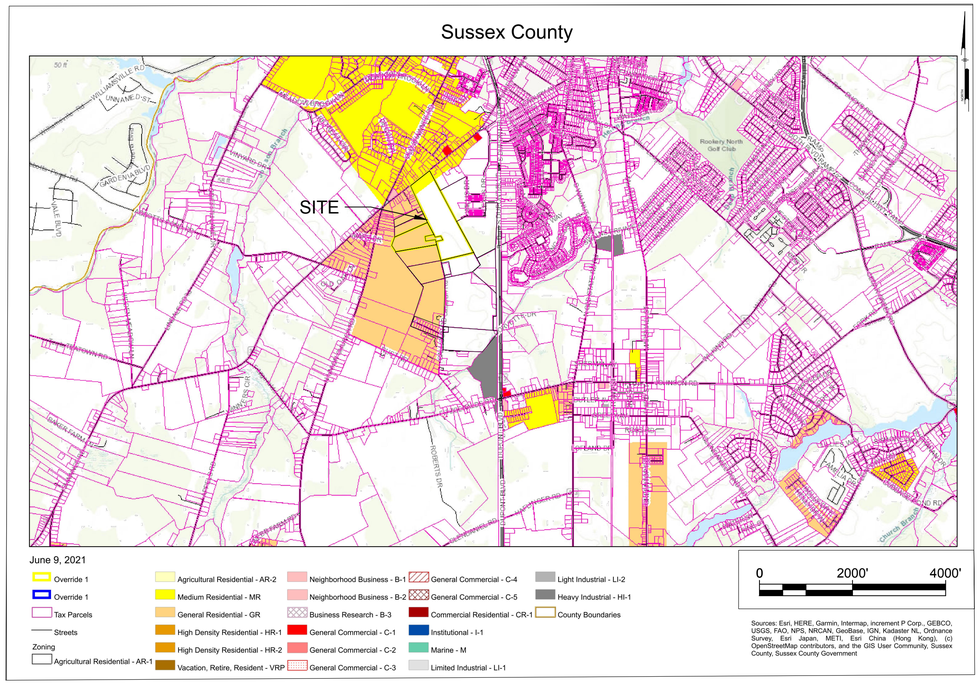
9. WATER SUPPLIER: PRIVATE - INDIVIDUAL ON-SITE WELLS (DNREC) WATER IS SUBJECT TO THE APPROVAL OF THE DELAWARE STATE DEPARTMENTS OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL AND THE DELAWARE DIVISION OF PUBLIC HEALTH
10. SECTION 89 - SOURCE WATER PROPERTY:
    A. SUBJECT PROPERTY IS WITHIN AN AREA OF "FAIR" GROUNDWATER RECHARGE.
    B. SUBJECT PROPERTY IS NOT LOCATED IN A WELLHEAD PROTECTION AREA.
11. SANITARY SEWER PROVIDER: PRIVATE - INDIVIDUAL ON-SITE WASTEWATER DISPOSAL SYSTEM (DNREC)
12. POSTED SPEED LIMIT (CALHOUN RD): 50 MPH
13. STATE INVESTMENT AREA: LEVELS 2, 3, AND 4
14. FIRE DISTRICT CARLISLE FIRE CO.(STATION 42)
15. MAXIMUM BUILDING HEIGHT (115-25 D.): 42 FEET MAX.
16. TAX MAP AREA:

130-3.00-246.00:	11.00 ± AC.
130-3.00-247.00:	116.04 ± AC.
130-3.00-247.02:	22.42 ± AC.
130-6.00-75.00:	21.50 ± AC.
130-6.00-76.00:	37.50 ± AC.
130-6.00-92.00:	39.30 ± AC.
130-6.00-94.00:	79.41 ± AC.
130-6.00-95.00	0.55 ± AC.
130-6.00-96.00:	2.57 ± AC.
130-6.00-97.00:	20.67 ± AC.

17. TOTAL AREA: 350.96 ± ACRES
18. LONGITUDE AND LATITUDE: STATE PLANE COORDINATES: LONGITUDE: W 075.4449339" LATITUDE: N 038.8785636"
19. WATERSHED: UPPER AND MIDDLE MISPILLION RIVER
20. FLOOD ZONE: ZONE X FIRM NUMBER 10005C0039J, DATED JANUARY 6, 2005 ZONE X FIRM NUMBER 10005C0130K, DATED MARCH 16, 2015
21. WETLANDS AREA: 4.54 ± ACRES (STANTEC DELINEATION)
22. TOPOGRAPHY: H:NAD 83; V:NAVD 88 DATUM.
23. DATUM: HORIZONTAL = NAD83, VERTICAL = NAVD88
24. LOCAL GOVERNMENT RESPONSIBLE FOR LAND USE APPROVAL: SUSSEX COUNTY

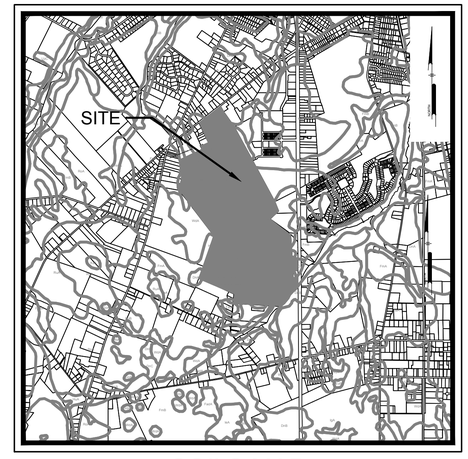
SOILS		
TYPE	DESCRIPTION	HYDROLOGIC SOIL
WddA	WOODSTOWN SANDY LOAM, 0 TO 2 PERCENT SLOPES, NORTHERN TIDEWATER AREA	C
LO	LONGMARSH AND INDIANTOWN SOILS, FREQUENTLY FLOODED	B/D
FadA	FALLSINGTON SANDY LOAMS, 0 TO 2 PERCENT SLOPES, NORTHERN TIDEWATER AREA	B/D
DnA	DOWNER LOAMY SAND, 0 TO 2 PERCENT SLOPES	A
SadA	SASSAFRAS SANDY LOAM, 0 TO 2 PERCENT SLOPES, NORTHERN TIDEWATER AREA	B
IeA	INGLESIDE LOAMY SAND, 0 TO 2 PERCENT SLOPES	A
FmA	FORT MOTT LOAMY SAND, 0 TO 2 PERCENT SLOPES	A
FmB	FORT MOTT LOAMY SAND, 2 TO 5 PERCENT SLOPES	A
HbA	HAMBROOK SANDY LOAM, 0 TO 2 PERCENT SLOPES	B
RoA	ROSEDALE LOAMY SAND, 0 TO 2 PERCENT SLOPES	A

- BASED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) 10005C0039J, EFFECTIVE DATE JANUARY 6, 2005, & 10005C0130K, EFFECTIVE DATE MARCH 16, 2016, THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE 'X', UNSHADED, WHICH IS AN AREA DETERMINED TO LIE OUTSIDE THE 500 YEAR FLOODPLAIN.

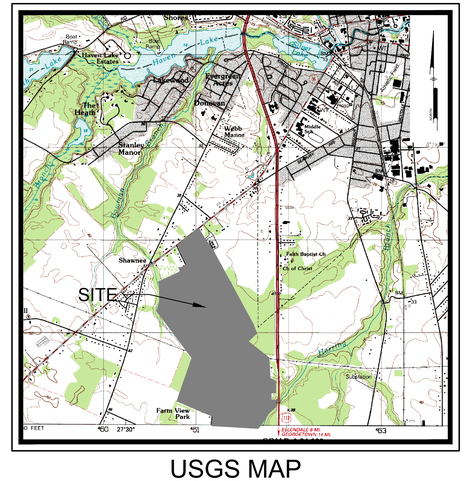


LEGEND

EXISTING	PROPOSED	DESCRIPTION
		BUILDING
		CURB
		EDGE OF PAVEMENT
		EDGE OF GRAVEL
		UTILITY EASEMENT
		PERMANENT EASEMENT
		FENCE
		POWER, UTILITY POLE
		PROPERTY, LINE
		LEGAL RIGHT-OF-WAY
		PROPERTY, CORNER FOUND
		PROPERTY, ADJOINING LINED
		SITE, MAIL BOX
		SITE, TRAFFIC SIGN
		VEGETATED SWALE
WaC		SOIL LABEL
		WELL
		SOIL BORING
100.5	35.00	SPOT ELEVATION
		MARKING, HANDICAP PARKING
		LIGHT POLE
		EXISTING CONIFER TREE
		EXISTING OAK TREE
FP		100yr FLOOD PLAN
	CZ CZ	CLEAR ZONE LINE
UC UC	UC UC	UNDERGROUND COMMUNICATIONS LINE
UE UE	E	POWER, UNDERGROUND
OE OE		POWER, OVERHEAD
		CONTOUR, MINOR
		CONTOUR, MAJOR



SOILS MAP
Scale: 1" = 1000'



USGS MAP
Scale: 1" = 1000'

Sheet List Table		
Sheet Number	Drawing Number	Sheet Title
1	CS0001	COVER SHEET
2	CS1000	KEY SHEET
3	CS1001	CONDITIONAL USE SITE PLAN
4	CS1002	CONDITIONAL USE SITE PLAN
5	CS1003	CONDITIONAL USE SITE PLAN
6	CS1004	CONDITIONAL USE SITE PLAN

PREPARED BY:
PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030
F 302.684.8054

NOT FOR CONSTRUCTION

CALL BEFORE YOU DIG
Call Miss Utility of Delmarva
800-282-8555
Ticket Number(s):

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

FREEMAN SOLAR GROUND MOUNT PHOTOVOLTAIC GENERATING FACILITY
CEDAR CREEK HUNDRED
MILFORD, DE 19963
COVER SHEET
FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

DATE	NO.	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATE, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	BRKRE21001
DATE	2021-06-09
DRAWING SCALE	AS SHOWN
DRAWN BY	LYJ
APPROVED BY	AMD

CS0001
SHEET 1 OF 6

PROJECT STATUS: —
PLOTTED: 7/1/2021 2:02 PM, BY: Leah Johnston PLOTSTYLE: Pennoni WCS.stb
U:\Accounts\BRKRE\BRKRE21001 - Freeman Solar Farm\DESIGN_SHEETS\CS0001.dwg

SHEET CS1001

SHEET CS1004

NORTH

US 113- DUPONT BOULEVARD
(SC-113-F)
OTHER PRINCIPAL ARTERIALS

MATCHLINE: PLAN SHEET CS1001

MATCHLINE: PLAN SHEET CS1003

SHAWNEE ROAD (SR36)
MAJOR COLLECTOR (80' R.O.W.)

CALHOUN ROAD
LOCAL ROAD (50' R.O.W.)

MATCHLINE: PLAN SHEET CS1001

MATCHLINE: PLAN SHEET CS1002

TM: 130-3.00-658.00
LANDS NIF OF
SHAWNEE FARM LLC
DB 3128, PG 210

TM: 130-3.00-261.01
LANDS NIF OF
SHAWNEE FARM LLC
DB 3128, PG 210

TM: 130-6.00-99.00
LANDS NIF OF
DELAWARE SOLID
WASTE AUTHORITY
DB 2714, PG 135

TM: 130-6.00-100.00
LANDS NIF OF
DEBRA LYNN CLENDANIEL,
GLENN WAYNE NAILOR
DARLENE LYNN HITCH
DB 5364, PG319

TM: 130-6.00-100.01
LANDS NIF OF
DEBRA LYNN CLENDANIEL,
GLENN WAYNE NAILOR
DARLENE LYNN HITCH
DB 5364, PG319

TM: 130-3.00-249.00
MILFORD GRAIN CO INC

TM: 130-6.00-99.02
LANDS NIF OF
CITY OF MILFORD
DB 3938, PG 147

PREMISES 10
TM: 130-3.00-247.00
LANDS NIF OF
CLARENCE D. CALHOUN JR.,
DB 5003, PG 105

TM: 130-6.00-158.00
LANDS NIF OF
C DONNELL CALHOUN JR.,
& IRENE W. CALHOUN TRUSTEE
DB 3491, PG 286

PREMISES 9
TM: 130-6.00-97.00
LANDS NIF OF
CALHOUN VENTURES LLC,
DB 5284, PG 100

PREMISES 8
TM: 130-6.00-96.00
LANDS NIF OF
CALHOUN VENTURES LLC
DB 4712, PG 247

TM: 130-6.00-94.01
LANDS NIF OF
CURTISS D CALHOUN TTEE
PATRICIA B CALHOUN TTEE REV TR
DB 5056, PG145

20' WIDE VEGETATION BUFFER

20.00'

25.00' DEDICATED RIGHT-OF-WAY

15.00' PERMANENT EASEMENT

DELMARVA POWER
AND LIGHT COMPANY
150' RIGHT OF WAY
AGREEMENT
DB 523, PG 381

PREMISES 6
TM: 130-6.00-94.00
LANDS NIF OF
CALHOUN VENTURES LLC,
DB 4712, PG 247

TIE LINE

HERRING BRANCH

TM: 130-3.00-245.00
LANDS NIF OF
JASON & JENNIFER FARISSIER
DB 5312, PG 155

TM: 130-3.00-247.01
LANDS NIF OF
CHRISTOPHER D.,
& AMY G. CALHOUN
DB 4000, PG 235

PREMISES 7
TM: 130-6.00-95.00
LANDS NIF OF
CALHOUN VENTURES LLC
DB 4712, PG 250

TM: 130-6.00-94.02
LANDS NIF OF
NOAH BARRETT
& JENNIFER CALHOUN ATTIX
DB 4047, PG 81

PREMISES 1
TM: 130-3.00-246.00
LANDS NIF OF
CLARENCE D. CALHOUN JR.,
DB 5003, PG 105

PREMISES 10
TM: 130-3.00-247.00
LANDS NIF OF
CLARENCE D. CALHOUN JR.,
DB 5003, PG 105

PREMISES 2
TM: 130-3.00-247.02
LANDS NIF OF
CALHOUN VENTURES LLC,
DB 4904, PG 207

PREMISES 5
TM: 130-6.00-92.00
LANDS NIF OF
CALHOUN VENTURES LLC,
DB 4712, PG 247

BOWMAN BRANCH

TIE LINE

PREMISES 3
TM: 130-6.00-75.00
LANDS NIF OF
CALHOUN VENTURES LLC,
DB 4904, PG 214

DELMARVA POWER
AND LIGHT COMPANY
150' RIGHT OF WAY
AGREEMENT
DB 523, PG 382

25.00' DEDICATED RIGHT-OF-WAY

20' WIDE VEGETATION BUFFER

TM: 130-6.00-83.00
LANDS NIF OF
SAMUEL E SYLVESTER
DB 3638, PG 26

PARCEL 93
DB3638, PG 26

PREMISES 4
TM: 130-6.00-76.00
LANDS NIF OF
CALHOUN VENTURES LLC,
DB 5317, PG 236
52.44 AC

TM: 130-6.00-72.01
LANDS NIF OF
KATHERINE G MARTINEZ
DB 3260, PG 22

TM: 130-6.00-76.01
LANDS NIF OF
ARTHUR E TILLMES III
DB 3432, PG 31

TM: 130-6.00-89.00
LANDS NIF OF VIRGINIA M. ROOP
ELIZABETH E. TRUSTEE
PAYTON & HESTER L. FARRELL
DB 4415, PG 332

TM: 130-6.00-73.00
LANDS NIF OF
AARON R. & KELLY S. WEST
DB 5336, PG 115

SHEET CS1002

SHEET CS1003

MATCHLINE: PLAN SHEET CS1003

MATCHLINE: PLAN SHEET CS1004

0 300' 600'

PENNONI ASSOCIATES INC.
1807 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

FREEMAN SOLAR GROUND MOUNT
PHOTOVOLTAIC GENERATING FACILITY

CEDAR CREEK HUNDRED
MILFORD, DE 19963

KEY SHEET

FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

NO.	DATE	REVISIONS	BY

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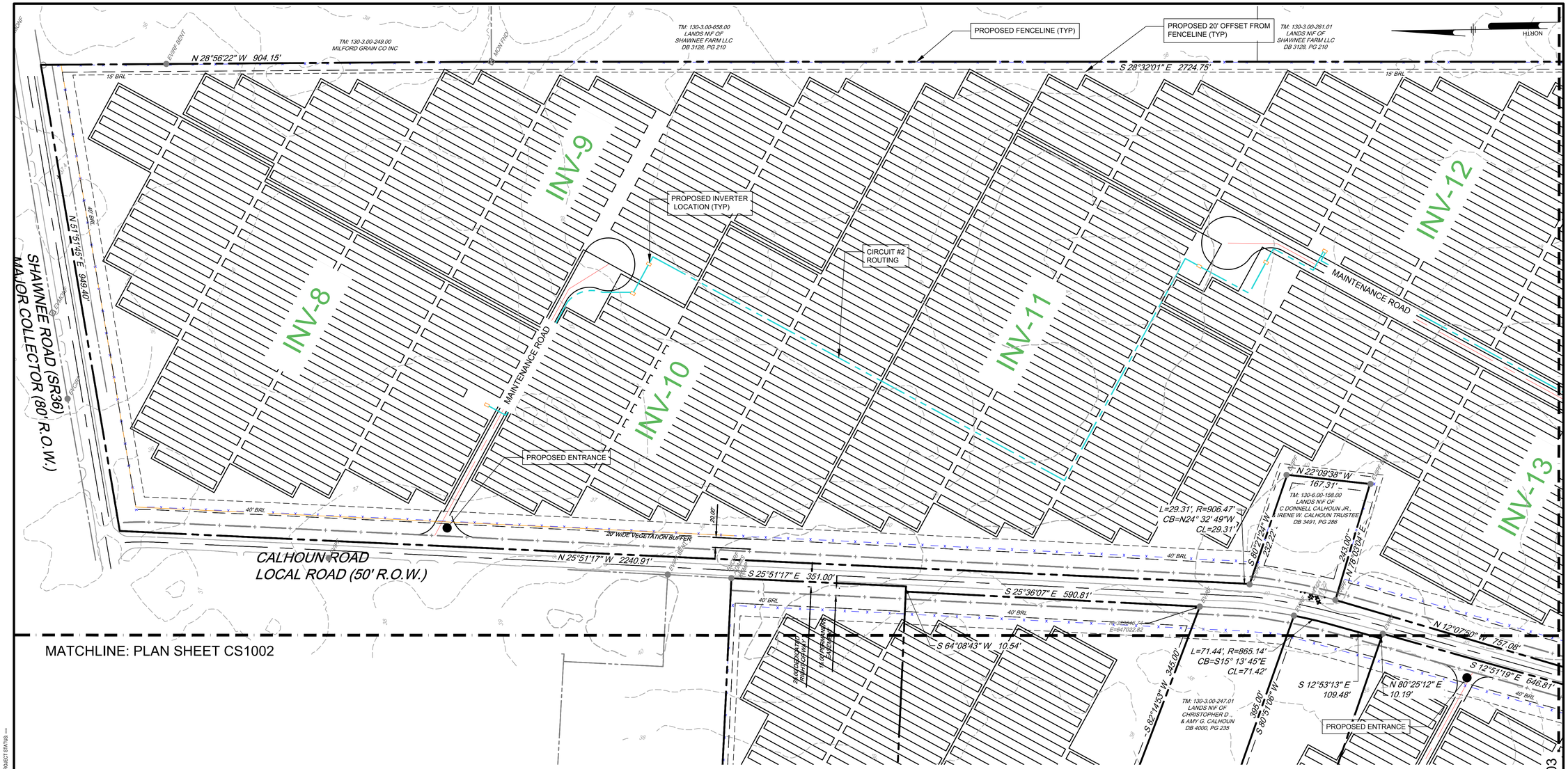
PROJECT	BRKRE21001
DATE	2021-06-09
DRAWING SCALE	1"=300'
DRAWN BY	LYJ
APPROVED BY	AMD

CS1000

SHEET 2 OF 6

U:\Accounts\BRKRE\BRKRE21001 - Freeman Solar Farm\DESIGN_SHEETS\CS1000.dwg PLOTTED: 7/1/2021 12:31 PM, BY: Leah Johnston PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

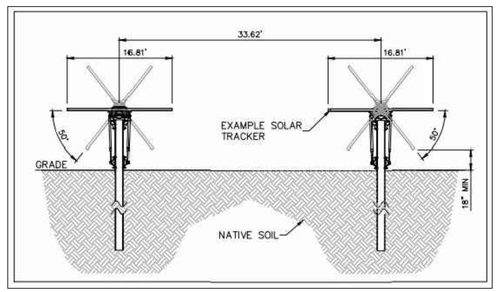


MATCHLINE: PLAN SHEET CS1002

MATCHLINE: PLAN SHEET CS1003

PV System Power Summary						
Inverter No.	Inverter AC Rating (MW)	PV Module Rating (W)	Qty Of Modules	Qty of Strings	DC Power (MW)	DC/AC Ratio
1	3.000	660	6600	220	4.356	1.45
2	3.000	660	6630	221	4.376	1.46
3	3.000	660	6000	200	3.960	1.32
4	3.000	660	5820	194	3.841	1.28
5	3.000	660	5820	194	3.841	1.28
6	3.000	660	5790	193	3.821	1.27
7	3.000	660	5850	195	3.861	1.29
8	3.000	660	5370	179	3.544	1.18
9	3.000	660	5400	180	3.564	1.19
10	3.000	660	5370	179	3.544	1.18
11	3.000	660	5400	180	3.564	1.19
12	3.000	660	5310	177	3.505	1.17
13	3.000	660	5370	179	3.544	1.18
14	3.000	660	5310	177	3.505	1.17
15	3.000	660	5490	183	3.623	1.21
16	3.000	660	5370	179	3.544	1.18
17	3.000	660	5340	178	3.524	1.17
18	3.000	660	5340	178	3.524	1.17
19	3.000	660	5340	178	3.524	1.17
20	3.000	660	5370	179	3.544	1.18
21	3.000	660	5280	176	3.485	1.16
22	3.000	660	5160	172	3.406	1.14
23	3.000	660	5310	177	3.505	1.17
24	3.000	660	5280	176	3.485	1.16
25	3.000	660	5280	176	3.485	1.16
Total			138,600	4,620	91.5	1.22

DETAIL - PV SYSTEM POWER SUMMARY
NOT TO SCALE
1 CS-1001



DETAIL - SAMPLE TRACKER DETAIL
NOT TO SCALE
2 CS-1001

SYSTEM PROPERTIES	
	CANADIAN SOLAR CS7N-660MB-AG 660W MODULES
AZIMUTH / AXIS TILT	S0°E (0°) / 0°
TRACKER ROTATION LIMITS	±50°
RACKING	QTY: 2-STRING - 201 / 3-STRING - 1406 33.62' PITCH
MODULES	QTY: 138,600
MODULES/STRING	30
INVERTERS	3,000kW SMA SUNNY CENTRAL 3000-EV (QTY: 25)
DC SIZE (MW)	91.50
AC SIZE (MW)	75.00
OVERBUILD RATIO (DC/AC)	1.22
GROUND COVERAGE RATIO (GCR)	50.00

DETAIL - SYSTEM PROPERTIES
NOT TO SCALE
3 CS-1001

0 100' 200'

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

FREEMAN SOLAR GROUND MOUNT
PHOTOVOLTAIC GENERATING FACILITY

CONDITIONAL USE SITE PLAN
FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

BY	REVISIONS	NO.	DATE

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PROJECT	BRKRE21001
DATE	2021-06-09
DRAWING SCALE	1"=100'
DRAWN BY	LYJ
APPROVED BY	AMD

CS1001

SHEET 3 OF 6

U:\Accounts\BRKRE\BRKRE21001 - Freeman Solar Farm\DESIGN_SHEETS\CS1001.dwg PLOTTED: 7/1/2021 12:09 PM BY: Leah Johnston PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

Pennoni
PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

FREEMAN SOLAR GROUND MOUNT PHOTOVOLTAIC GENERATING FACILITY

CEDAR CREEK HUNDRED
MILFORD, DE 19963

CONDITIONAL USE SITE PLAN

FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

NO.	DATE	REVISIONS	BY

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PROJECT	BRKRE21001
DATE	2021-06-09
DRAWING SCALE	1"=100'
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APPROVED BY	AMD

CS1002

MATCHLINE: PLAN SHEET CS1001

INV-3

INV-14

INV-15

INV-16

INV-2

INV-1

INV-17

PROPOSED FENCELINE (TYP)

PROPOSED ENTRANCE

MAINTENANCE ROAD

TIE LINE

S 78°03'50" W 30.04'

N 36°36'50" W 620.64'

N 36°20'50" W 192.99'

N 16°22'57" E 577.93'

S 28°27'05" E 620.77'

S 13°46'12" E 208.73'

N 12°26'51" W 690.87'

S 12°36'07" E 467.75'

S 13°45'58" E 100.00'

L=76.85', R=1000.00'
CB=N10° 24' 01"W
CL=76.83'

L=101.69', R=1000.00'
CB=S05° 17' 07"E
CL=101.65'

L=476.78', R=3400.00'
CB=S01° 38' 43"W
CL=476.39'

L=125.74', R=1586.60'
CB=N00° 45' 36"W
CL=125.71'

S 02°27'19" E 923.45'

N 03°01'50" W 741.49'

S 48°00'07" W 445.28'

S 05°18'20" W 406.66'

S 84°41'21" E 608.14'

N 49°33'52" W 214.02'

S 49°33'52" E 214.02'

N 85°51'38" W 192.40'

S 84°31'00" E 96.94'

S 84°18'10" E 285.08'

N 85°41'41" E 155.60'

S 16°39'45" W 343.94'

N 84°09'41" W 425.71'

N 49°29'21" W 443.91'

N 25°25'05" W 523.85'

TM: 130-6.00-72.01
LANDS NIF OF
KATHERINE G MARTINEZ
DB 3260, PG 22

TM: 130-6.00-94.02
LANDS NIF OF
NOAH BARRETT
& JENNIFER CALHOUN ATTIX
DB 4047, PG 81

DELMARVIA POWER
AND LIGHT COMPANY
150' RIGHT OF WAY
AGREEMENT
DB 523, PG 382

DELMARVIA POWER
AND LIGHT COMPANY
150' RIGHT OF WAY
AGREEMENT
DB 523, PG 381

PROPOSED ENTRANCE

PROPOSED ENTRANCE

PROPOSED LOCATION OF SUBSTATION (~1.8 AC)

TM: 130-6.00-99.02
LANDS NIF OF
CITY OF MILFORD
DB 3938, PG 147

EXISTING SUBSTATION

CIRCUIT #3 ROUTING

MAINTENANCE ROAD

40' INTERCONNECTION BUFFER

15' MAINTENANCE EASEMENT

NORTH

0 100' 200'

MATCHLINE: PLAN SHEET CS1004

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

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FREEMAN SOLAR GROUND MOUNT PHOTOVOLTAIC GENERATING FACILITY

CEDAR CREEK HUNDRED
MILFORD, DE 19963

CONDITIONAL USE SITE PLAN

FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

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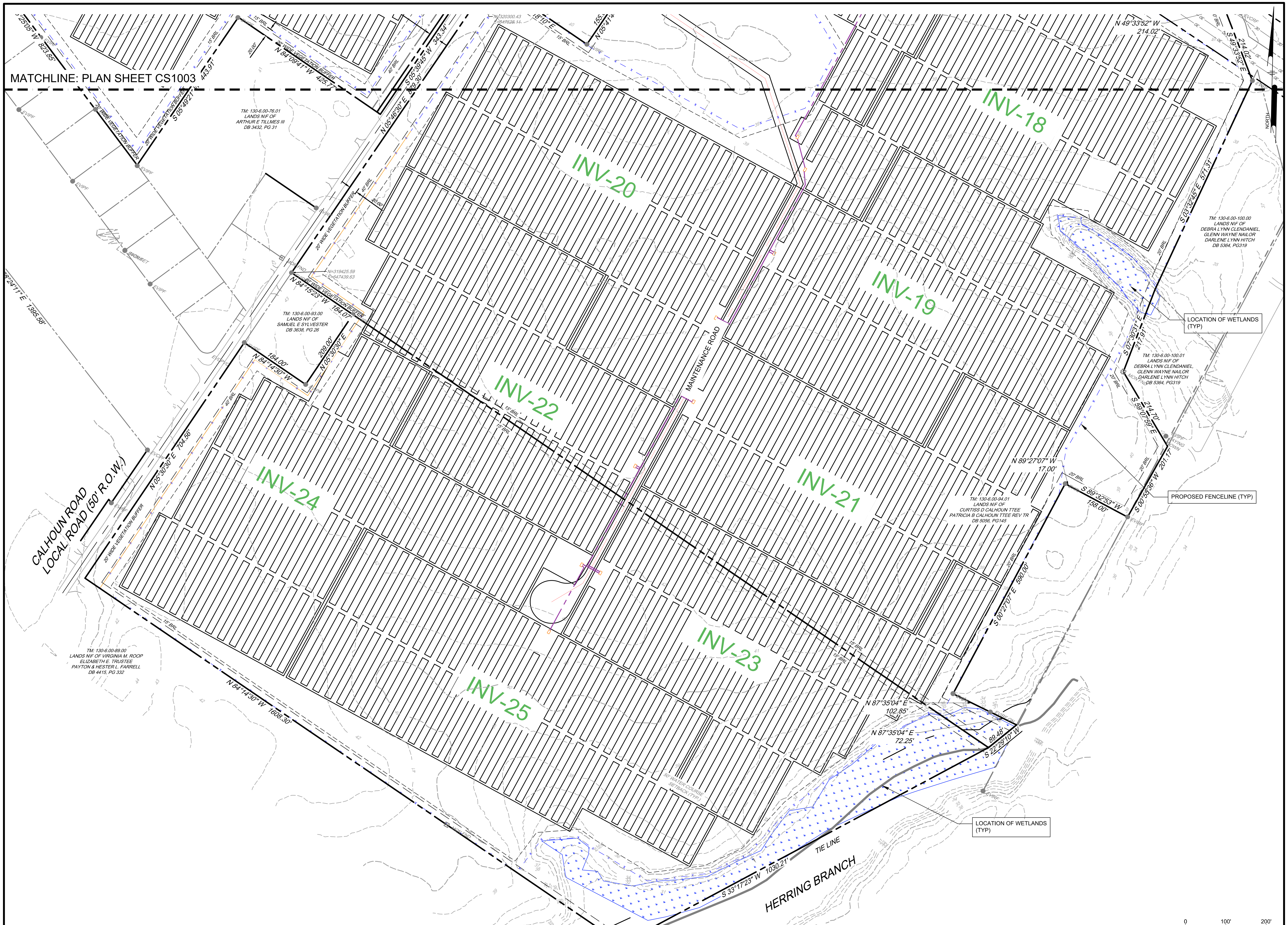
APPROVED BY	AMD

CS1003

SHEET 5 OF 6

PROJECT STATUS: —
PLOTSTYLE: Pennoni NCS.stb
PLOTTED: 7/1/2021 12:03 PM, BY: Leah Johnston
U:\Accounts\BRKRE\BRKRE21001 - Freeman Solar Farm\DESIGN_SHEETS\CS1003.dwg



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CS1004

SHEET 6 OF 6

U:\Accounts\BRKRE\BRKRE21001 - Freeman Solar Farm\DESIGN_SHEETS\CS1004.dwg PLOTTED: 7/1/2021 12:00 PM, BY: Leah Johnston PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: ---

18072 Davidson Drive
Milton, DE 19968
T: 302-684-8030
F: 302-684-8054

www.pennoni.com

FREEMAN SOLAR LLC

CASE NO. CU 2298

OWNER:

CALHOUN VENTURES, LLC
6714 DUPONT BLVD.
MILFORD, DE 19963

CLARENCE D. CALHOUN, JR.
7237 CALHOUN ROAD
MILFORD DE 19963

DEVELOPER:

FREEMAN SOLAR LLC
200 LIBERTY ST. 14TH FLOOR
NEW YORK, NY 10281

LEGAL:

MORRIS JAMES LLP
107 W. MARKET STREET
GEORGETOWN, DE 19947
DAVID C. HUTT, ESQUIRE

PLANNER/ENGINEER/SURVEYOR:

PENNONI
18072 DAVIDSON DRIVE
MILTON, DE 19968

MARK H. DAVIDSON, PRINCIPAL LAND PLANNER

ALAN DECKTOR, PE., ENV SP

ERIC WAHL, RLA

JOHN W. HAUPT, PLS

STANTEC
810 GLEN EAGLES COURT, SUITE 300
BALTIMORE MD 21286-2237

ELEANOR T. WILSON, PWS

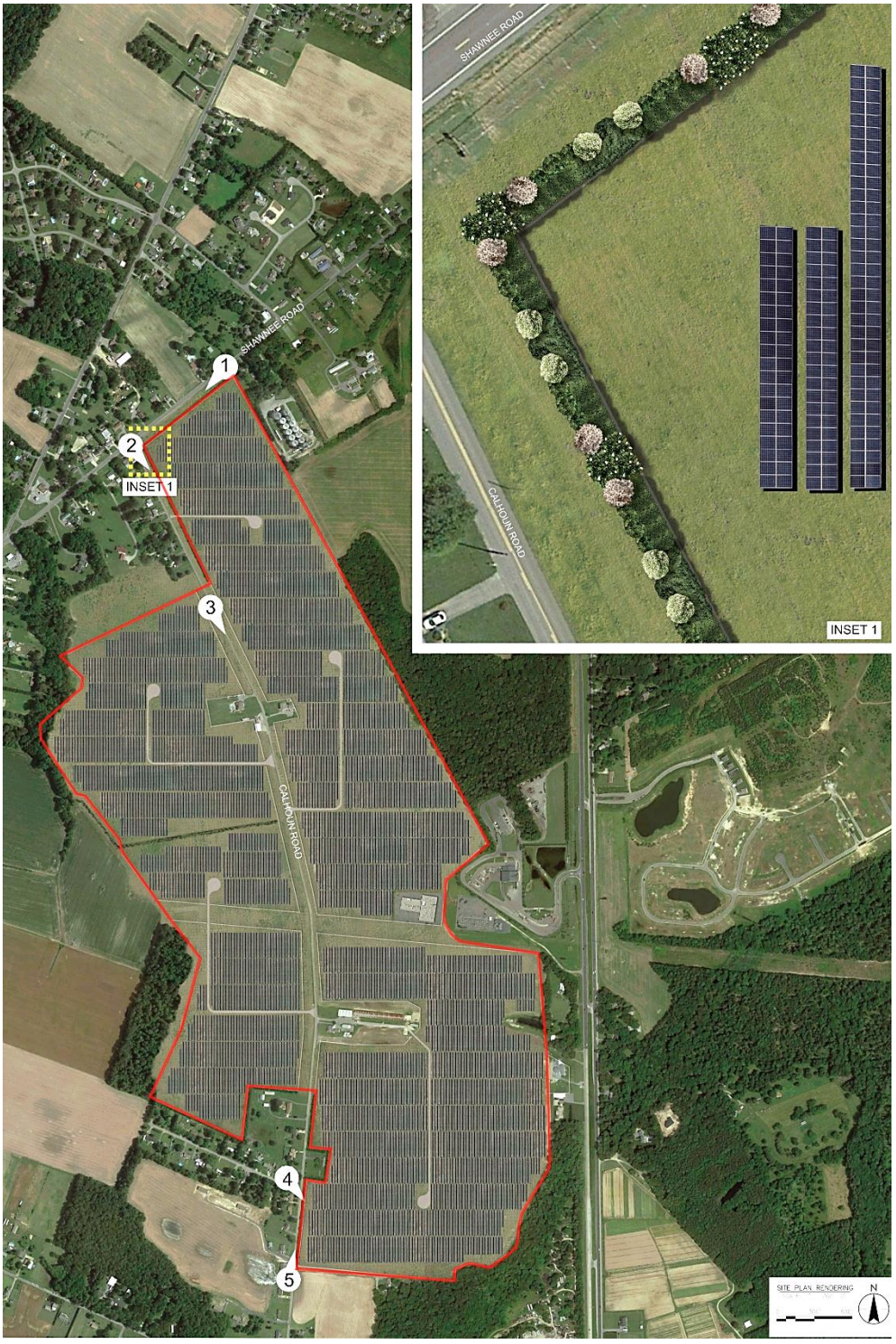
ENVIRONMENTAL:

STANTEC

STANTEC CONSULTING SERVICES INC.

ACCENT ENVIRONMENTAL

WILLIAM J. GANGLOFF, PhD.
PROFESSIONAL
SOIL SCIENTIST



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d. SFR RESPONSE LETTER

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b. ALTA SURVEY
c. WETLAND DELINEATION
d. SITE DEVELOPABLE AREA EXHIBIT
e. WETLANDS EXHIBIT

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c. LANDSCAPE PLAN
d. LANDSCAPE PLAN ALT

TAB 1

APPLICATION

File #: _____

CU#2298

Planning & Zoning Commission Application
Sussex County, Delaware

Sussex County Planning & Zoning Department
2 The Circle (P.O. Box 417) Georgetown, DE 19947
302-855-7878 ph. 302-854-5079 fax

Type of Application: (please check applicable)
Conditional Use ✓
Zoning Map Amendment ___

Site Address of Conditional Use/Zoning Map Amendment

Various parcels situated along Calhoun Road, Milford, Delaware 19963

Type of Conditional Use Requested:

Installation of a solar farm consisting of approximately 75 MW AC photovoltaic electric generation facility

Tax Map #: 130-3.00-246.00, 247.00 and 247.02
130-6.00-75.00, 76.00, 92.00, 94.00, 95.00, 96.00 & 97.00 **Size of Parcel(s):** 350.96 acres

Current Zoning: AR-1, GR & MR **Proposed Zoning:** AR-1, GR & MR Cond'l Use **Size of Building:** n/a

Land Use Classification: Developing Area/Low Density Area

Water Provider: On-site well **Sewer Provider:** On-site septic

Applicant Information

Applicant Name: Freeman Solar LLC
Applicant Address: 200 Liberty St., 14th Floor
City: New York State: NY ZipCode: 10281
Phone #: (617) 448-1318 E-mail: John.Soininen@brookfieldrenewable.com

Owner Information

Owner Name: Calhoun Ventures, LLC Clarence D. Calhoun, Jr.
Owner Address: 6714 DuPont Blvd. 7237 Calhoun Road
City: Milford State: DE Zip Code: 19963
Phone #: _____ E-mail: _____

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: David C. Hutt, Esquire | Morris James LLP
Agent/Attorney/Engineer Address: 107 W. Market St.; P.O. Box 690
City: Georgetown State: DE Zip Code: 19947
Phone #: (302) 856-0015 E-mail: dhutt@morrisjames.com

Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

✓ **Completed Application**

✓ **Provide eight (8) copies of the Site Plan or Survey of the property**

- Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
- Provide a PDF of Plans (may be e-mailed to a staff member)
- Deed or Legal description

✓ **Provide Fee $500.00**

___ **Optional - Additional information for the Commission/Council to consider** (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

___ **Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.**

✓ **DelDOT Service Level Evaluation Request Response**

___ **PLUS Response Letter** (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on by behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

Jason Spreyer _____ Date: July 1, 2021

Jason Spreyer

Signature of Owner

_____ Date: July 1, 2021

David Herksovits (authorized by owners)

For office use only:

Date Submitted: _____ Fee: $500.00 Check #: _____

Staff accepting application: _____ Application & Case #: _____

Location of property: _____

_____

Subdivision: _____

Date of PC Hearing: _____ Recommendation of PC Commission: _____

Date of CC Hearing: _____ Decision of CC: _____

FREEMAN SOLAR GROUND MOUNT PHOTOVOLTAIC GENERATING FACILITY CONDITIONAL USE SITE PLAN

CEDAR CREEK HUNDRED, SUSSEX COUNTY, DE

PREPARED FOR:
FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281
(646) 992-2400

SITE DATA:

1. TAX MAP NUMBER: 130-3.00 PARCELS 247.00, 246.00 & 247.02; 130-6.00 PARCELS 75.00, 76.00, 92.00, 94.00, 95.00, 96.00, & 97.00
2. OWNERS: 130-3.00 PARCELS 247.00 & 246.00 CALHOUN CLARENCE D JR. 7237 CALHUON ROAD MILFORD, DE 19963
   130-6.00 PARCELS 75.00, 76.00, 92.00, 94.00, 95.00, 96.00, 97.00 & 130-3.00-247.02 CALHOUN VENTURES LLC 6714 DUPONT BLVD MILFORD, DE 19963
3. DEVELOPER NAME: FREEMAN SOLAR, LLC 200 LIBERTY STREET, 14TH FLOOR NEW YORK, NEW YORK 10281
4. TOWN/HUNDRED/COUNTY: MILFORD / CEDAR CREEK HUNDRED / SUSSEX
5. CURRENT ZONING: AR-1 (AGRICULTURAL RESIDENTIAL DISTRICT) GR (GENERAL RESIDENTIAL DISTRICT) MR (MEDIUM RESIDENTIAL DISTRICT)
   PROPOSED ZONING: AR-1 (AGRICULTURAL RESIDENTIAL DISTRICT) GR (GENERAL RESIDENTIAL DISTRICT) MR (MEDIUM RESIDENTIAL DISTRICT)
6. PRESENT USE: AGRICULTURAL
7. PROPOSED USE: SOLAR FARM
8. REQUIRED SETBACKS (B.R.L.):

AR-1 (115-25 C.)	
DEPTH OF FRONT YARD (FEET)	40'
WIDTH OF SIDE YARD (FEET)	15'
DEPTH OF REAR YARD (FEET)	20'
MINIMUM LOT WIDTH	100'
GR (115-42 B.)	
DEPTH OF FRONT YARD (FEET)	40'
WIDTH OF SIDE YARD (FEET)	10'
DEPTH OF REAR YARD (FEET)	10'
MINIMUM LOT WIDTH	75'
MR (115-33 C.)	
DEPTH OF FRONT YARD (FEET)	40'
WIDTH OF SIDE YARD (FEET)	10'
DEPTH OF REAR YARD (FEET)	10'
MINIMUM LOT WIDTH	75

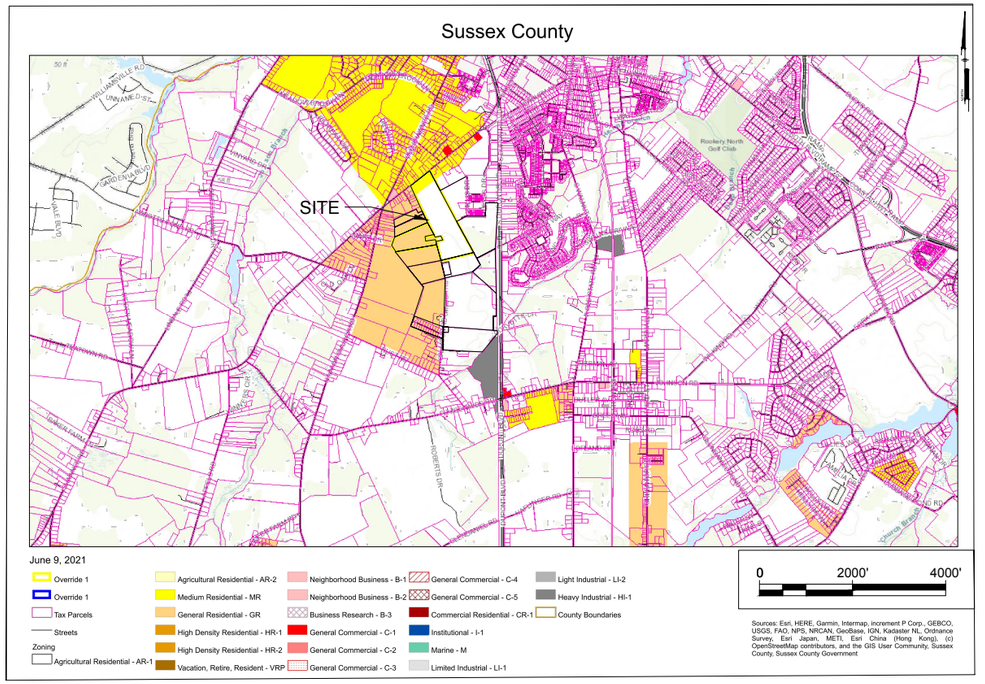
9. WATER SUPPLIER: PRIVATE - INDIVIDUAL ON-SITE WELLS (DNREC) WATER IS SUBJECT TO THE APPROVAL OF THE DELAWARE STATE DEPARTMENTS OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL AND THE DELAWARE DIVISION OF PUBLIC HEALTH
10. SECTION 89 - SOURCE WATER PROPERTY: A. SUBJECT PROPERTY IS WITHIN AN AREA OF "FAIR" GROUNDWATER RECHARGE. B. SUBJECT PROPERTY IS NOT LOCATED IN A WELLHEAD PROTECTION AREA.
11. SANITARY SEWER PROVIDER: PRIVATE - INDIVIDUAL ON-SITE WASTEWATER DISPOSAL SYSTEM (DNREC)
12. POSTED SPEED LIMIT (CALHOUN RD): 50 MPH
13. STATE INVESTMENT AREA: LEVELS 2, 3, AND 4
14. FIRE DISTRICT CARLISLE FIRE CO.(STATION 42)
15. MAXIMUM BUILDING HEIGHT (115-25 D.): 42 FEET MAX.
16. TAX MAP AREA:

130-3.00-246.00:	11.00 ± AC.
130-3.00-247.00:	116.04 ± AC.
130-3.00-247.02:	22.42 ± AC.
130-6.00-75.00:	21.50 ± AC.
130-6.00-76.00:	37.50 ± AC.
130-6.00-92.00:	39.30 ± AC.
130-6.00-94.00:	79.41 ± AC.
130-6.00-95.00	0.55 ± AC.
130-6.00-96.00:	2.57 ± AC.
130-6.00-97.00:	20.67 ± AC.

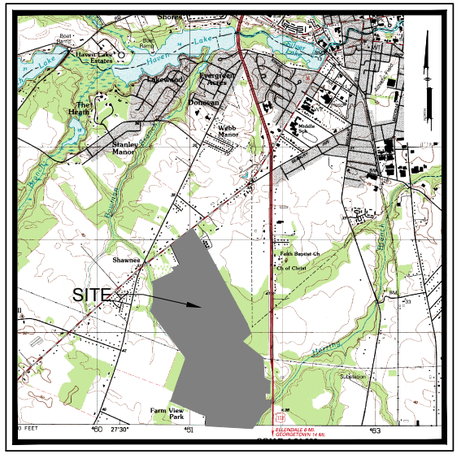
17. TOTAL AREA: 350.96 ± ACRES
18. LONGITUDE AND LATITUDE: STATE PLANE COORDINATES: LONGITUDE: W 075.4449339° LATITUDE: N 038.8785636°
19. WATERSHED: UPPER AND MIDDLE MISPILLION RIVER
20. FLOOD ZONE: ZONE X FIRM NUMBER 10005C0039J, DATED JANUARY 6, 2005 ZONE X FIRM NUMBER 10005C0130K, DATED MARCH 16, 2015
21. WETLANDS AREA: 4.54 ± ACRES (STANTEC DELINEATION)
22. TOPOGRAPHY: H:NAD 83; V:NAVD 88 DATUM.
23. DATUM: HORIZONTAL = NAD83, VERTICAL = NAVD88
24. LOCAL GOVERNMENT RESPONSIBLE FOR LAND USE APPROVAL: SUSSEX COUNTY

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		BUILDING
		CURB
		EDGE OF PAVEMENT
		EDGE OF GRAVEL
		UTILITY EASEMENT
		PERMANENT EASEMENT
		FENCE
		POWER, UTILITY POLE
		PROPERTY, LINE
		LEGAL RIGHT-OF-WAY
		PROPERTY, CORNER FOUND
		PROPERTY, ADJOINING LINED
		SITE, MAIL BOX
		SITE, TRAFFIC SIGN
		VEGETATED SWALE
WoC		SOIL LABEL
		WELL
		SOIL BORING
100.5	35.00	SPOT ELEVATION
		MARKING, HANDICAP PARKING
		LIGHT POLE
		EXISTING CONIFER TREE
		EXISTING OAK TREE
FP		100yr FLOOD PLAN
	C2 C2	CLEAR ZONE LINE
UC UC	UC UC	UNDERGROUND COMMUNICATIONS LINE
UE UE	E	POWER, UNDERGROUND
OE OE		POWER, OVERHEAD
		CONTOUR, MINOR
		CONTOUR, MAJOR



SOILS MAP
Scale: 1" = 1000'



USGS MAP
Scale: 1" = 1000'

SOILS		
TYPE	DESCRIPTION	HYDROLOGIC SOIL
WddA	WOODSTOWN SANDY LOAM, 0 TO 2 PERCENT SLOPES, NORTHERN TIDEWATER AREA	C
LO	LONGMARSH AND INDIANTOWN SOILS, FREQUENTLY FLOODED	B/D
FadA	FALLSINGTON SANDY LOAMS, 0 TO 2 PERCENT SLOPES, NORTHERN TIDEWATER AREA	B/D
DnA	DOWNER LOAMY SAND, 0 TO 2 PERCENT SLOPES	A
SadA	SASSAFRAS SANDY LOAM, 0 TO 2 PERCENT SLOPES, NORTHERN TIDEWATER AREA	B
IeA	INGLESIDE LOAMY SAND, 0 TO 2 PERCENT SLOPES	A
FmA	FORT MOTT LOAMY SAND, 0 TO 2 PERCENT SLOPES	A
FmB	FORT MOTT LOAMY SAND, 2 TO 5 PERCENT SLOPES	A
HbA	HAMBROOK SANDY LOAM, 0 TO 2 PERCENT SLOPES	B
RoA	ROSEDALE LOAMY SAND, 0 TO 2 PERCENT SLOPES	A

- BASED ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) 10005C0039J, EFFECTIVE DATE JANUARY 6, 2005, & 10005C0130K, EFFECTIVE DATE MARCH 16, 2016, THE SUBJECT PROPERTY IS LOCATED IN FLOOD ZONE 'X', UNSHADED, WHICH IS AN AREA DETERMINED TO LIE OUTSIDE THE 500 YEAR FLOODPLAIN.

Sheet List Table		
Sheet Number	Drawing Number	Sheet Title
1	CS0001	COVER SHEET
2	CS1000	KEY SHEET
3	CS1001	CONDITIONAL USE SITE PLAN
4	CS1002	CONDITIONAL USE SITE PLAN
5	CS1003	CONDITIONAL USE SITE PLAN
6	CS1004	CONDITIONAL USE SITE PLAN

PREPARED BY:
PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030
F 302.684.8054

NOT FOR CONSTRUCTION

CALL BEFORE YOU DIG
Call Miss Utility of Delmarva
800-282-8555
Ticket Number(s):

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PHOTOVOLTAIC GENERATING FACILITY
CEDAR CREEK HUNDRED
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COVER SHEET
FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
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APPROVED BY	AMD

CS0001

SHEET 1 OF 6

PLOTTED: 7/1/2021 2:57 PM BY: Liam Johnston PLOTSTYLE: Pennoni.ctb PROJECT STATUS: —
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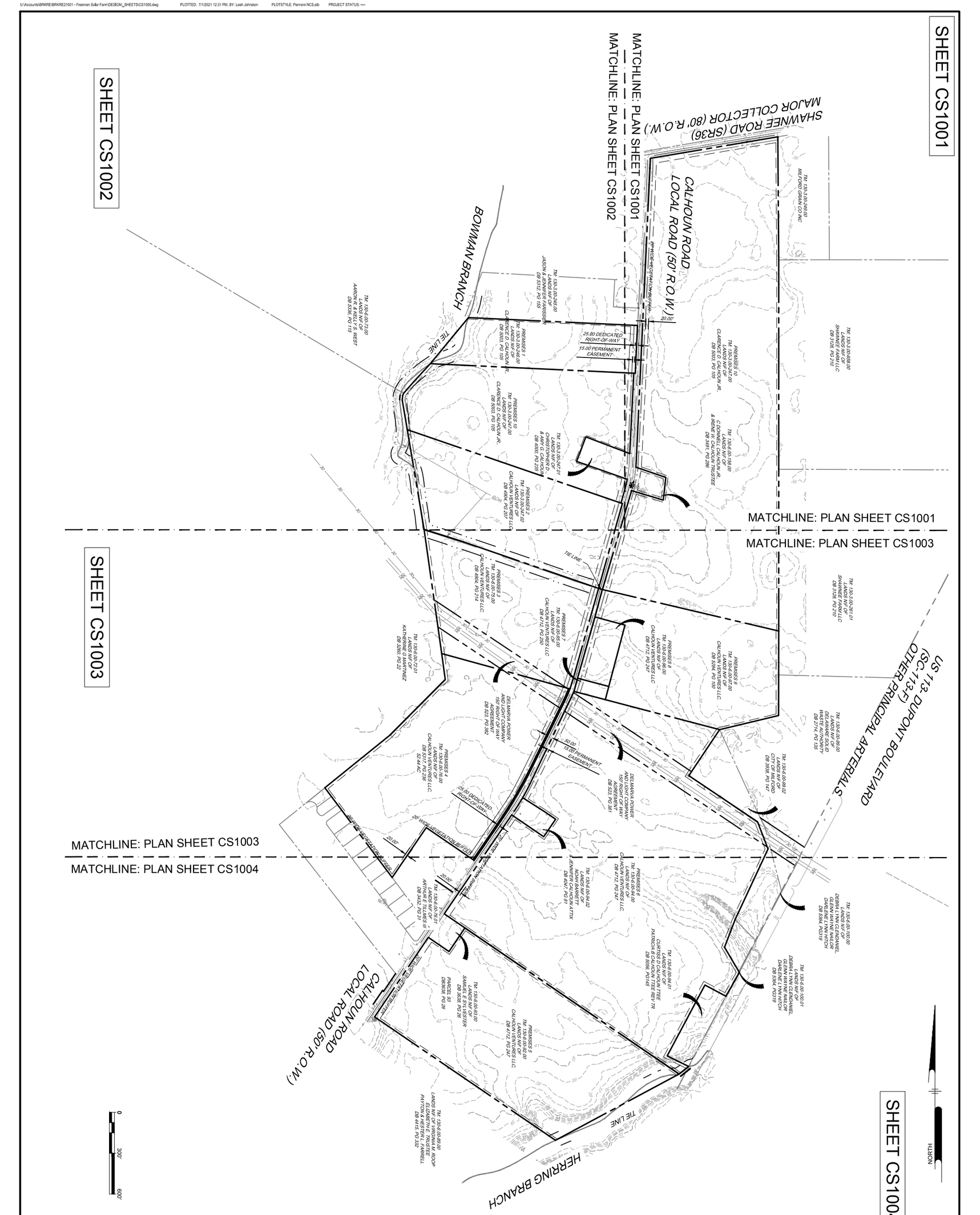


DATE	NO.	REVISIONS	BY

FREEMAN SOLAR GROUND MOUNT
PHOTOVOLTAIC GENERATING FACILITY

CEDAR CREEK HUNDRED
MILFORD, DE 19963

KEY SHEET

FREEMAN SOLAR, LLC
BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

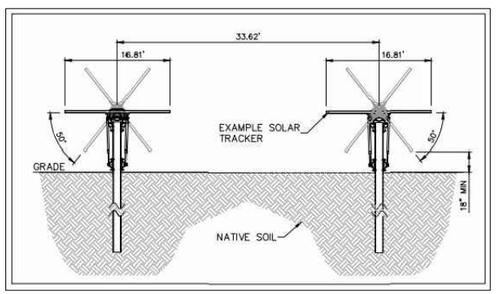
PROJECT BRKRE21001
DATE 2021-06-29
DRAWING SCALE 1"=300'
DRAWN BY LYU
APPROVED BY AMD

CS1000
SHEET 2 OF 6

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

PV System Power Summary						
Inverter No.	Inverter AC Rating (MW)	PV Module Rating (W)	Qty Of Modules	Qty of Strings	DC Power (MW)	DC/AC Ratio
1	3.000	660	6600	220	4.356	1.45
2	3.000	660	6630	221	4.376	1.46
3	3.000	660	6000	200	3.960	1.32
4	3.000	660	5820	194	3.841	1.28
5	3.000	660	5820	194	3.841	1.28
6	3.000	660	5790	193	3.821	1.27
7	3.000	660	5850	195	3.861	1.29
8	3.000	660	5370	179	3.544	1.18
9	3.000	660	5400	180	3.564	1.19
10	3.000	660	5370	179	3.544	1.18
11	3.000	660	5400	180	3.564	1.19
12	3.000	660	5310	177	3.505	1.17
13	3.000	660	5370	179	3.544	1.18
14	3.000	660	5310	177	3.505	1.17
15	3.000	660	5490	183	3.623	1.21
16	3.000	660	5370	179	3.544	1.18
17	3.000	660	5340	178	3.524	1.17
18	3.000	660	5340	178	3.524	1.17
19	3.000	660	5340	178	3.524	1.17
20	3.000	660	5370	179	3.544	1.18
21	3.000	660	5280	176	3.485	1.16
22	3.000	660	5160	172	3.406	1.14
23	3.000	660	5310	177	3.505	1.17
24	3.000	660	5280	176	3.485	1.16
25	3.000	660	5280	176	3.485	1.16
Total			138,600	4,620	91.5	1.22

DETAIL - PV SYSTEM POWER SUMMARY
NOT TO SCALE
1 CS-1001



DETAIL - SAMPLE TRACKER DETAIL
NOT TO SCALE
2 CS-1001

SYSTEM PROPERTIES	
	CANADIAN SOLAR CS7N-660MB-AG 660W MODULES
AZIMUTH / AXIS TILT	S0°E (0°) / 0°
TRACKER ROTATION LIMITS	±50°
RACKING	QTY: 2-STRING - 201 / 3-STRING - 1406 33.62' PITCH
MODULES	QTY: 138,600
MODULES/STRING	30
INVERTERS	3,000kW SMA SUNNY CENTRAL 3000-EV (QTY: 25)
DC SIZE (MW)	91.50
AC SIZE (MW)	75.00
OVERBUILD RATIO (DC/AC)	1.22
GROUND COVERAGE RATIO (GCR)	50.00

DETAIL - SYSTEM PROPERTIES
NOT TO SCALE
3 CS-1001

0 100' 200'

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

FREEMAN SOLAR GROUND MOUNT
PHOTOVOLTAIC GENERATING FACILITY
CEDAR CREEK HUNDRED
MILFORD, DE 19963

CONDITIONAL USE SITE PLAN
FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

NO.	DATE	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	BRKRE21001
DATE	2021-06-09
DRAWING SCALE	1"=100'
DRAWN BY	LYJ
APPROVED BY	AMD

CS1001

SHEET 3 OF 6

U:\Actual\BRKRE\BRKRE21001 - Freeman Solar Farm\CES\ROL_SHEETS\CS1001.dwg PLOTTED: 7/7/2021 12:29 PM, BY: Liam Johnston PLOTSTYLE: Pennoni.ctb PROJECT STATUS: —

DATE	NO.	REVISIONS	BY

FREEMAN SOLAR GROUND MOUNT
PHOTOVOLTAIC GENERATING FACILITY

CEDAR CREEK HUNDRED
MILFORD, DE 19963

CONDITIONAL USE SITE PLAN

FREEMAN SOLAR, LLC
BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

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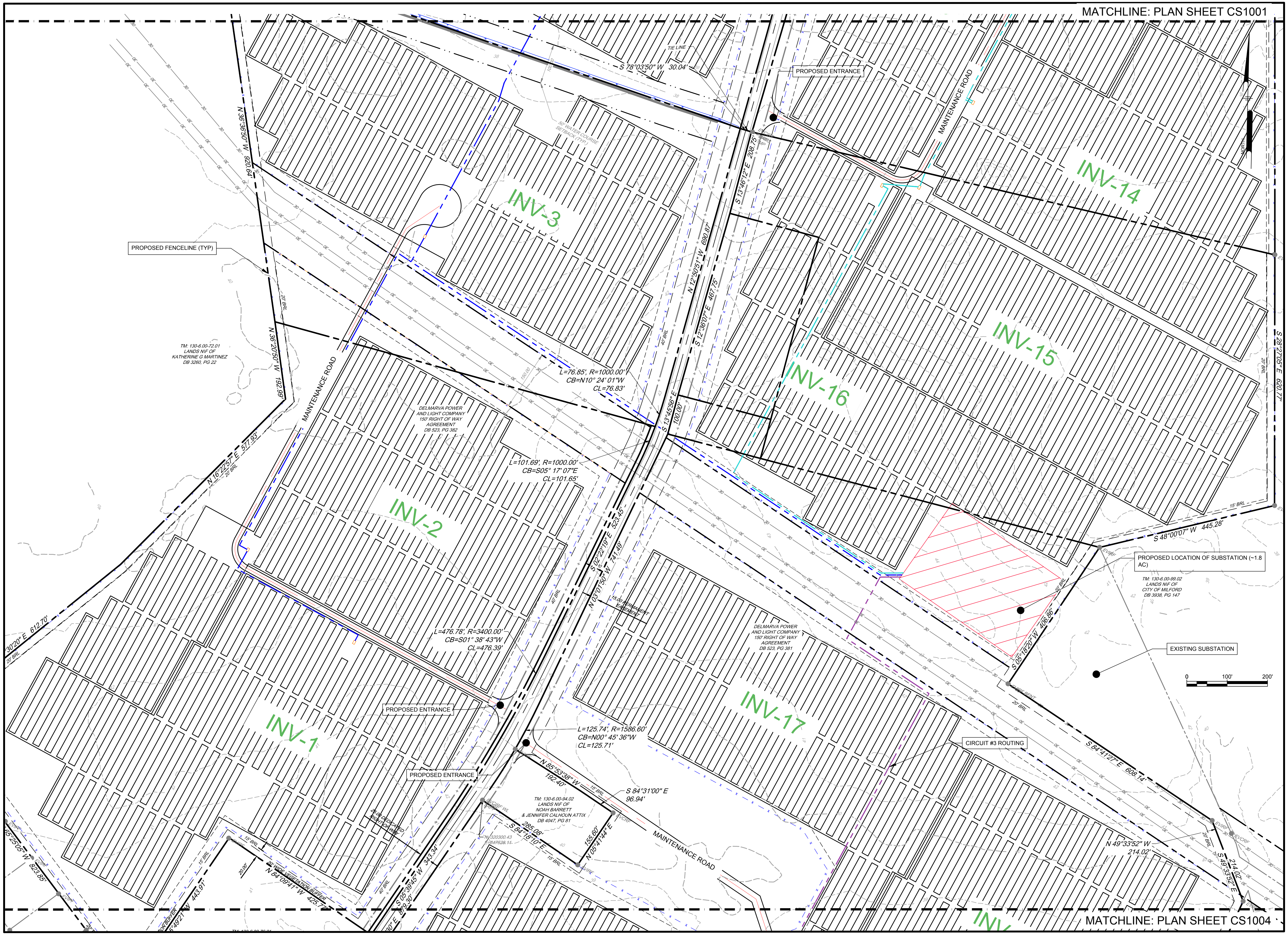
PROJECT BRKRE21001
DATE 2021-06-29
DRAWING SCALE 1"=100'
DRAWN BY LYJ
APPROVED BY AMD

CS1002
SHEET 4 OF 6

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054



ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

FREEMAN SOLAR GROUND MOUNT PHOTOVOLTAIC GENERATING FACILITY
CEDAR CREEK HUNDRED
MILFORD, DE 19963

CONDITIONAL USE SITE PLAN

FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

DATE	NO.	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	BRKRE21001
DATE	2021-06-09
DRAWING SCALE	1"=100'
DRAWN BY	LYJ
APPROVED BY	AMD

CS1003

SHEET 5 OF 6

U:\Accounts\BRKRE\BRKRE21001 - Freeman Solar Farm\DESIGN_SHEETS\CS1003.dwg PLOTTED: 7/1/2021 12:03 PM, BY: Leah Johnston PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: ---

DATE	NO.	REVISIONS	BY

FREEMAN SOLAR GROUND MOUNT PHOTOVOLTAIC GENERATING FACILITY

CEDAR CREEK HUNDRED
MILFORD, DE 19963

CONDITIONAL USE SITE PLAN

FREEMAN SOLAR, LLC
BROOKFIELD RENWEABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

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PROJECT BRKRE21001
DATE 2021-06-29
DRAWING SCALE 1"=100'
DRAWN BY LYU
APPROVED BY AMD

CS1004
SHEET 6 OF 6

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

Pennoni

18072 Davidson Drive
Milton, DE 19968
T: 302-684-8030
F: 302-684-8054

www.pennoni.com

PARTICULAR DESCRIPTION
FOR THE PURPOSE OF A
CONDITIONAL USE APPLICATION
FOR
FREEMAN SOLAR, LLC

LANDS NOW OR FORMERLY OF
CLARENCE D. CALHOUN, JR.
CALHOUN VENTURES, LLC

CEDAR CREEK HUNDRED
SUSSEX COUNTY, DELAWARE

TAX MAP
130-3.00-246.00
130-3.00-247.00
130-3.00-247.02
130-6.00-75.00
130-6.00-76.00
130-6.00-92.00
130-6.00-94.00
130-6.00-95.00
130-6.00-96.00
130-6.00-97.00

All those certain lot, piece, and parcel of land, located along East and West side of Calhoun Road and South Shawnee Road and West of South Dupont Boulevard, situate in Cedar Creek Hundred, Sussex County, State of Delaware, and being more particularly described as follows:

BEGINNING, for the purpose of a conditional use for the above-described tax parcel numbers the following combined description:

Thence along a portion of **TM 130-3.00-247.00.**

1) **South 28 degrees, 56 minutes, 22 seconds East, 904.15 feet more or less to a point,**

2) **South 28 degrees, 32 minutes, 01 seconds East, 2,724.75 feet more or less to a point,**

Thence along portion of **TM 130-6.00-97.00**

1) **South 28 degrees, 27 minutes, 05 seconds East, 620.77 feet more or less to a point,**
2) **South 48 degrees, 00 minutes, 07 seconds West, 445.28 feet more or less to a point,**

Thence along a portion of **TM 130-6.00-94.00**

1) **South 05 degrees, 18 minutes, 20 seconds West, 406.86 feet more or less to a point,**
2) **South 84 degrees, 41 minutes, 27 seconds East, 608.14 feet more or less to a point,**
3) **South 49 degrees, 33 minutes, 52 seconds East, 214.02 feet more or less to a point,**
4) **South 03 degrees, 32 minutes, 45 seconds East, 571.31 feet to a point,**
5) **South 07 degrees, 30 minutes, 31 seconds East, 217.91 feet more or less to a point,**
6) **South 59 degrees, 07 minutes, 59 seconds East, 214.70 feet more or less to a point,**
7) **South 00 degrees, 55 minutes, 36 seconds West, 201.17 feet more or less to a point,**
8) **North 89 degrees, 32 minutes, 52 seconds East, 158.00 feet more or less to a point,**
9) **South 89 degrees, 27 minutes, 07 seconds East, 17.00 feet more or less to a point,**
10) **South 00 degrees, 27 minutes, 07 seconds East, 590.00 feet more or less to a point,**
11) **North 87 degrees, 35 minutes, 03 seconds East, 175.10 feet more or less to the approximate centerline of Herring Branch,**
12) **South 22 degrees, 29 minutes, 10 seconds West, 89.48 feet more or less along the approximate centerline of Herring Branch**

Thence along the approximate centerline of Herring Branch and portion of **TM 130-6.00-92.00**

1) **South 33 degrees, 17 minutes, 23 seconds West, 1,030.21 feet more or less, as a tie line along the approximate centerline of Herring Branch, to a point,**
2) **North 84 degrees, 14 minutes, 30 seconds West, 1,608.30 feet more or less to a point,**
3) **North 05 degrees, 30 minutes, 30 seconds East, 704.56 feet more or less to a point,**
4) **South 84 degrees, 14 minutes, 30 seconds East, 184.00 feet more or less to a point,**
5) **North 05 degrees, 30 minutes, 30 seconds East, 209.00 feet more or less to a point,**

Thence along a portion of **TM 130-6.00-94.00**

1) **North 84 degrees, 14 minutes, 30 seconds West, 184.07 feet more or less to a point**
2) **North 05 degrees, 46 minutes, 30 seconds East, 879.30 feet more or less to a point,**
3) **South 84 degrees, 18 minutes, 10 seconds East, 285.08 feet more or less to a point,**
4) **North 05 degrees 41 minutes 44 seconds East, 155.60 feet more or less to a point,**
5) **North 84 degrees, 31 minutes, 00 seconds West, 96.94 feet more or less to a point,**
6) **North 85 degrees, 53 minutes, 38 seconds West, 192.40 feet more or less to a point,**
7) **A curve to the left said curve having an Arc Distance of 125.74 feet more or less, Radius of 1,586.60 feet more or less, Delta 04 degrees, 32 minutes, 27 seconds, Chord Direction of North 00 degrees, 45 minutes, 36 seconds West, 125.71 feet more or less to a point,**
8) **North 03 degrees, 01 minutes, 50 seconds West, 741.49 feet more or less to a point,**

Thence along a portion of **TM 130-6.00-95.00**

1) **North 13 degrees, 45 minutes, 56 seconds West, 100.00 feet more or less to a point**

Thence along a portion of **TM 130-6.00-96.00**

1) **North 12 degrees, 36 minutes, 07 seconds West, 467.75 feet more or less to a point,**

Thence along a portion of **TM 130-6.00-97.00**

1) **North 13 degrees, 46 minutes, 12 seconds West, 208.75 feet more or less, to point,**

Said point being a tie line combining these parcels on the East side of Calhoun Road to the parcels located on the West side of Calhoun Road; thence crossing Calhoun Road **South 78 degrees, 03 minutes, 50 seconds West, 30.04 feet more or less to a point;** said point being at or near the approximate centerline of the beginning of Bowman Branch;

Thence along a portion of **TM 130-6.00-75.00**

1) **South 12 degrees, 50 minutes, 51 seconds East, 690.87 feet more or less to a point,**
2) **With a curve to the right, said curve having a Radius of 1000.00 feet more or less, an Arc Distance of 76.85 feet more or less, Delta of 4 degrees, 24 minutes, 11 seconds with a Chord Direction of North 10 degrees, 24 minutes, 01 seconds West, 76.83 feet to a point,**

Thence along a portion of **TM 130-6.00-76.00**

1) **With a curve to the right, said curve having a Radius of 1000.00 feet more or less, an Arc Distance of 101.69 feet more or less, Delta 05 degrees, 49 minutes, 36 seconds and Chord Direction of South 05 degrees, 17 minutes, 07 seconds East, 122.58 feet more or less to a point,**

2) **South 02 degrees, 22 minutes, 19 seconds East, 523.45 feet more or less to a point,**
3) **With a curve to the right, said curve having a Radius of 3400.00 feet more or less, Arc Distance of 476.78 feet more or less, Delta of 8 degrees, 02 minutes, 05 seconds, a Cord Distance of South 01 degrees, 38 minutes, 34 seconds West, 476.39 feet more or less to a point,**
4) **South 05 degrees, 39 minutes, 45 seconds West, 343.34 feet more or less to a point,**
5) **North 84 degrees, 09 minutes, 41 seconds West, 425.77 feet more or less to a point,**
6) **South 05 degrees, 49 minutes, 21 seconds West, 443.91 feet more or less to a point,**
7) **North 65 degrees, 25 minutes, 05 seconds West, 823.85 feet more or less to a point,**
8) **North 22 degrees, 30 minutes, 20 seconds East, 612.70 feet more or less to a point,**
9) **North 16 degrees, 22 minutes, 57 seconds East, 577.93 feet more or less to a point,**
10) **North 36 degrees, 20 minutes, 50 seconds West, 192.99 feet more or less to a point,**

Thence along a portion of **TM 130-6.00-75.00**

1) **North 36 degrees, 36 minutes, 50 seconds West, 920.64 feet more or less to the approximate centerline of Bowman Branch,**

Thence meandering along the approximate centerline of Bowman Branch and then leaving Bowman Branch while remaining along a portion of **TM 130-3.00-247.02**

1) **North 38 degrees, 06 minutes, 57 seconds West, 742.86 feet more or less,**

Thence meandering approximately parallel to Bowman Branch and along a portion **TM 130-3.00-247.00**

1) **North 38 degrees, 08 minutes, 18 seconds West, 220.33 feet more or less to a point,**
2) **North 22 degrees, 30 minutes, 48 seconds West, 33.76 feet more or less to a point,**
3) **North 07 degrees, 19 minutes, 03 seconds West, 16.92 feet more or less to a point,**
4) **North 12 degrees, 35 minutes, 12 seconds East, 110.87 feet more or less to a point,**
5) **North 14 degrees, 07 minutes, 16 seconds East, 182.70 feet more or less to the approximate centerline of Bowman Branch,**

Thence along the approximate centerline of Bowman Branch and portion of **TM 130-3.00-246.00**

1) **North 11 degrees, 05 minutes, 46 seconds East, 439.22 feet more or less, as a tie line along the approximate centerline of Bowman Branch, to a point,**

Thence along a portion of **TM 130-3.00-246.00**

1) **North 64 degrees, 08 minutes, 43 seconds East, 1,243.23 feet more or less to a point,**
2) **South 25 degrees, 51 minutes, 17 seconds East, 351.00 feet more or less to a point,**

Thence along a portion of **TM 130-3.00-247.00**

1) **South 64 degrees, 08 minutes, 43 seconds, West, 10.54 feet more or less to a point,**
2) **South 24 degrees, 34 minutes, 48 seconds East, 590.95 feet more or less to a point,**
3) **South 82 degrees, 14 minutes, 53 seconds West, 345.00 feet more or less to a point,**
4) **South 07 degrees, 49 minutes, 38 seconds East, 192.68 feet more or less to a point,**
5) **North 80 degrees, 51 minutes, 06 seconds East, 395.00 feet more or less to a point,**

6) **A curve to the right, said curve having an Arc Distance of 71.44 feet more or less, Radius of 865.14 feet more or less, Delta 04 degrees, 43 minutes, 53 seconds, Chord Direction of South 15 degrees, 55 minutes, 54 seconds East, 71.41 feet more or less to a point,**
7) **South 12 degrees, 53 minutes, 13 seconds East, 109.40 feet more or less to a point,**

Thence along a portion of **TM 130-3.00-247.02**

1) **North 80 degrees, 25 minutes, 12 seconds East, 10.19 feet more or less to a point,**
2) **South 12 degrees, 51 minutes, 19 seconds East, 646.81 feet more or less to a point,**

Said point being at or near the approximate centerline of the beginning of Bowman Branch and said point being a tie line combining these parcels on the West side of Calhoun Road to the parcels located on the East side of Calhoun Road; thence crossing Calhoun Road **North 78 degrees, 03 minutes, 50 seconds East, 30.04 feet more or less to a point,**

Thence along a portion of **TM 130-3.00-247.00**

1) **North 12 degrees, 07 minutes, 50 seconds West, 757.08 feet more or less to a point,**
2) **North 78 degrees, 03 minutes, 04 seconds East, 243.00 feet more or less to a point,**
3) **North 22 degrees, 09 minutes, 38 seconds West, 167.31 feet more or less to a point,**
4) **South 80 degrees, 21 minutes, 24 seconds West, 232.22 feet more or less to a point,**
5) **With a curve to the left having an Arc Distance of 29.31 feet more or less, Radius of 906.47 feet more or less, Delta of 01 degrees, 51 minutes, 10 seconds, Chord Direction of North 24 degrees, 32 minutes, 49 seconds West, 29.31 feet more or less to a point,**
6) **North 25 degrees, 51 minutes, 17 seconds West, 2,240.91 feet more or less to a point,**

7) **North 51 degrees, 51 minutes, 45 seconds East, 949.40 feet more or less to a point,**

said point being the **POINT OF BEGINNING** for this description.

Said property shown on a plat prepared by Pennoni Associates Inc. and entitled "Conditional Use Site Plan" dated 06/30/2021 containing 350.96 acres of land more or less.

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

NICOLE MAJESKI
SECRETARY

April 15, 2021

Mr. Jamie Whitehouse, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **Mr. David M. Herskovits, VP – Asset Development, Brookfield Renewable, U. S.** proposed land use application, which we received on April 12, 2021. This application is for an approximately 347.62-acre assemblage of parcels (Tax Parcels: 130-3.00-246.00, 130-3.00-247.00, 130-3.00-247.02, 130-6.00-75.00, 130-6.00-76.00, 130-6.00-97.00, 130-6.00-96.00, 130-6.00-95.00, 130-6.00-94.00, 130-6.00-92.00). The parcels are located on the east and west sides of Calhoun Road from Shawnee Road to Isdell Drive. Tax Parcel 130-3.00-247.00 is located on the south east corner of Shawnee Road and Calhoun Road. Tax Parcel 130-6.00-94.00 has frontage on Dupont Boulevard. The subject lands are currently zoned GR (General Residential), MR (Medium-Density Residential), AR-1 (Agriculture Residential), and the applicant seeks a conditional use approval for a Solar Farm.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volume along Calhoun Road (Sussex Road 621), is 812 vehicles per day. The annual average daily traffic volume along Shawnee Road (Sussex Road 36) from Dupont Boulevard (US 113) to North Union Church Road (Sussex Road 42), is 3,719 vehicles per day. The annual average daily traffic volume along Dupont Boulevard (US 113) from Lakeview Road (Sussex Road 36) to Fitzgeralds Road, is 7,468 vehicles per day.

Based on our review, we estimate that the above land use will generate fewer than 50 vehicle trips per day. This number of trips is below DelDOT's minimum warrants for determining that a Traffic Impact Study (TIS) should be required for a particular development. DelDOT's regulations specify the minimum TIS warrants as 50 vehicle trips in any hour and/or 500 vehicle trips per day. Because the proposed land use would generate fewer than 50 vehicle trips per day, we consider the development's traffic impact to be **diminutive** in the context of our agreement with the County regarding land development coordination and we do not recommend that the applicant be required to perform a TIS for the subject application. DelDOT's description of this

application as diminutive with regard to warranting a TIS does not mean that it is diminutive in other respects. We recommend that the applicant not be required to perform a TIS for the subject application.

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Ms. Annamaria Furmato, at (302) 760-2710, if you have questions concerning this correspondence.

Sincerely,

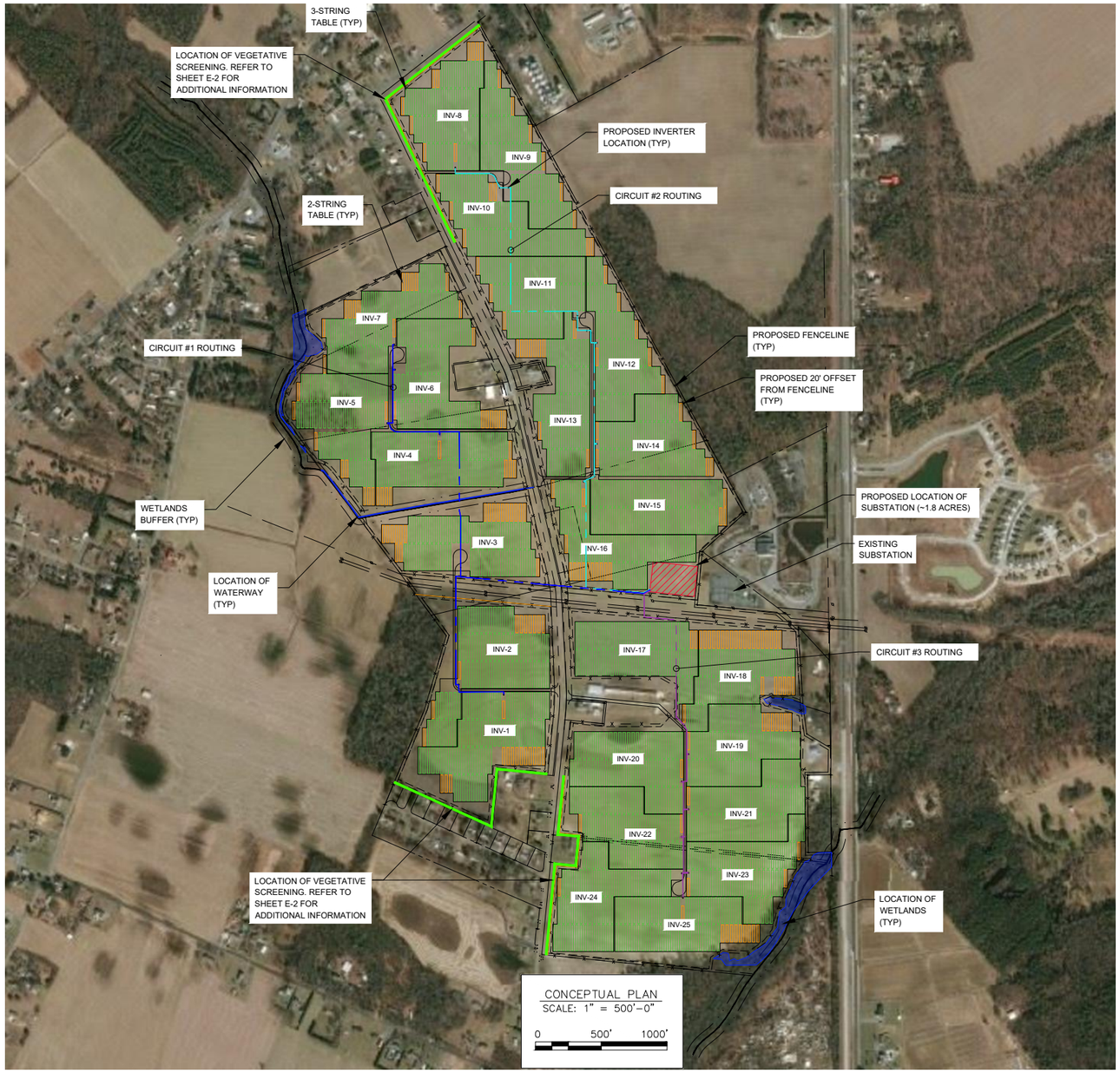
T. William Brockenbrough, Jr.

T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:afm
cc: David M. Herskovits, Brookfield Renewable, U. S., Applicant
Mark H. Davidson, Pennoni Associates, Inc.
Russell Warrington, Sussex County Planning & Zoning
Constance C. Holland, Coordinator, Cabinet Committee on State Planning Issues
Todd Sammons, Assistant Director, Development Coordination
Scott Rust, South District Public Works Manager, Maintenance & Operations
Steve McCabe, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination
Annamaria Furmato, Project Engineer, Development Coordination

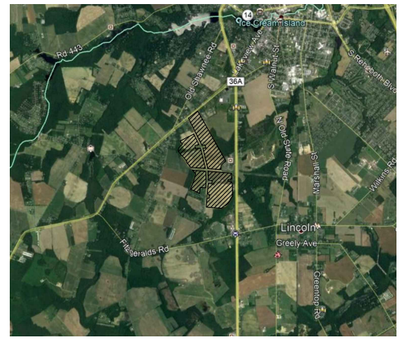
TAB 2

EXHIBITS



CONCEPTUAL PLAN
SCALE: 1" = 500'-0"
0 500' 1000'

NOTES:
1. BASE IMAGERY COPYRIGHT MICROSOFT AND DIGITAL GLOBE 2021.
2. 14' INTERIOR ROADS
3. MINIMUM SETBACKS CONSIDERED:
   a. 20' MINIMUM FROM FENCE TO INTERIOR ROADS OR PV ARRAY
   b. 53' RADIUS ALLOWED FOR TURNAROUNDS



A KEYMAP–GPS: 38°52'55.71"N 75°26'49.52"W
N.T.S

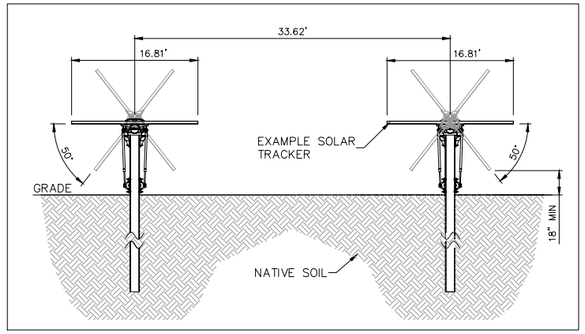
SYSTEM PROPERTIES	
	CANADIAN SOLAR CS7N-660MB-AG 660W MODULES
AZIMUTH / AXIS TILT	S0°E (0°) / 0°
TRACKER ROTATION LIMITS	±50°
RACKING	QTY: 2-STRING - 201 / 3-STRING - 1406 33.62' PITCH
MODULES	QTY: 138,600
MODULES/STRING	30
INVERTERS	3,000kW SMA SUNNY CENTRAL 3000-EV (QTY: 25)
DC SIZE (MW)	91.50
AC SIZE (MW)	75.00
OVERBUILD RATIO (DC/AC)	1.22
GROUND COVERAGE RATIO (GCR)	50.00

B SYSTEM PROPERTIES
N.T.S

PV System Power Summary

Inverter No.	Inverter AC Rating (MW)	PV Module Rating (W)	Qty Of Modules	Qty of Strings	DC Power (MW)	DC/AC Ratio
1	3.000	660	6600	220	4.356	1.45
2	3.000	660	6630	221	4.376	1.46
3	3.000	660	6000	200	3.960	1.32
4	3.000	660	5820	194	3.841	1.28
5	3.000	660	5820	194	3.841	1.28
6	3.000	660	5790	193	3.821	1.27
7	3.000	660	5850	195	3.861	1.29
8	3.000	660	5370	179	3.544	1.18
9	3.000	660	5400	180	3.564	1.19
10	3.000	660	5370	179	3.544	1.18
11	3.000	660	5400	180	3.564	1.19
12	3.000	660	5310	177	3.505	1.17
13	3.000	660	5370	179	3.544	1.18
14	3.000	660	5310	177	3.505	1.17
15	3.000	660	5490	183	3.623	1.21
16	3.000	660	5370	179	3.544	1.18
17	3.000	660	5340	178	3.524	1.17
18	3.000	660	5340	178	3.524	1.17
19	3.000	660	5340	178	3.524	1.17
20	3.000	660	5370	179	3.544	1.18
21	3.000	660	5280	176	3.485	1.16
22	3.000	660	5160	172	3.406	1.14
23	3.000	660	5310	177	3.505	1.17
24	3.000	660	5280	176	3.485	1.16
25	3.000	660	5280	176	3.485	1.16
Total			138,600	4,620	91.5	1.22

C PV SYSTEM POWER SUMMARY
N.T.S



D SAMPLE TRACKER DETAIL
N.T.S

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD
0 CONCEPT DESIGN	CMA	TX	21.06.22

Brookfield Renewable U.S.

Stantec
1599 RT 34 Suite 3
Wall Township, NJ
www.stantec.com

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Client/Project
BROOKFIELD RENEWABLE US
75MW AC FREEMAN SOLAR

MILFORD, SUSSEX COUNTY, DE

File Name: E-1 Conceptual PV Layout	CMA Dwn.	TX Chkd.	CMA Dsgn.	21.06.15 YY.MM.DD

Title
CONCEPTUAL LAYOUT

Project No.	Scale	
2028095052	AS SHOWN	
Drawing No.	Sheet	Revision
E-1	1 of 1	0

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2021/06/23 8:56 AM By: Anderson, Chris

VICINITY MAP

1" = 2000'

DESCRIPTION AND RECITAL
(PER TITLE COMMITMENT NO. CTIC-21001994)

PREMISES 1
(PARCEL #1-30-3.00-246.00)

ALL THAT CERTAIN TRACT, PIECE OR PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, AND STATE OF DELAWARE, DESCRIBED MORE PARTICULARLY AS FOLLOWS, TO WIT:

BEGINNING AT A POINT IN THE CENTER OF THE ROAD LEADING FROM THE RESIDENCE NOW OR FORMERLY OF CLARENCE CALHOUN TO THE CITY OF MILFORD, THE SAME BEING A CORNER FOR LANDS NOW OR FORMERLY OF SAID CALHOUN, THENCE WITH SAID LANDS SOUTH 73 DEGREES 50 MINUTES WEST 1,392 FEET TO A DITCH; THENCE WITH SAID DITCH ABOUT 35] FEET OR SUCH DISTANCE AS WILL REACH THE CORNER OF LANDS NOW OR FORMERLY OF MEDFORD JONES, THENCE WITH SAID LANDS NOW OR FORMERLY OF JONES, NORTH 73 DEGREES 50 MINUTES EAST 1,280 FEET TO THE AFORESAID ROAD, THENCE THEREWITH SOUTH 16 DEGREES 10 MINUTES EAST 351 FEET TO THE PLACE OF BEGINNING.

PREMISES 2
(PARCEL #1-30-3.00-247.02)

ALL THAT CERTAIN LOT, PIECE AND PARCEL OF LAND, LYING AND BEING SITUATED IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, STATE OF DELAWARE, BEING DESIGNATED AS LOT A ON THAT "SUBDIVISION SURVEY PLAN PREPARED FOR CALHOUN VENTURES, LLC, CLARENCE D. CALHOUN, JR., CO-TRUSTEE & CURTISS D. CALHOUN, CO-TRUSTEE," PREPARED BY ADAMS-KEMP ASSOCIATES, INC., PROFESSIONAL LAND SURVEYORS AS PER SURVEY PLAN NO. 180107-C, MOST RECENTLY REVISED ON MARCH 27, 2018 AND RECORDED IN PLOT BOOK 264, PAGE 33, IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY IN THE COUNTY ADMINISTRATION BUILDING IN GEORGETOWN, DELAWARE, MORE PARTICULARLY DESCRIBED AS FOLLOWS TO WIT:

BEGINNING AT A SET IRON BAR ALONG THE WESTERLY RIGHT-OF-WAY LINE OF COUNTY ROAD 621 (AT 30' WIDE) AT A CORNER OF THIS LOT AND THE RESIDUAL LANDS NOW OR FORMERLY OF CALHOUN VENTURES, LLC, CLARENCE D. CALHOUN, JR., CO-TRUSTEE & CURTISS D. CALHOUN, CO-TRUSTEE, THENCE ALONG THE WESTERLY RIGHT-OF-WAY LINE OF COUNTY ROAD 621, SOUTH 12° 51' 19" EAST 646.81 FEET TO A POINT IN A DITCH AT A CORNER OF THIS LOT AND OTHER LANDS NOW OR FORMERLY OF CALHOUN VENTURES, LLC, CLARENCE D. CALHOUN, JR., CO-TRUSTEE & CURTISS D. CALHOUN, CO-TRUSTEE, THENCE WITH THE CENTERLINE OF THE DITCH THE FOLLOWING TWO (2) COURSES AND DISTANCES:

1) SOUTH 80° 26' 46" WEST 1045.30 FEET,
2) SOUTH 79° 03' 13" WEST 307.54 FEET TO A SET IRON BAR IN ANOTHER DITCH ALONG THE LINE OF LANDS NOW OR FORMERLY OF KATHERINE G. MARTINEZ, THENCE NORTH 38° 06' 57" WEST 742.86 FEET TO A SET IRON BAR, THENCE ALONG A NEW LINE NORTH 80° 25' 12" EAST 1670.66 FEET TO THE POINT AND PLACE OF BEGINNING.

PREMISES 3
(PARCEL #1-30-6.00-75.00)

ALL THAT CERTAIN PIECE AND PARCEL OF LAND, SITUATE, LYING AND BEING IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, AND STATE OF DELAWARE, DESCRIBED AS FOLLOWS, TO WIT:

BEGINNING IN THE CENTER OF THE PUBLIC ROAD LEADING FROM SHAWNEE TO THE VILLAGE OF LINCOLN, THE SAME BEING A CORNER FOR OTHER LANDS NOW OR FORMERLY OF JOSEPH L. CALHOUN AND RUNNING THENCE WITH THE CENTER OF SAID ROAD N 6° W 46 PERCHES, THENCE WITH A DITCH AND IN LINE OF LANDS NOW OR FORMERLY OF C. E. PARKER, S 87%° W 82.8 PERCHES TO ANOTHER DITCH IN LINE OF LANDS NOW OR FORMERLY OF HARRY BETTS, THENCE WITH SAID BETTS LINE, S 29° E 55.8 PERCHES TO A POST FOR A CORNER THE SAME BEING A CORNER FOR LANDS OF SAID JOSEPH L. CALHOUN, THENCE BY LINE FENCE OF SAID CALHOUN, N 84 1/2° E 59.4 TO THE PLACE OF BEGINNING.

PREMISES 4
(PARCEL NO. 1-30-6.00-76.00)

ALL THAT CERTAIN PIECE AND PARCEL OF LAND, SITUATE, LYING AND BEING IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, AND STATE OF DELAWARE, DESCRIBED AS FOLLOWS, TO WIT:

BEGINNING AT A POINT ALONG THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, 30' WIDE, SAID POINT ALSO BEING THE SOUTHEASTERLY CORNER OF CALHOUN VENTURES LLC (130-6.00-75.00) THENCE, RUNNING WITH THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 THE FOLLOWING COURSES AND DISTANCES;

ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 1000.00 FEET, AN ARC DISTANCE OF 101.69 FEET, THE CHORD OF SAID ARC RUNNING S 5°17'07" E 122.58 FEET TO A POINT,

S 2°22'19" E 523.45 FEET TO A POINT,

ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 3400.00 FEET, AN ARC DISTANCE OF 476.78 FEET, THE CHORD OF SAID ARC RUNNING S 1°38'34" W 476.39 FEET TO A POINT,

S 5°39'45" W 343.34 FEET TO A POINT, SAID POINT BEING THE NORTHEASTERLY CORNER OF ARTHUR E. TILLMES III (130-6.00-76.01), THENCE DEPARTING THE SOUTHERLY RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE LINE OF TILLMES, THE FOLLOWING COURSES AND DISTANCES;

N 84°09'41" W 425.77 FEET TO A POINT,

N 5°49'21" W 443.91 FEET TO A POINT,

THENCE DEPARTING THE LINE OF TILLMES AND RUNNING N 65°25'05" W 823.85 FEET TO A POINT, SAID POINT ALSO BEING THE SOUTHEASTERLY CORNER OF KATHERINE G. MARTINEZ (130-6.00-72.01), THENCE RUNNING WITH THE LINE OF MARTINEZ THE FOLLOWING COURSES AND DISTANCES;

N 22°30'20" E 612.70 FEET TO A POINT,

N 16°22'57" E 577.93 FEET TO A POINT,

N 36°20'50" W 192.99 FEET TO A POINT, SAID POINT ALSO BEING THE SOUTHWESTERLY CORNER OF AFOREMENTIONED CALHOUN VENTURES LLC (130-6.00-75.00), THENCE DEPARTING THE LINE OF MARTINEZ AND RUNNING WITH THE LINE OF CALHOUN VENTURES LLC, N 76°52'41" E 976.65 TO THE POINT OF BEGINNING, AND CONTAINING 1,511,508 SQUARE FEET OR 34.6994 ACRES OF LAND, MORE OR LESS.

PREMISES 5
(PARCEL #1-30-6.00-92.00)

ALL THAT CERTAIN TRACT, PIECE OR PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, AND STATE OF DELAWARE, DESCRIBED MORE PARTICULARLY AS FOLLOWS, TO WIT:

BEGINNING AT A POINT ALONG THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, 30' WIDE, SAID POINT ALSO BEING THE SOUTHWESTERLY CORNER OF SAMUEL E. SYLVESTER (130-6.00-93.00) THENCE, DEPARTING THE EASTERN RIGHT-OF -WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE LINE OF SYLVESTER, THE FOLLOWING COURSES AND DISTANCES;

S 84°14'30" E 184.00 FEET TO A POINT,

N 5°30'30" E 209.00 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE SOUTHERLY LINE OF CALHOUN VENTURES LLC (30-6.00-94.00), THENCE, DEPARTING THE LINE OF SYLVESTER AND RUNNING WITH THE SOUTHERLY LINE OF CALHOUN VENTURES LLC,

S 84°14'30" E 1904.48 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE APPROXIMATE CENTERLINE OF HERRING BRANCH, THENCE DEPARTING THE LINE OF CALHOUN VENTURES AND RUNNING S 33°17'23" W 1030.21 FEET TO A POINT ALONG THE APPROXIMATE CENTERLINE OF HERRING BRANCH, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF VIRGINIA M. ROOP (130-6.00-89.00),

THENCE DEPARTING THE APPROXIMATE CENTERLINE OF HERRING BRANCH AND RUNNING WITH THE LINE OF ROOP, N 84°14'30" W 1608.30 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE AFORMENTIONED NORTHERLY RIGHT-OF-WAY LINE OF COUNTRY ROAD 621,

THENCE DEPARTING THE LINE OF ROOP AND RUNNING WITH THE NORTHERLY RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, N 5°30'30" E 704.56 FEET TO THE POINT OF BEGINNING AND CONTAINING 1,650,136 SQUARE FEET OR 37.8819 ACRES OF LAND, MORE OR LESS.

PREMISES 6
(PARCEL #1-30-6.00-94.00)

ALL THAT CERTAIN TRACT, PIECE OR PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, AND STATE OF DELAWARE, DESCRIBED MORE PARTICULARLY AS FOLLOWS, TO WIT:

BEGINNING AT A POINT ALONG THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, SAID POINT ALSO BEING THE NORTHWESTERLY CORNER OF SAMUEL E. SYLVESTER (130-6.00-93.00),

THENCE, RUNNING WITH THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 N 5°46'30" E 879.30 FEET TO A POINT, SAID POINT ALSO BEING THE SOUTHWESTERLY CORNER OF NOAH BARRETT (130-6.00-94.02),

THENCE, DEPARTING THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE LINE OF BARRETT THE FOLLOWING COURSES AND DISTANCES;

S 84°18'10" E 265.08 FEET TO A POINT,

N 5°41'44" E 155.60 FEET TO A POINT,

N 84°31'00" W 96.94 FEET TO A POINT,

N 85°53'38" W 192.40 FEET TO A POINT, SAID POINT ALSO BEING ON THE AFORMENTIONED EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621,

THENCE DEPARTING THE LINE OF BARRETT AND RUNNING WITH THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 THE FOLLOWING COURSES AND DISTANCES;

ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 1586.60 FEET, AN ARC DISTANCE OF 125.74 FEET, THE CHORD OF SAID ARC RUNNING N 0°45'36" W 125.71 FEET TO A POINT,

N 3°01'50" W 741.49 FEET TO A POINT, SAID POINT ALSO BEING THE SOUTHWESTERLY CORNER OF CALHOUN VENTURES LLC (130-6.00-95.00),

THENCE, DEPARTING THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH CALHOUN VENTURES LLC, N 76°13'57" E 237.39 FEET TO A POINT, SAID POINT ALSO BEING THE SOUTHWESTERLY CORNER OF CALHOUN VENTURES LLC (130-6.00-97.00),

THENCE, CONTINUING WITH THE LINE OF CALHOUN VENTURES LLC N 76°10'08" E 868.14 FEET TO A POINT, SAID POINT ALSO BEING A SOUTHWESTERLY CORNER TO CITY OF MILFORD (130-6.00-99.02),

THENCE, DEPARTING THE LINE OF CALHOUN VENTURES LLC AND RUNNING WITH THE CITY OF MILFORD THE FOLLOWING COURSES AND DISTANCES;

S 5°18'20" W 406.86 FEET TO A POINT,

S 84°41'27" E 608.14 FEET TO A POINT,

S 49°33'52" E 214.02 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE WESTERLY LINE OF DEBRA LYNN CLENDANIE (130-6.00-100.00),

THENCE, DEPARTING THE LINE OF CITY OF MILFORD AND RUNNING WITH THE LINE OF CLENDANIE THE FOLLOWING COURSES AND DISTANCES;

S 3°32'45" E 571.31 FEET TO A POINT,

S 7°30'31" E 217.91 FEET TO A POINT,

S 59°07'59" E 214.70 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE WESTERN RIGHT-OF-WAY LINE OF DUPONT BOULEVARD (SC-113-F),

THENCE, DEPARTING THE LINE OF CLENDANIE AND RUNNING WITH THE WESTERN RIGHT-OF-WAY LINE OF DUPONT BOULEVARD, S 0°55'36" W 201.17 FEET TO A POINT, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF CURTIS D CALHOUN (130-6.00-94.01),

THENCE DEPARTING THE WESTERN RIGHT-OF-WAY LINE OF DUPONT BOULEVARD AND RUNNING WITH THE LINE OF CALHOUN THE FOLLOWING COURSES AND DISTANCES;

S 89°32'53" W 158.00 FEET TO A POINT,

S 89°27'07" W 17.00 FEET TO A POINT,

S 0°27'07" E 590.00 FEET TO A POINT,

N 87°35'04" E 175.10 FEET TO A POINT, SAID POINT ALSO LYING IN THE APPROXIMATE CENTERLINE OF HERRING BRANCH,

THENCE DEPARTING THE LINE OF CALHOUN AND RUNNING WITH THE APPROXIMATE CENTERLINE OF HERRING BRANCH S 22°29'10" W 89.48 FEET TO A POINT ALONG THE APPROXIMATE CENTERLINE OF HERRING BRANCH, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF CALHOUN VENTURES LLC (130-6.00-92.00),

THENCE DEPARTING THE APPROXIMATE CENTERLINE OF HERRING BRANCH AND RUNNING WITH THE NORTHERLY LINE OF CALHOUN VENTURES LLC, S 84°14'30" E 1904.48 FEET TO A POINT, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF AFOREMENTIONED SYLVESTER,

THENCE DEPARTING THE NORTHERLY LINE OF CALHOUN VENTURES AND RUNNING WITH THE NORTHERLY LINE OF SYLVESTER, S 84°15'23" E 184.07 FEET TO THE POINT OF BEGINNING AND CONTAINING 3,668,940 SQUARE FEET OR 84.2273 ACRES OF LAND, MORE OR LESS.

PREMISES 7
(PARCEL #1-30-6.00-95.00)

ALL THAT CERTAIN TRACT, PIECE OR PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, AND STATE OF DELAWARE, DESCRIBED MORE PARTICULARLY AS FOLLOWS, TO WIT:

BEGINNING AT A POINT ALONG THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, SAID POINT ALSO BEING THE NORTHWESTERLY CORNER OF CALHOUN VENTURES, LLC (130-6.00-94.00),

THENCE, RUNNING WITH THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, N 13°45'56" W 100.00 FEET TO A POINT, SAID POINT ALSO BEING THE SOUTHWESTERN CORNER OF CALHOUN VENTURES LLC (130-6.00-96.00),

THENCE, DEPARTING THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE SOUTHERLY LINE OF CALHOUN VENTURES LLC, N 76°13'57" E 237.39 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE WESTERLY LINE OF CALHOUN VENTURES, LLC (130-6.00-97.00)

THENCE, DEPARTING THE SOUTHERLY LINE OF CALHOUN VENTURES LLC AND RUNNING WITH THE WESTERLY LINE OF CALHOUN VENTURES LLC, S 13°45'56" E 100.00 FEET TO A POINT, SAID POINT ALSO BEING ON THE NORTHERLY LINE OF AFOREMENTIONED CALHOUN VENTURES LLC (130-6.00-94.00),

THENCE, DEPARTING THE WESTERLY LINE OF CALHOUN VENTURES LLC AND RUNNING WITH THE NORTHERLY LINE OF CALHOUN VENTURES LLC, S 76°13'57" W 237.39 TO THE POINT OF BEGINNING AND CONTAINING 23,739 SQUARE FEET OR 0.5449 ACRES OF LAND, MORE OR LESS.

PREMISES 8
(PARCEL #1-30-6.00-96.00)

ALL THAT CERTAIN TRACT, PIECE OR PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, AND STATE OF DELAWARE, DESCRIBED MORE PARTICULARLY AS FOLLOWS, TO WIT:

BEGINNING AT A POINT ALONG THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, SAID POINT ALSO BEING THE NORTHWESTERN CORNER OF CALHOUN VENTURES LLC (130-6.00-95.00),

THENCE, RUNNING WITH THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, N 12°36'07" E 467.75 FEET TO A POINT, SAID POINT ALSO BEING A CORNER TO CALHOUN VENTURES LLC (130-6.00-97.00),

THENCE DEPARTING THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE LINE OF CALHOUN VENTURES LLC THE FOLLOWING COURSES AND DISTANCES;

N 76°35'46" E 227.90 FEET TO A POINT,

S 13°45'56" E 466.21 FEET TO A POINT, SAID POINT ALSO BEING A CORNER TO AFOREMENTIONED CALHOUN VENTURES LLC,

THENCE DEPARTING THE LINE OF CALHOUN VENTURES LLC AND RUNNING WITH THE LINE OF CALHOUN VENTURES LLC, S 76°13'57" E 237.39 FEET TO THE POINT OF BEGINNING AND CONTAINING 108,630 SQUARE FEET OR 2.4938 ACRES OF LAND, MORE OR LESS.

PREMISES 9
(PARCEL #1-30-6.00-97.00)

ALL THAT CERTAIN LOT, PIECE AND PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, STATE OF DELAWARE, MORE FULLY DESCRIBED AS FOLLOWS, TO-WIT:

BEGINNING AT A STAKE IN A DITCH ON THE EASTERLY RIGHT-OF-WAY OF COUNTY ROUTE NO. 621, ON A CORNER FOR THESE LANDS AND LANDS OF CLARENCE J. CALHOUN, THENCE, N. 86° 10' E. A DISTANCE OF THIRTEEN HUNDRED THIRTY-ONE (1331) FEET TO A CEDAR STAKE AND LANDS NOW OR FORMERLY OF RUBY R. VALE, THENCE, S. 17° 20' E. A DISTANCE OF FIVE HUNDRED SIXTY-SEVEN AND SIX TENTHS (567.6) FEET TO A STAKE, THENCE, S. 57° 25' W. A DISTANCE OF FOUR HUNDRED FORTY-SEVEN AND ONE-QUARTER (447 1/4) FEET TO A CEDAR STAKE, THENCE S. 84° 40' W. A DISTANCE OF EIGHT HUNDRED AND NINETEEN (819) FEET TO A PIPE, THENCE, N. 4° 22' W. A DISTANCE OF FIVE HUNDRED FIFTY-FIVE (555) FEET TO A STAKE, THENCE, S. 86° W. A DISTANCE OF TWO HUNDRED TWENTY-EIGHT (228) FEET TO A STAKE ON THE EASTERLY RIGHT-OF-WAY OF COUNTY ROUTE NO. 621, THENCE, N. 4° 22' W. A DISTANCE OF TWO HUNDRED EIGHT AND THREE QUARTERS (208 3/4) FEET TO THE STAKE AND PLACE OF BEGINNING.

PREMISES 10 (EAST OF COUNTRY ROAD 621)
(PARCEL #1-30-3.00-247.00)

ALL THAT CERTAIN LOT, PIECE AND PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, STATE OF DELAWARE, MORE FULLY DESCRIBED AS FOLLOWS, TO-WIT:

BEGINNING AT A POINT ALONG THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, SAID POINT ALSO BEING THE NORTHWESTERLY CORNER OF CALHOUN VENTURES LLC (130-6.00-97.00), THENCE, RUNNING WITH THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, N 12°07'50" E 757.08 FEET TO A POINT, SAID POINT ALSO BEING THE SOUTHWESTERLY CORNER OF C. DONNELL CALHOUN, JR ET AL,

THENCE, DEPARTING THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE LINE OF CALHOUN, JR ET AL, THE FOLLOWING COURSES AND DISTANCES;

N 78°03'04" E 243.00 FEET TO A POINT,

N 22°09'38" W 167.31 FEET TO A POINT,

S 80°21'24" W 232.22 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621,

THENCE, DEPARTING THE LINE OF CALHOUN JR ET AL AND RUNNING WITH THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 THE FOLLOWING COURSES AND DISTANCES;

ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 906.47 FEET, AN ARC DISTANCE OF 29.31 FEET, THE CHORD OF SAID ARC RUNNING N 24°32'49" W 29.31 FEET TO A POINT,

N 25°51'17" W 2240.91 FEET TO A POINT, SAID POINT ALSO BEING ALONG THE SOUTHERN RIGHT-OF-WAY LINE OF SHAWNEE ROAD (80' WIDTH),

THENCE, DEPARTING THE EASTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE SOUTHERN RIGHT-OF-WAY LINE OF SHAWNEE ROAD N 51°51'45" E 949.40 FEET TO A POINT, SAID POINT ALSO BEING THE NORTHWESTERLY CORNER OF MILFORD GRAIN CO INC. (130-3.00-249.00),

THENCE, DEPARTING THE SOUTHERN RIGHT-OF-WAY LINE OF SHAWNEE ROAD AND RUNNING WITH THE LINE OF MILFORD GRAIN CO INC., S 28°56'22" E 904.15 FEET TO A POINT, SAID POINT ALSO BEING THE NORTHWESTERLY CORNER OF SHAWNEE FARM LLC (130-3.00-658.00),

THENCE, DEPARTING THE LINE OF MILFORD GRAIN CO INC., AND RUNNING WITH THE LINE OF SHAWNEE FARM LLC, S 28°32'01" E 2724.75 FEET TO A POINT, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF AFOREMENTIONED CALHOUN VENTURES LLC,

THENCE DEPARTING THE LINE OF SHAWNEE FARM LLC AND RUNNING WITH THE NORTHERLY LINE OF CALHOUN VENTURES LLC, N 74°41'46" E 1330.13 FEET TO THE POINT OF BEGINNING AND CONTAINING 3,532,923 SQUARE FEET OR 81.1047 ACRES OF LAND, MORE OR LESS.

PREMISES 10 (WEST OF COUNTRY ROAD 621)
(PARCEL #1-30-3.00-247.00)

ALL THAT CERTAIN LOT, PIECE AND PARCEL OF LAND LYING AND BEING SITUATE IN CEDAR CREEK HUNDRED, SUSSEX COUNTY, STATE OF DELAWARE, MORE FULLY DESCRIBED AS FOLLOWS, TO-WIT:

BEGINNING AT A POINT ALONG THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, SAID POINT ALSO BEING THE SOUTHEASTERLY CORNER OF CLARENCE D. CALHOUN JR., (130-3.00-246.00), THENCE, RUNNING WITH THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621, S 25°36'07" E 590.81 FEET TO A POINT, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF CHRISTOPHER D. CALHOUN ET AL,

THENCE, DEPARTING THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE LINE OF CALHOUN THE FOLLOWING COURSES AND DISTANCES;

S 82°14'53" W 345.00 FEET TO A POINT,

S 7°49'38" E 192.68 FEET TO A POINT,

N 80°51'06" E 395.00 FEET TO A POINT, SAID POINT ALSO BEING ON THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621,

THENCE, DEPARTING THE LINE OF CALHOUN AND RUNNING WITH THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 THE FOLLOWING COURSES AND DISTANCES;

ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 865.14 FEET, AN ARC DISTANCE OF 71.44 FEET, THE CHORD OF SAID ARC RUNNING S 15°13'45" E 71.42 FEET TO A POINT,

S 12°53'13" E 109.48 FEET TO A POINT, SAID POINT ALSO BEING THE NORTHEASTERLY CORNER OF CALHOUN VENTURES LLC (130-3.00-247.00),

THENCE, DEPARTING THE WESTERN RIGHT-OF-WAY LINE OF COUNTRY ROAD 621 AND RUNNING WITH THE NORTHERN LINE OF CALHOUN VENTURES LLC, S 80°25'12" W 1660.47 FEET TO A POINT, SAID POINT ALSO BEING ON THE EASTERLY LINE OF AARON E. WEST ET AL (130-6.00-73.00),

THENCE, DEPARTING THE NORTHERN LINE OF CALHOUN VENTURES LLC AND RUNNING WITH THE EASTERLY LINE OF WEST THE FOLLOWING COURSES AND DISTANCES;

N 38°08'18" W 220.33 FEET TO A POINT,

N 22°30'48" W 33.76 FEET TO A POINT,

N 7°19'03" W 16.92 FEET TO A POINT,

N 12°35'12" E 110.87 FEET TO A POINT,

N 14°07'16" E 182.70 FEET TO A POINT, SAID POINT BEING IN THE APPROXIMATE CENTERLINE OF BOWMAN BRANCH, AND ALSO BEING THE SOUTHWESTERN CORNER OF AFOREMENTIONED CLARENCE D. CALHOUN JR,

THENCE, DEPARTING THE EASTERLY LINE OF WEST AND RUNNING WITH THE SOUTHERN LINE OF CALHOUN JR, N 64°08'43" E 1496.72 FEET TO THE POINT OF BEGINNING AND CONTAINING 1,120,687 SQUARE FEET OR 25.7274 ACRES OF LAND, MORE OR LESS.

TITLE COMMITMENT NO. CTIC-21001994:

BEING THE SAME LANDS AND PREMISES WHICH CLARENCE D. CALHOUN, JR. AND CURTISS D. CALHOUN, CO-TRUSTEES OF "TRUST A" UNDER LAST WILL AND TESTAMENT OF RUTH J. CALHOUN, BY DEED DATED JANUARY 4, 2019 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 5003, PAGE105 GRANTED AND CONVEYED UNTO CLARENCE D. CALHOUN, JR. , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CALHOUN FARMS LIMITED PARTNERSHIP, A DELAWARE LIMITED PARTNERSHIP AND DONNA K. CALHOUN, BY DEED DATED MAY 22, 2017 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4712 PAGE 243 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CLARENCE D. CALHOUN, JR. AND CURTISS D. CALHOUN, CO-TRUSTEES OF "TRUST A" UNDER LAST WILL AND TESTAMENT OF RUTH J. CALHOUN, BY DEED DATED JUNE 15, 2018 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4904 PAGE 207 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CALHOUN FARMS LIMITED PARTNERSHIP, A DELAWARE LIMITED PARTNERSHIP AND DONNA K. CALHOUN, BY DEED DATED MAY 22, 2017 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4712 PAGE 243 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CLARENCE D. CALHOUN, JR. AND CURTISS D. CALHOUN, CO-TRUSTEES OF "TRUST A" UNDER LAST WILL AND TESTAMENT OF RUTH J. CALHOUN, BY DEED DATED JUNE 15, 2018 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4904 PAGE 214 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH DONNA K. CALHOUN, BY DEED DATED SEPTEMBER 24, 2020 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 5317 PAGE 236 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CALHOUN FARMS LIMITED PARTNERSHIP, A DELAWARE LIMITED PARTNERSHIP AND DONNA K. CALHOUN, BY DEED DATED MAY 22, 2017 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4712 PAGE 247 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH WANSEL I. HUDSON AND GERTRUDE L. HUDSON, BY DEED DATED SEPTEMBER 13, 1952 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 417 PAGE 33 GRANTED AND CONVEYED UNTO C. DONNELL CALHOUN , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH C. DONALD CALHOUN (A/K/A CLARENCE DONNELL CALHOUN), BY DEED DATED JULY 29, 2004 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 3016 PAGE 269 GRANTED AND CONVEYED UNTO CALHOUN FARMS LIMITED PARTNERSHIP , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CALHOUN FARMS LIMITED PARTNERSHIP, A DELAWARE LIMITED PARTNERSHIP AND DONNA K. CALHOUN, BY DEED DATED MAY 22, 2017 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4712 PAGE 247 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CALHOUN FARMS LIMITED PARTNERSHIP, A DELAWARE LIMITED PARTNERSHIP AND DONNA K. CALHOUN, BY DEED DATED MAY 22, 2017 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4712 PAGE 250 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CALHOUN FARMS LIMITED PARTNERSHIP, A DELAWARE LIMITED PARTNERSHIP AND DONNA K. CALHOUN, BY DEED DATED MAY 22, 2017 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4712 PAGE 247 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH DONNA K. CALHOUN, BY DEED DATED JULY 31, 2020 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 5284 PAGE 100 GRANTED AND CONVEYED UNTO CALHOUN VENTURES, LLC , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CLARENCE D. CALHOUN, JR. AND IRENE WEST CALHOUN, BY DEED DATED MAY 14, 2012 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 4000 PAGE 232 GRANTED AND CONVEYED UNTO CLARENCE D. CALHOUN, JR. AND CURTIS D. CALHOUN, CO-TRUSTEES OF "TRUST A" UNDER LAST WILL AND TESTAMENT OF RUTH J. CALHOUN, AS TO AN UNDIVIDED ONE-HALF INTEREST AND CALHOUN FARMS LIMITED PARTNERSHIP, AS TO AN UNDIVIDED ONE-HALF INTEREST , IN FEE.

BEING THE SAME LANDS AND PREMISES WHICH CLARENCE D. CALHOUN, JR. AND CURTISS D. CALHOUN, CO-TRUSTEES OF "TRUST A" UNDER LAST WILL AND TESTAMENT OF RUTH J. CALHOUN, BY DEED DATED JANUARY 4, 2019 AND RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR SUSSEX COUNTY, DELAWARE, IN DEED RECORD 5003-105 GRANTED AND CONVEYED UNTO CLARENCE D. CALHOUN, JR. , IN FEE.

SURVEYOR NOTES

1. TITLE COMMITMENT FURNISHED BY CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NO. CTIC-21001994, COMMITMENT DATE: JUNE 1, 2021.
2. OWNER: BROOKFIELD RENEWABLE, US, 200 LIBERTY STREET, 14TH FLOOR, NEW YORK, NY 10281
3. THE PROPERTIES DELINEATED HEREON ARE SHOWN ON TAX MAP 130-3.00-245.00, 130-3.00-247.00, 130-6.00-(76.00, 92.00, 94.00, 95.00, 96.00, 97.00), AND IS LISTED IN THE NAME OF BROOKFIELD RENEWABLES, US. AS RECORDED ON DEED BOOKS 4712, 5003, 5284, 5312 AMONG THE LAND RECORDS OF THE SUSSEX COUNTY DELAWARE RECORDER OF DEEDS.
4. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A CURRENT FIELD SURVEY BY PENNONI ASSOCIATES.
5. THE PROPERTY LIES WITHIN ZONE 'X' (AREA OF 0.2% ANNUAL CHANCE OF FLOOD) AS PLOTTED BY SCALE ON NATIONAL FLOOD INSURANCE PROGRAM, FLOOD INSURANCE RATE MAP, COMMUNITY PANEL MAP No. 10005C0039J DATED JANUARY 6, 2005 FOR SUSSEX COUNTY, DELAWARE.
6. VEGETATED OR TIDAL WETLANDS, WATERS OF THE U.S. DEPICTED HEREON WAS TAKEN FROM ______________________ (STANTEC?)
7. UNLESS OTHERWISE INDICATED, THE LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE AND ARE BASED ON VISIBLE EVIDENCE.
8. THE PROPERTIES DELINEATED HEREON ARE ZONED AR-1 RESIDENTIAL, GR (GENERAL RESIDENTIAL) PER SUSSEX COUNTY ZONING CODE IN MAY 2021.
9. THE SURVEY SHOWN DEPICTS THE SAME LAND AS DESCRIBED IN TITLE COMMITMENT NO. CTIC-21001994.

SURVEYOR'S CERTIFICATE

TO: BROOKFIELD RENEWABLE, US
CHICAGO TITLE INSURANCE COMPANY,

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS AND INCLUDES ITEMS 1, 4, 5, 13, 15, 18, AND 19 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON ______________, 2021.

DATE OF PLAT: ______________

____
JOHN W. HAUPT, PLS

SCHEDULE B, PART II TITLE EXCEPTIONS
ITEMS NOT LISTED BELOW ARE STANDARD TITLE EXCEPTIONS AND/OR ARE NOT MATTERS OR ISSUES THAT PERTAIN TO THIS SURVEY

AS TO PREMISES 1:

9 EASEMENT AGREEMENT BETWEEN C.J. CALHOUN AND HELEN J. CALHOUN AND C. DONNELL CALHOUN AND RUTH E. CALHOUN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 219.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

10 INDIVIDUAL RIGHT OF WAY EASEMENT BETWEEN CLARENCE D. CALHOUN AND DELAWARE ELECTRIC COOPERATIVE, INC. RECORDED 10/29/04 AS SET FORTH IN DEED BOOK 3053, PAGE 221.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

AS TO PREMISES 2:

13 EASEMENT AGREEMENT BETWEEN C.J. CALHOUN AND HELEN J. CALHOUN AND C. DONNELL CALHOUN AND RUTH E. CALHOUN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 217.
DOES NOT AFFECT PROPERTY.

14 EASEMENT AGREEMENT BETWEEN C.J. CALHOUN AND HELEN J. CALHOUN AND C. DONNELL CALHOUN AND RUTH E. CALHOUN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 219.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

15 INDIVIDUAL RIGHT OF WAY EASEMENT BETWEEN CLARENCE D. CALHOUN AND DELAWARE ELECTRIC COOPERATIVE, INC. RECORDED 10/29/04 AS SET FORTH IN DEED BOOK 3053, PAGE 221.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

16 NOTES, EASEMENTS AND RESTRICTIONS AS SHOWN ON PROPERTY LINE SURVEY PLAN AS SET FORTH IN PLOT BOOK 264, PAGE 33.
AFFECTS PROPERTY BUT IS NOT PLOTTABLE AND/OR BLANKET IN NATURE.

AS TO PREMISES 3:

19 EASEMENT AGREEMENT BETWEEN C.J. CALHOUN AND HELEN J. CALHOUN AND C. DONNELL CALHOUN AND RUTH E. CALHOUN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 219.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

20 EASEMENT AGREEMENT BETWEEN CLARENCE J. AND HELEN CALHOUN, HIS WIFE AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/24/57 AS SET FORTH IN DEED BOOK 475, PAGE 308.
DOES NOT AFFECT PROPERTY.

21 RIGHT OF WAY AGREEMENT BETWEEN CLARENCE J. CALHOUN AND DOROTHY M. CALHOUN RECORDED 6/24/68 AS SET FORTH IN DEED BOOK 523, PAGE 387.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

22 INDIVIDUAL RIGHT OF WAY EASEMENT BETWEEN CLARENCE D. CALHOUN AND DELAWARE ELECTRIC COOPERATIVE, INC. RECORDED 10/29/04 AS SET FORTH IN DEED BOOK 3053, PAGE 221.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

AS TO PREMISES 4:

25 EASEMENT AGREEMENT BETWEEN WM. M. & ROSE J. ROBINSON AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 220.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

26 RIGHT OF WAY AGREEMENT BETWEEN WILLIAM M. ROBINSON AND ROSE J. ROBINSON AND DELMARVA POWER AND LIGHT COMPANY RECORDED 6/24/68 AS SET FORTH IN DEED BOOK 523, PAGE 383.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

27 EASEMENT BETWEEN H. W. ROBINSON AND NANCY H. ROBINSON AND THE DIAMOND STATE TELEPHONE COMPANY RECORDED 1/7/75 AS SET FORTH IN DEED BOOK 741, PAGE 858.
AFFECTS PROPERTY BUT IS NOT PLOTTABLE AND/OR BLANKET IN NATURE.

AS TO PREMISES 5:

30 EASEMENT AGREEMENT BETWEEN HENRY G. AND ALICE M. RUZICKA AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 221.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

AS TO PREMISES 6:

33 EASEMENT AGREEMENT BETWEEN C.J. CALHOUN AND HELEN J. CALHOUN AND C. DONNELL CALHOUN AND RUTH E. CALHOUN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 217.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

34 RIGHT OF WAY AGREEMENT BETWEEN DONNELL CALHOUN AND RUTH J. CALHOUN AND DELMARVA POWER AND LIGHT COMPANY RECORDED 6/24/68 AS SET FORTH IN DEED BOOK 523, PAGE 381.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

AS TO PREMISES 7:
NO EXCEPTIONS LISTED

AS TO PREMISES 8:

39 EASEMENT AGREEMENT BETWEEN EDWARD BOGAN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 218.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

AS TO PREMISES 9:

42 EASEMENT AGREEMENT BETWEEN EDWARD BOGAN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 218.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

43 NOTES, EASEMENTS AND RESTRICTIONS AS SHOWN ON PROPERTY LINE SURVEY PLAN AS SET FORTH IN PLOT BOOK 264, PAGE 31.
AFFECTS PROPERTY BUT IS NOT PLOTTABLE AND/OR BLANKET IN NATURE.

AS TO PREMISES 10:

46 EASEMENT AGREEMENT BETWEEN C.J. CALHOUN AND HELEN J. CALHOUN AND C. DONNELL CALHOUN AND RUTH E. CALHOUN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 217.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

47 EASEMENT AGREEMENT BETWEEN C.J. CALHOUN AND HELEN J. CALHOUN AND C. DONNELL CALHOUN AND RUTH E. CALHOUN AND THE STATE HIGHWAY DEPARTMENT RECORDED 5/17/54 AS SET FORTH IN DEED BOOK 428, PAGE 219.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

48 INDIVIDUAL RIGHT OF WAY EASEMENT BETWEEN CLARENCE D. CALHOUN AND DELAWARE ELECTRIC COOPERATIVE, INC. RECORDED 10/29/04 AS SET FORTH IN DEED BOOK 3053, PAGE 221.
AFFECTS PROPERTY AND IS PLOTTED ON SURVEY.

49 NOTES, EASEMENTS AND RESTRICTIONS AS SHOWN ON MINOR SUBDIVISION PLAN AS SET FORTH IN PLOT BOOK 156, PAGE 94.
AFFECTS PROPERTY BUT IS NOT PLOTTABLE AND/OR BLANKET IN NATURE.

50 NOTES, EASEMENTS AND RESTRICTIONS AS SHOWN ON MINOR LOT-LINE ADJUSTMENT AS SET FORTH IN PLOT BOOK 169, PAGE 31.
AFFECTS PROPERTY BUT IS NOT PLOTTABLE AND/OR BLANKET IN NATURE.

51 NOTES, EASEMENTS AND RESTRICTIONS AS SHOWN ON PROPERTY LINE SURVEY PLAN AS SET FORTH IN PLOT BOOK 264, PAGE 31.
AFFECTS PROPERTY BUT IS NOT PLOTTABLE AND/OR BLANKET IN NATURE.

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

FREEMAN SOLAR FARM
CALHOUN ROAD
MILFORD, DE 19963

ALTA AND NSPS SURVEY

BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

DATE	NO.	REVISIONS	BY

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PROJECT	BRKRE21000
DATE	2021-06-18
DRAWING SCALE	AS SHOWN
DRAWN BY	SJD
APPROVED BY	AMD

V-0000

U:\Accounts\BRKRE\BRKRE21001 - Freeman Solar Farm\DESIGN_SHEETS\ALTA V-DRAWINGS\V-0000.dwg PLOTTED: 8/13/2021 2:04 PM, BY: Gregory S. Edwards PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

PROJECT	BRKRE21000		
DATE	2021-08-18		
DRAWING SCALE	1"=		
DRAWN BY	FML		
APPROVED BY	FML		

V-0010

SHEET 2 OF 7

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DATE	NO.	REVISIONS	BY

FREEMAN SOLAR FARM

CALHOUN ROAD
MILFORD, DE 19963

ALTA SURVEY OVERALL PLAN

BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

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18072 Davidson Drive
Milton, DE 19968
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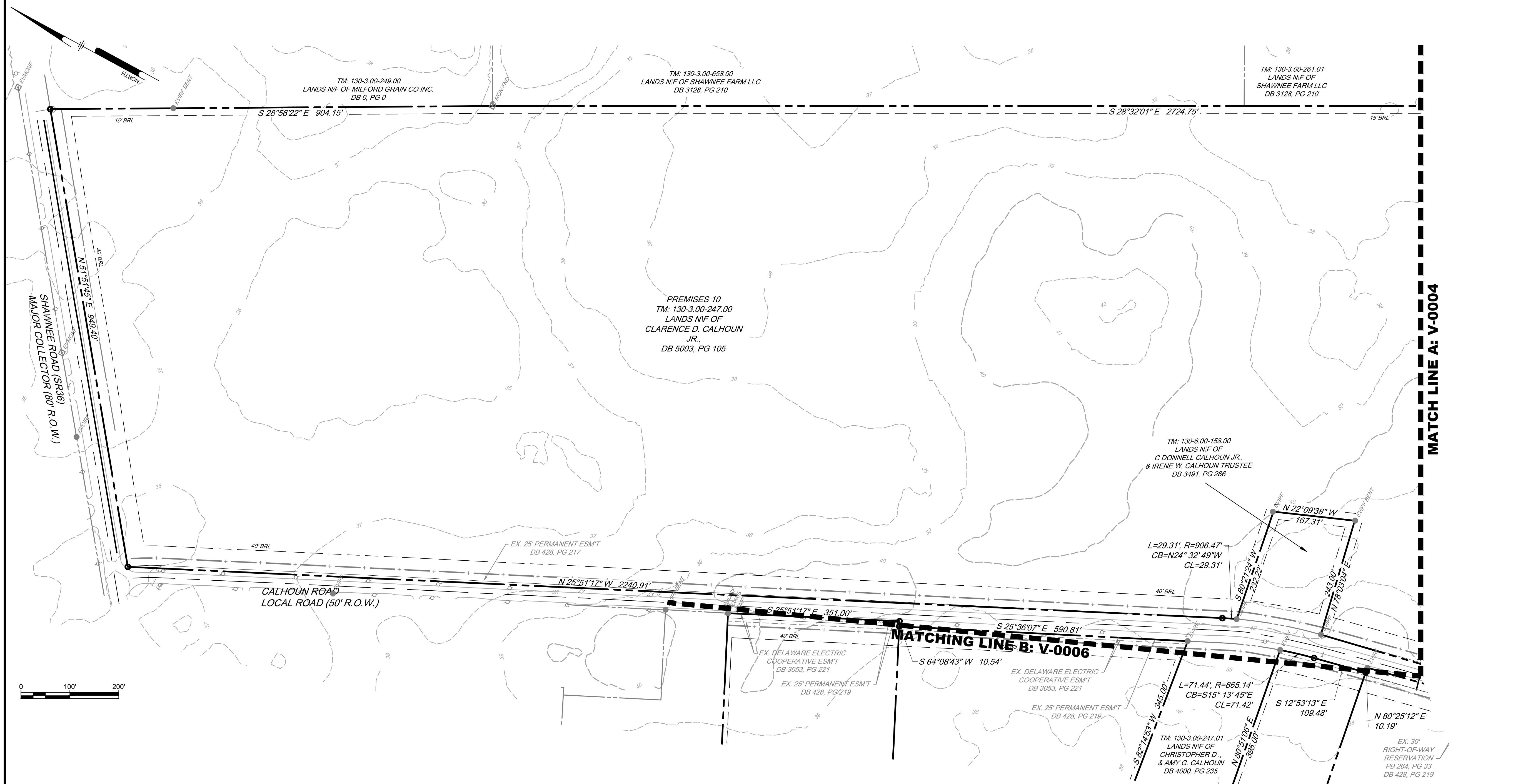

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Pennoni

PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

FREEMAN SOLAR FARM

CALHOUN ROAD
MILFORD, DE 19963

ALTA SURVEY PLAN

BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

DATE	NO.	REVISIONS	BY

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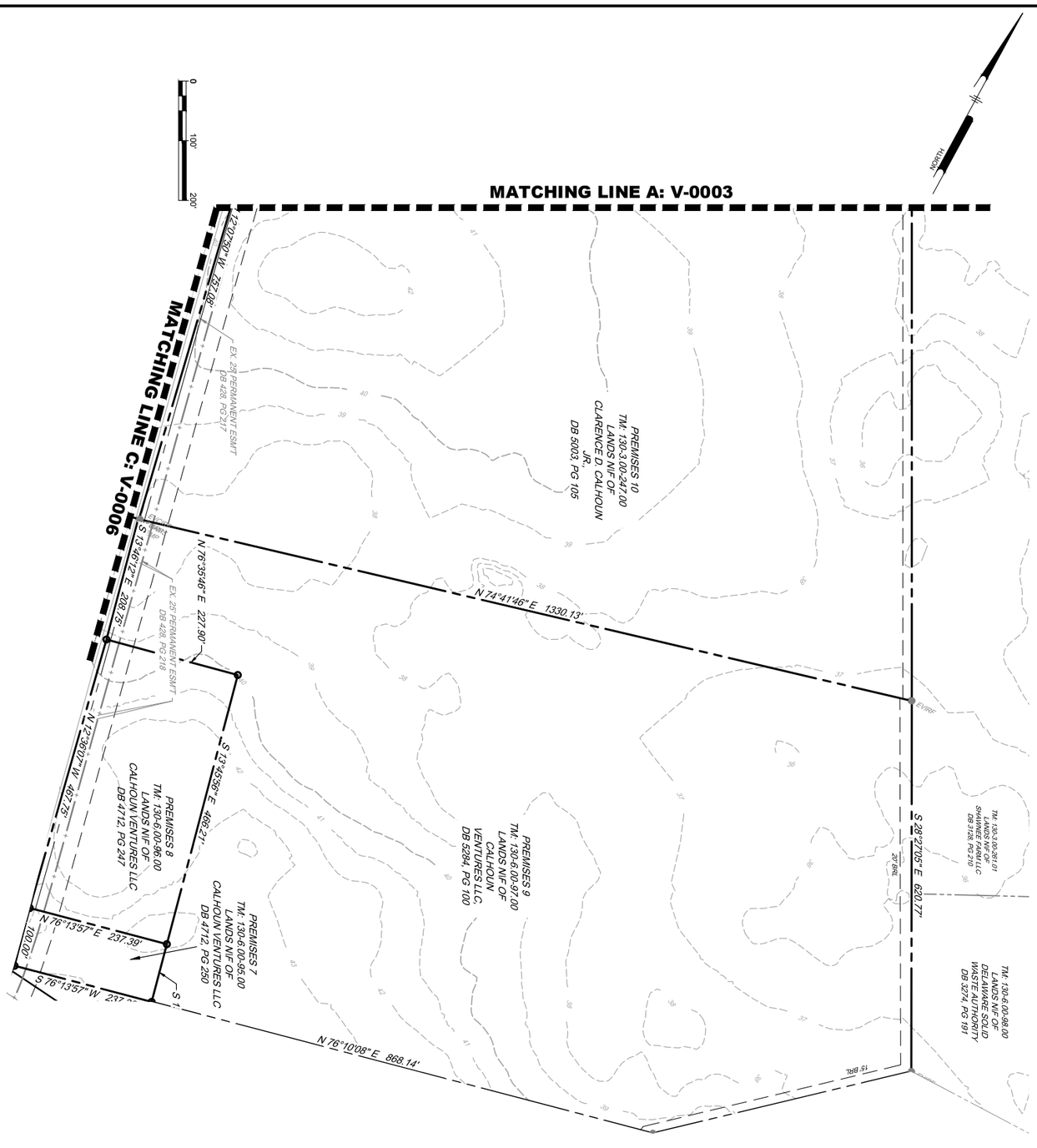
PROJECT	BRKRE21000
DATE	08-13-2021
DRAWING SCALE	1"= 100'
DRAWN BY	SJD
APPROVED BY	AMD

V-0003



DATE	NO.	REVISIONS	BY

FREEMAN SOLAR FARM

CALHOUN ROAD
MILFORD, DE 19963

ALTA SURVEY PLAN

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200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

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18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

PROJECT	BRKRE21000
DATE	2021-08-18
DRAWING SCALE	1"=
DRAWN BY	FML
APPROVED BY	FML

V-0004
SHEET 4 OF 7

V-0005

SHEET 5 OF 7

APPROVED BY	AMD
DRAWN BY	SJD
DRAWING SCALE	1"=100'
DATE	2021-06-18
PROJECT	BRKRE21000

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BY	REVISIONS	NO.	DATE

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

FREEMAN SOLAR FARM

CALHOUN ROAD
MILFORD, DE 19963

ALTA SURVEY PLAN

BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

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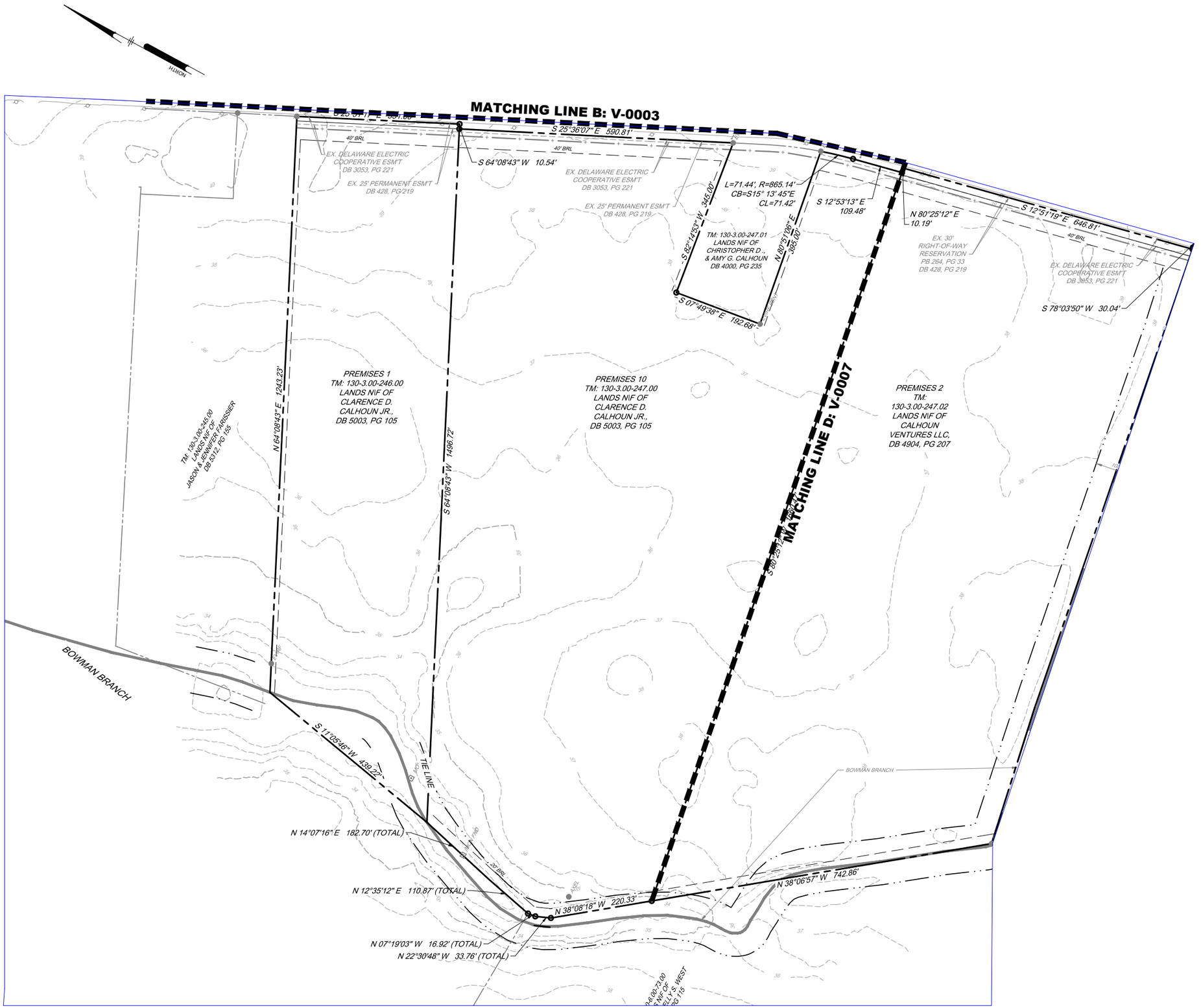
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

U:\Accounts\BROOKE\BROKE21001 - Freeman Solar Farm\DESIGN_SHEETS\ALTA\V0004MATCH05V1005.dwg PLOTTED: 6/1/2021 1:57 PM BY: Gregory S. Edwards PLOTSTYLE: Pennoni MCS.stb PROJECT STATUS:



PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK.

FREEMAN SOLAR FARM

CALHOUN ROAD
MILFORD, DE 19963

ALTA SURVEY PLAN

BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

NO.	DATE	REVISIONS	BY

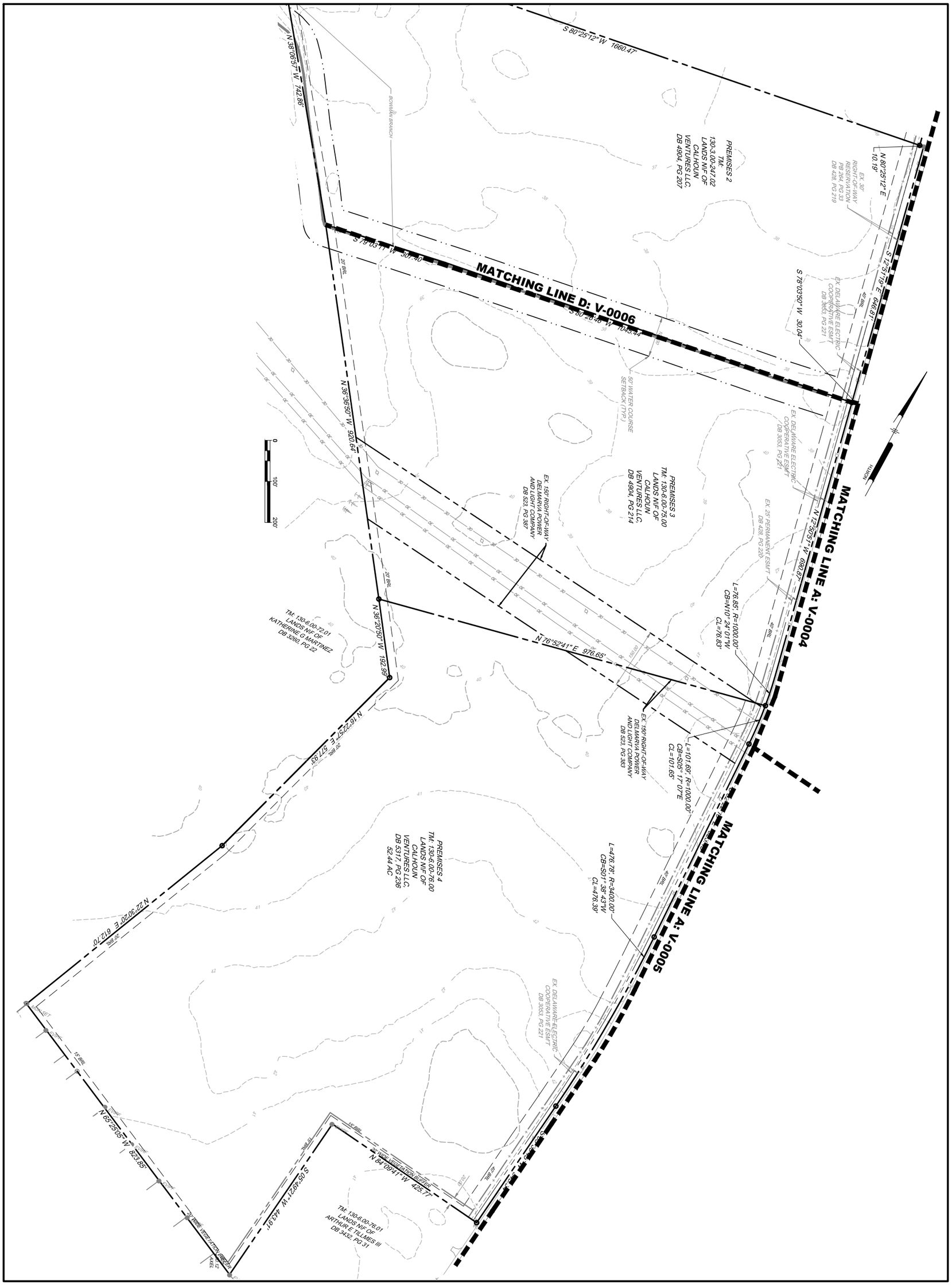
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATE, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	BRKRE21000
DATE	2021-06-18
DRAWING SCALE	1"=100'
DRAWN BY	SJD
APPROVED BY	AMD

V-0006

SHEET 6 OF 7

G:\Actual\BRKRE\BRKRE21000 - Freeman Solar Farm\CESR\DL_SHEETS\ALTA V-0006\BRKRE21000_V0006.dwg PLOTTED: 6/7/2021 1:57 PM, BY: Gregory S. Edwards PLOTSTYLE: Pennoni.NCS.ctb PROJECT STATUS:



DATE	NO.	REVISIONS	BY

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES, INC. FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES, INC. OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT BRKRE21000

DATE 2021-08-18

DRAWING SCALE 1"=100'

DRAWN BY SJD

APPROVED BY AMD

SHEET 7 OF 7

V-0007

FREEMAN SOLAR FARM

CALHOUN ROAD
MILFORD, DE 19963

ALTA SURVEY PLAN

BROOKFIELD RENEWABLE, US
200 LIBERTY STREET, 14TH FLOOR
NEW YORK, NEW YORK 10281

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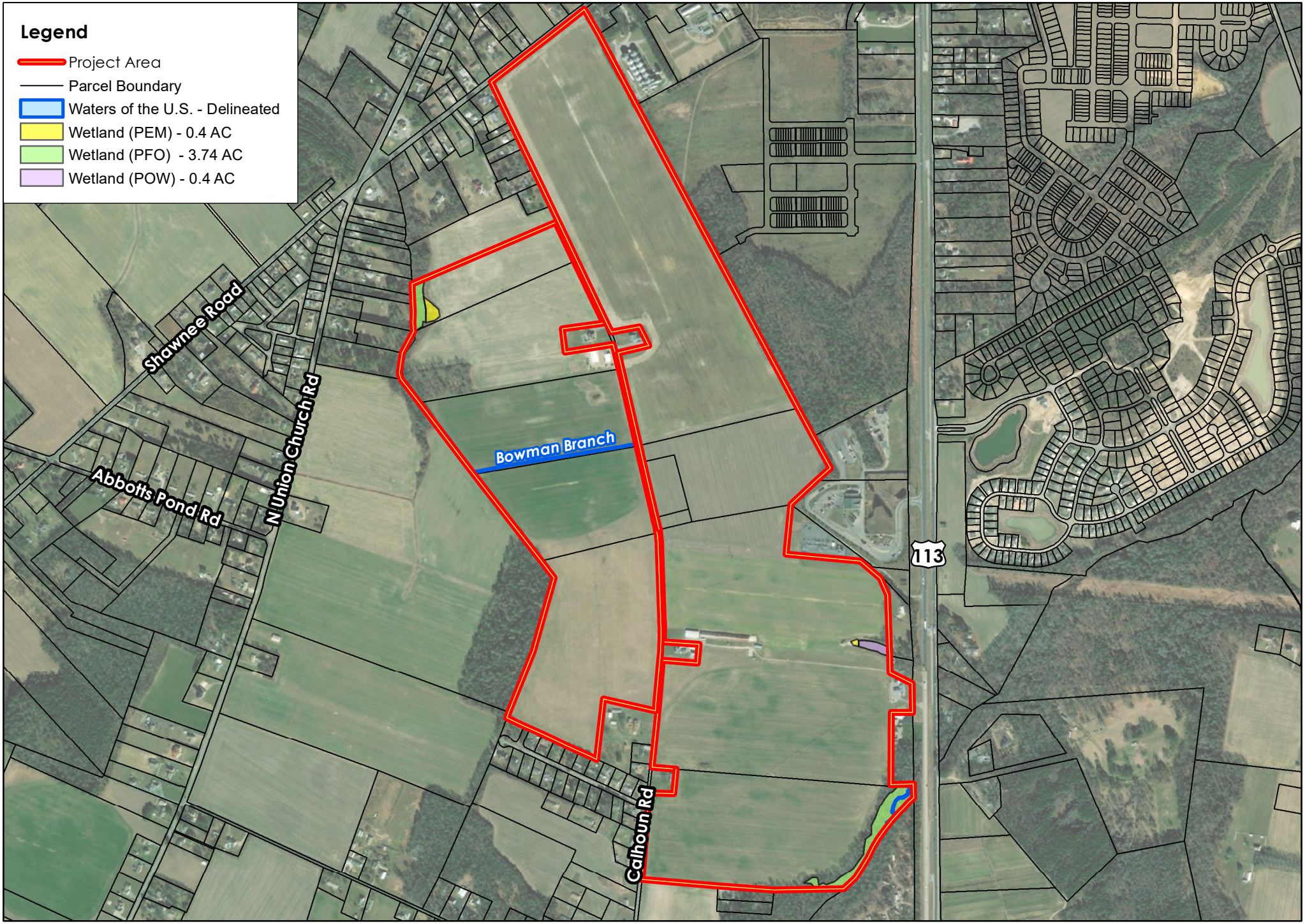
PENNONI ASSOCIATES INC.
18072 Davidson Drive
Milton, DE 19968
T 302.684.8030 F 302.684.8054



Stantec

Notes:
1. Wetland delineation was conducted on February 8, 2021 and May 19, 2021.
2. Coordinate System: NAD 1983 CORS96 StatePlane Delaware FIPS 0700 Ft US
3. Source data: Delaware First Map Online GIS Revised by Stantec
4. Imagery: Street Map (c) ESRI

FREEMAN SOLAR PROJECT

Figure 7: Wetland Delineation

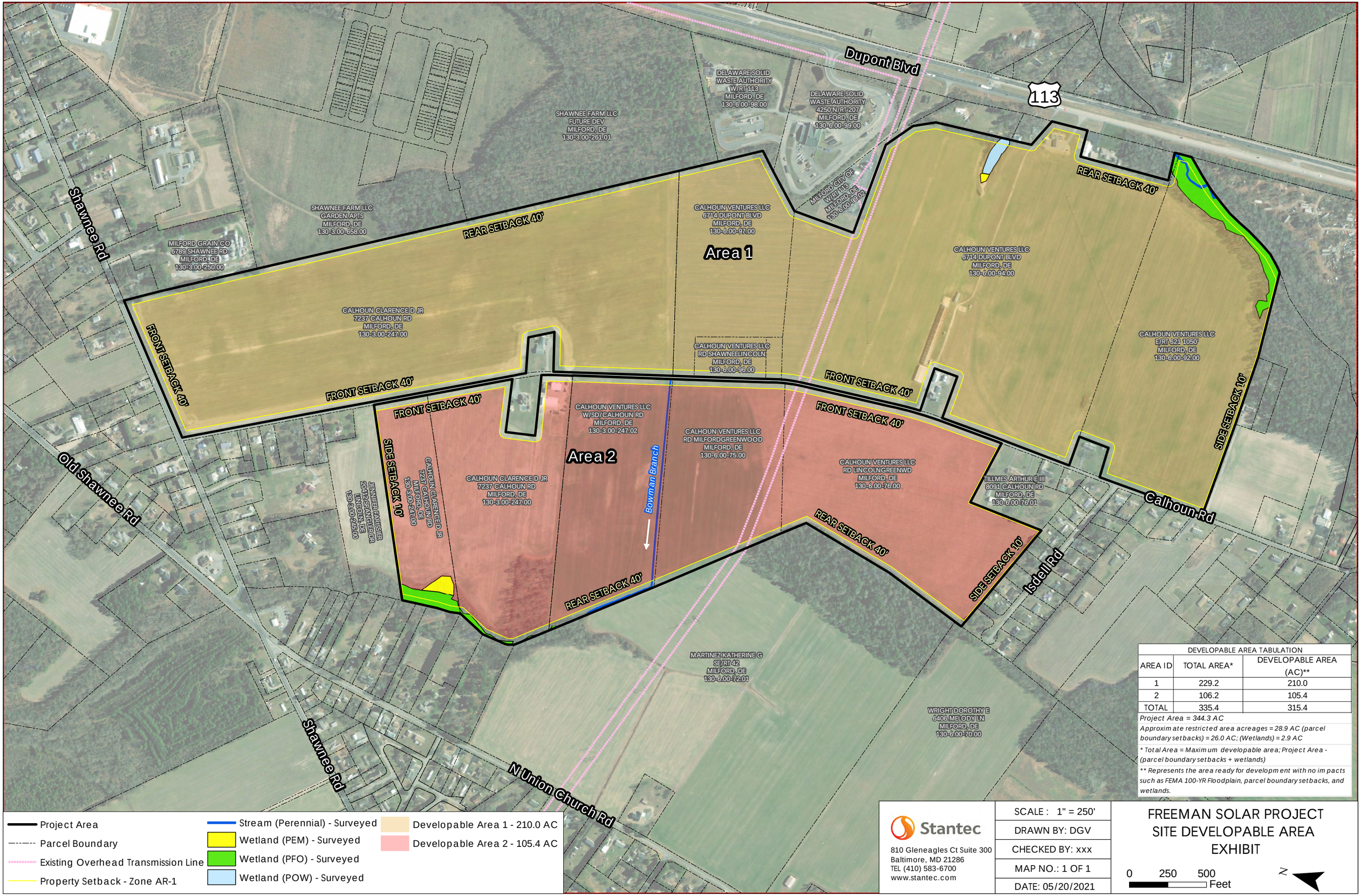
May 2021

Stantec Consulting Services Inc.
810 Gleneagles Ct Suite 300
Baltimore, MD 21286
tel (410) 583-6700
fax (410) 583-6704

N

0 500 1,000 Feet

Prepared by: D.G.V 05/21/21
Technical Review by: CD
Independent Review by: ETW



DEVELOPABLE AREA TABULATION		
AREA ID	TOTAL AREA*	DEVELOPABLE AREA (AC)**
1	229.2	210.0
2	106.2	105.4
TOTAL	335.4	315.4

Project Area = 344.3 AC

Approximate restricted area acreages = 28.9 AC (parcel boundary setbacks) = 26.0 AC; (Wetlands) = 2.9 AC

** Total Area = Maximum developable area; Project Area - (parcel boundary setbacks + wetlands)*

*** Represents the area ready for development with no impacts such as FEMA 100-YR Floodplain, parcel boundary setbacks, and wetlands.*

- Project Area
- Parcel Boundary
- Existing Overhead Transmission Line
- Property Setback - Zone AR-1
- Stream (Perennial) - Surveyed
- Wetland (PEM) - Surveyed
- Wetland (PFO) - Surveyed
- Wetland (POW) - Surveyed
- Developable Area 1 - 210.0 AC
- Developable Area 2 - 105.4 AC

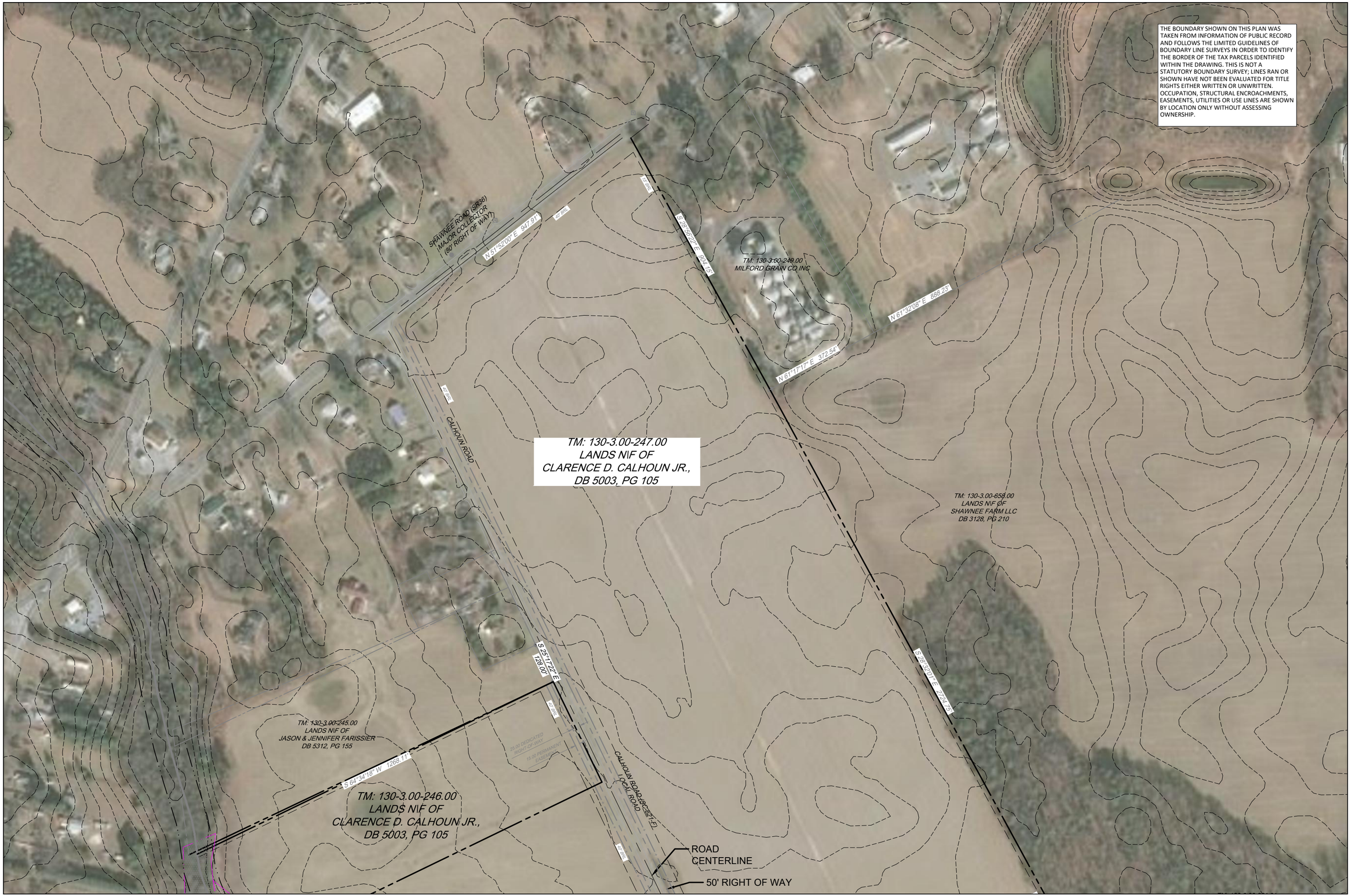
Stantec
810 Gleneagles Ct Suite 300
Baltimore, MD 21286
TEL (410) 583-6700
www.stantec.com

SCALE : 1" = 250'
DRAWN BY: DGV
CHECKED BY: xxx
MAP NO.: 1 OF 1
DATE: 05/20/2021

FREEMAN SOLAR PROJECT
SITE DEVELOPABLE AREA EXHIBIT

0 250 500 Feet

N


THE BOUNDARY SHOWN ON THIS PLAN WAS TAKEN FROM INFORMATION OF PUBLIC RECORD AND FOLLOWS THE LIMITED GUIDELINES OF BOUNDARY LINE SURVEYS IN ORDER TO IDENTIFY THE BORDER OF THE TAX PARCELS IDENTIFIED WITHIN THE DRAWING. THIS IS NOT A STATUTORY BOUNDARY SURVEY; LINES RAN OR SHOWN HAVE NOT BEEN EVALUATED FOR TITLE RIGHTS EITHER WRITTEN OR UNWRITTEN. OCCUPATION, STRUCTURAL ENCROACHMENTS, EASEMENTS, UTILITIES OR USE LINES ARE SHOWN BY LOCATION ONLY WITHOUT ASSESSING OWNERSHIP.
SHAWNEE ROAD (SR36)
MAJOR COLLECTOR
(80' RIGHT OF WAY)
N 51°52'00" E 947.91'
S 28°55'27" E 1304.15'
TM: 130-3.00-249.00
MILFORD GRAIN CO INC
N 61°32'08" E 882.23'
N 61°17'17" E 372.54'
CALHOUN ROAD
TM: 130-3.00-247.00
LANDS N\F OF
CLARENCE D. CALHOUN JR.,
DB 5003, PG 105
TM: 130-3.00-658.00
LANDS N\F ØF
SHAWNEE FARM LLC
DB 3128, PG 210
S 28°39'01" E 2724.25'
S 25°17'22" E
128.00'
TM: 130-3.00-245.00
LANDS N\F OF
JASON & JENNIFER FARISSIER
DB 5312, PG 155
S 64°34'16" W 1268.17'
TM: 130-3.00-246.00
LAND$ N\F OF
CLARENCE D. CALHOUN JR.,
DB 5003, PG 105
CALHOUN ROAD (SCR 384)
OCR ROAD
ROAD
CENTERLINE
50' RIGHT OF WAY

THE BOUNDARY SHOWN ON THIS PLAN WAS TAKEN FROM INFORMATION OF PUBLIC RECORD AND FOLLOWS THE LIMITED GUIDELINES OF BOUNDARY LINE SURVEYS IN ORDER TO IDENTIFY THE BORDER OF THE TAX PARCELS IDENTIFIED WITHIN THE DRAWING. THIS IS NOT A STATUTORY BOUNDARY SURVEY; LINES RAN OR SHOWN HAVE NOT BEEN EVALUATED FOR TITLE RIGHTS EITHER WRITTEN OR UNWRITTEN. OCCUPATION, STRUCTURAL ENCROACHMENTS, EASEMENTS, UTILITIES OR USE LINES ARE SHOWN BY LOCATION ONLY WITHOUT ASSESSING OWNERSHIP.
ROAD CENTERLINE
50' RIGHT OF WAY
TM: 130-3.00-261.01
LANDS N\F OF
SHAWNEE FARM LLC
DB 3128, PG 210
TM: 130-3.00-158.00
LANDS N\F OF
C DONNELL CALHOUN JR.,
& IRENE W. CALHOUN TRUSTEE
DB 4000, PG 235
130-6.00-158.00
DB3491 PG286
N 80°21'24" E
232.22'
S 22°29'38" E
167.31'
243.00'
S 78°03'04" W
TM: 130-3.00-247.00
LANDS N\F OF
CLARENCE D. CALHOUN JR.,
DB 5003, PG 105
TM: 130-3.00-247.01
LANDS N\F OF
CHRISTOPHER D.,
& AMY G. CALHOUN
DB 4000, PG 235
N 82°14'53" E 345.00'
N 07°49'38" W
192.68'
S 80°51'06" W 395.00'
S 80°25'12" W 1670.66'
TM: 130-3.00-247.02
LANDS N\F OF
CALHOUN VENTURES LLC,
DB 4904, PG 207
N 12°51'19" W 646.81'
S 38°06'57" E 742.96'
N 80°26'46" E 1045.44'
N 79°03'11" E 307.40'
50' RIVER SETBACK (TYP.)
S 13°46'12" E
208.75'
TM: 130-6.00-96.00
LANDS N\F OF
CALHOUN VENTURES LLC
DB 4712, PG 247
N 76°35'46" E
227.90'
S 13°45'56" E 566.21'
S 76°17'08" W
620.17'
447.10'
N 29°10'39" W
TM: 130-6.00-99.02
LANDS N\F OF
DELAWARE SOLID
WASTE AUTHORITY
DB 3938, PG 147
TM: 130-6.00-75.00
LANDS N\F OF
CALHOUN VENTURES LLC,
DB 4904, PG 214
TM: 130-6.00-95.00
LANDS N\F OF
CALHOUN VENTURES LLC
DB 4712, PG 250
DELMARVA POWER
AND LIGHT COMPANY
150' RIGHT OF WAY
AGREEMENT
DB 523, PG 382
S 68°17'45" W 920.64'
N 76°13'57" E
237.39'
N 76°13'32" E 866.54'
237.39'
S 76°13'57" W
N 05°18'20" E
406.86'
TM: 130-6.00-99.02
LANDS N\F OF
CITY OF MILFORD
DB 3938, PG 147
N 76°52'41" E 979.66'
608.14'
N 84°41'27" W
S 36°20'50" E
192.99'
DELMARVA POWER
AND LIGHT COMPANY
150' RIGHT OF WAY
AGREEMENT
DB 523, PG 381
214.02'
N 49°33'52" W
N 49°33'52" W
214.02'
TM: 130-6.00-72.01
LANDS N\F OF
KATHERINE G MARTINEZ
DB 3260, PG 22
TM: 130-6.00-94.00
LANDS N\F OF
CALHOUN VENTURES LLC
TM: 130-6.00-76.00

ROAD
CENTERLINE
50' RIGHT OF WAY
TM: 130-6.00-92.00
LANDS N\F OF
CALHOUN VENTURES LLC,
DB 4712, PG 247
TM: 130-6.00-94.02
LANDS N\F OF
NOAH BARRETT
& JENNIFER CALHOUN-ATTIX
DB 4047, PG 81
TM: 130-6.00-94.01
LANDS N\F OF
CURTISS D CALHOUN TTEE
PATRICIA B CALHOUN TTEE REV TR
DB 5056, PG145
TM: 130-6.00-100.01
LANDS N\F OF
DEBRA LYNN CLENDANIEL
GLENN WAYNE NAILOR
DARLENE LYNN HITCH
DB 5384, PG319
TM: 130-6.00-72.01
LANDS N\F OF
KATHERINE G MARTINEZ
DB 3260, PG 22
TM: 130-6.00-76.01
LANDS N\K OF
ARTHUR E TILLMES III
DB 3432, PG 31
TM: 130-6.00-93.00
LANDS N\F OF
SAMUEL E SYLVESTER
DB 3638, PG 26
PARCEL 93
DB3838, PG 2
130-6.00-94.02
PB171 PG85
US 113 (DUPONT BOULEVARD (SC 113-F)
OTHER PRINCIPAL ARTERIALS
S 84°31'00" E
96.94'
S 85°53'38" E
192.40'
S 05°41'44" W
155.60'
N 84°18'10" W
285.08'
N 05°46'30" E
31.91'
S 19°28'29" W
425.77'
S 70°33'38" E
443.91'
S 84°14'30" E 1904.48'
S 05°30'30" W
280.00'
N 84°14'30" W
184.00'
S 05°30'30" W
704.56'
S 84°14'30" E
1608.30'
N 89°32'53" E
158.00'
N 00°27'07" W
590.00'
S 89°27'07" E
17.00'
N 00°30'31" W
212.16'
S 00°56'53" E
267.30'
N 59°07'59" W
214.70'
S 87°35'04" W
702.83'
S 87°35'04" W
72.25'
N 22°29'10" E
69.48'
N 89°24'11" E
1985.58'
50' RIVER
SETBACK (TYP.)
15' BRL
20' BRL
30' BRL
THE BOUNDARY SHOWN ON THIS PLAN WAS TAKEN FROM INFORMATION OF PUBLIC RECORD AND FOLLOWS THE LIMITED GUIDELINES OF BOUNDARY LINE SURVEYS IN ORDER TO IDENTIFY THE BORDER OF THE TAX PARCELS IDENTIFIED WITHIN THE DRAWING. THIS IS NOT A STATUTORY BOUNDARY SURVEY; LINES RAN OR SHOWN HAVE NOT BEEN EVALUATED FOR TITLE RIGHTS EITHER WRITTEN OR UNWRITTEN. OCCUPATION, STRUCTURAL ENCROACHMENTS, EASEMENTS, UTILITIES OR USE LINES ARE SHOWN BY LOCATION ONLY WITHOUT ASSESSING OWNERSHIP.

TAB 3

SOLAR ENERGY AND THE PJM

Brookfield Renewable U.S

FREEMAN SOLAR LLC

JOHN SOININEN – PROJECT MANAGER

MAY 3RD 2022

Bear Swamp Pumped Storage, Massachusetts

DIVERSIFIED OPERATING PORTFOLIO OF HIGH-QUALITY ASSETS

Brookfield
Renewable U.S.

HYDRO
Our portfolio provides emission-free baseload power and flood control while preserving aquatic habitat

3,150 MW

WIND
Our turbines harness world-class wind resources, providing reliable, competitively priced clean power

2,360 MW

SOLAR
Our portfolio of utility and distributed-scale solar facilities enable diversified solutions sized to your needs

680 MW**

DISTRIBUTED ENERGY RESOURCES
We operate over 5,400 on-site renewables, lowering fossil-fuel use and energy costs for customers

1,130 MW*

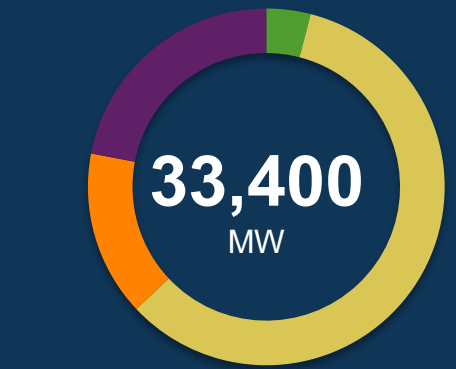
ENERGY STORAGE
Our pumped storage and battery assets strengthen grid reliability and help integrate intermittent renewable resources onto the system

650 MW

** Distributed energy resources owned and operated by Luminace, a Brookfield Renewable company. Rated in DC.*
*** Includes 175 megawatts of assets owned through X-Elio*

ROBUST U.S. RENEWABLE DEVELOPMENT

Together with our portfolio companies Urban Grid and Luminace, we have a diversified pipeline of renewable development projects totaling 33,400 megawatts, making us one of the largest developers in the U.S. Leveraging our in-house technical expertise, we oversee projects, from site acquisition through interconnection, permitting, and commercialization, to ensure that our projects meet best-in-class quality standards at competitive costs.



**** Includes proposed development projects by Urban Grid, X-Elio, Luminace***

STRONG INDUSTRY EXPERTISE TO MAXIMIZE VALUE, MITIGATE RISK

Brookfield
Renewable U.S.

POWER MARKETING EXPERTISE

- Expertise in structured power products and managing merchant renewable portfolios
- Optimize asset value across ISO and bilateral markets, including interconnections with adjoining power markets
- Flexible, incremental, shaped or full requirements power
- Schedule, dispatch and arrange for transmission

OWNER-OPERATORS

- Maximize energy yield
- Focused on plant efficiency
- Deploy hands-on, preemptive maintenance
- Leverage advanced technology to optimize operations
- Low-cost operations

DEVELOPMENT & CONSTRUCTION

- Deliver projects from conception through development, financing, construction and operation
- In-house technical experts oversee planning and construction to ensure projects meet best-in-class quality standards at competitive costs
- Proven ability to manage large capital projects
- Experience working with local agencies, communities and regulators

800+
Employees

12 MILLION
Metric Tons Of Avoided Emissions Annually

3 MILLION
Homes Electricity Use Annually

24/7
National System Control Center

LEADING RENEWABLE ENERGY PROVIDER IN THE U.S.

Brookfield
Renewable U.S.

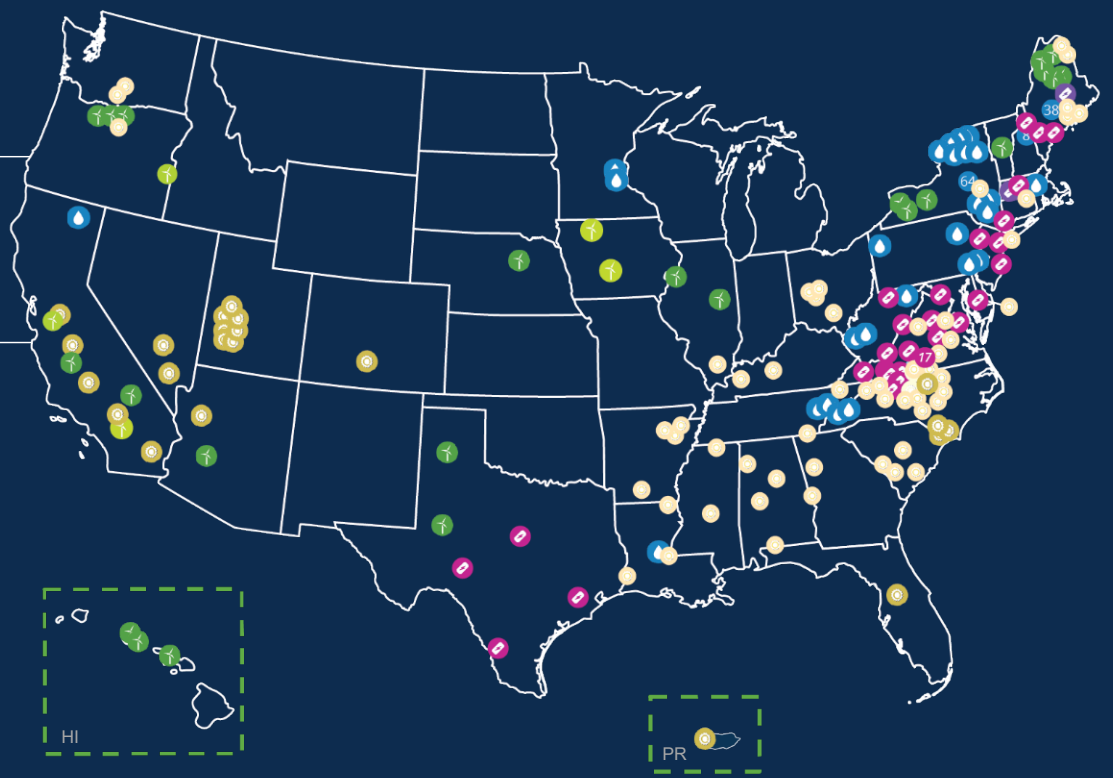
Data as of Q4 2021

Operating |

8,080 MW

Development |

33,400 MW



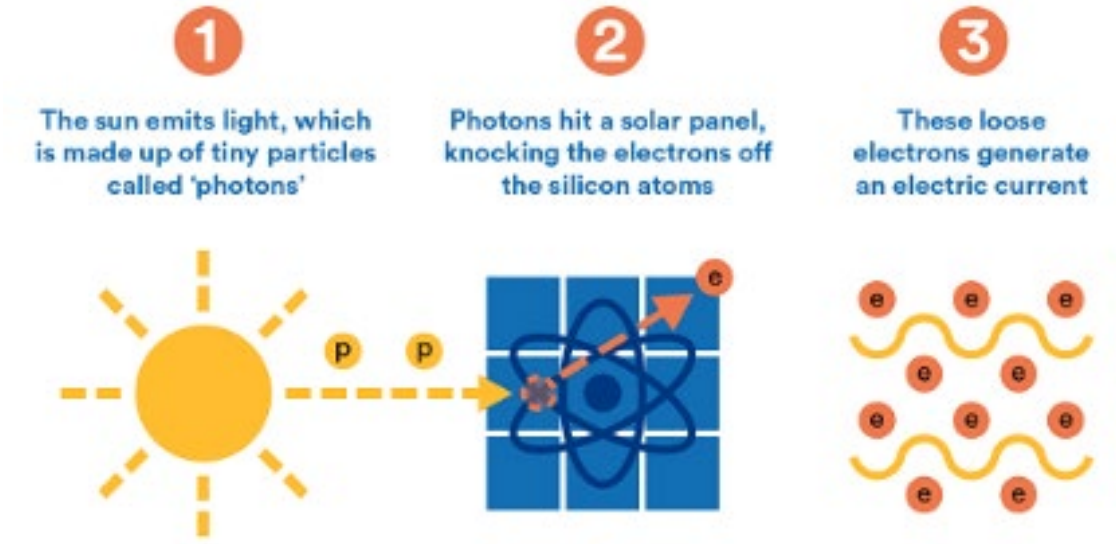
140 Hydropower Facilities 3,150 MW	5,400 DER Facilities* 1,130 MW	23 Wind Farms 2,360 MW	34 Solar Farms** 680 MW
1 Pumped Storage Facility 630 MW	1 Battery Storage Facility 20 MW	# *Multiple Facilities at Location*	

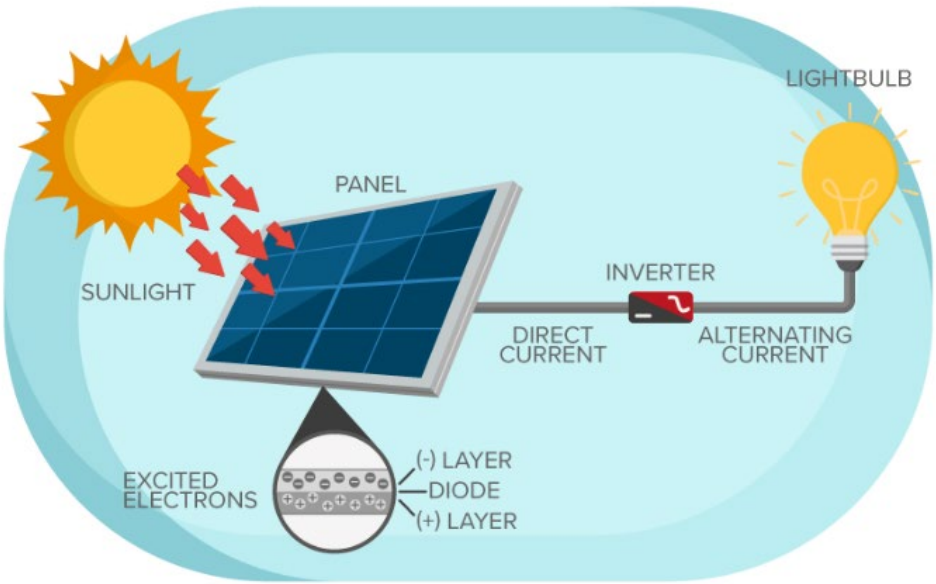
- Operating and development totals include assets and projects by Brookfield Renewable companies Luminace and Urban Grid. Luminace assets and projects not reflected on the map.
- Operating total also includes solar assets owned through X-Elio (175 MW) and one cogeneration plant (105 MW)

HOW A SOLAR PANEL WORKS

Brookfield
Renewable U.S.

The Photovoltaic Effect





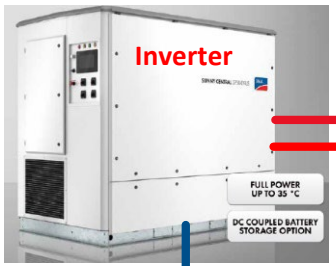
HOW A SOLAR PROJECT WORKS

Brookfield
Renewable U.S.

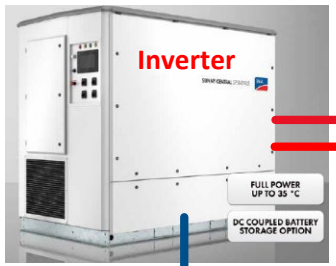
Solar Array

Solar Array

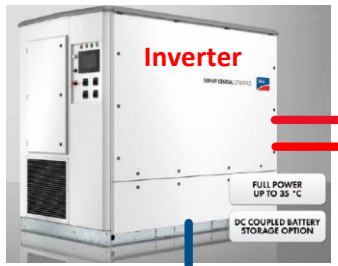
Solar Array



Step-up Transformer



Step-up Transformer

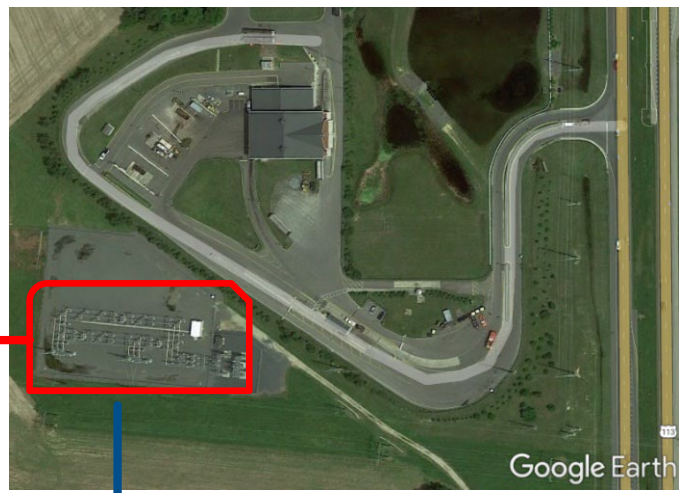


Step-up Transformer

SCADA System

Remote Operations Center

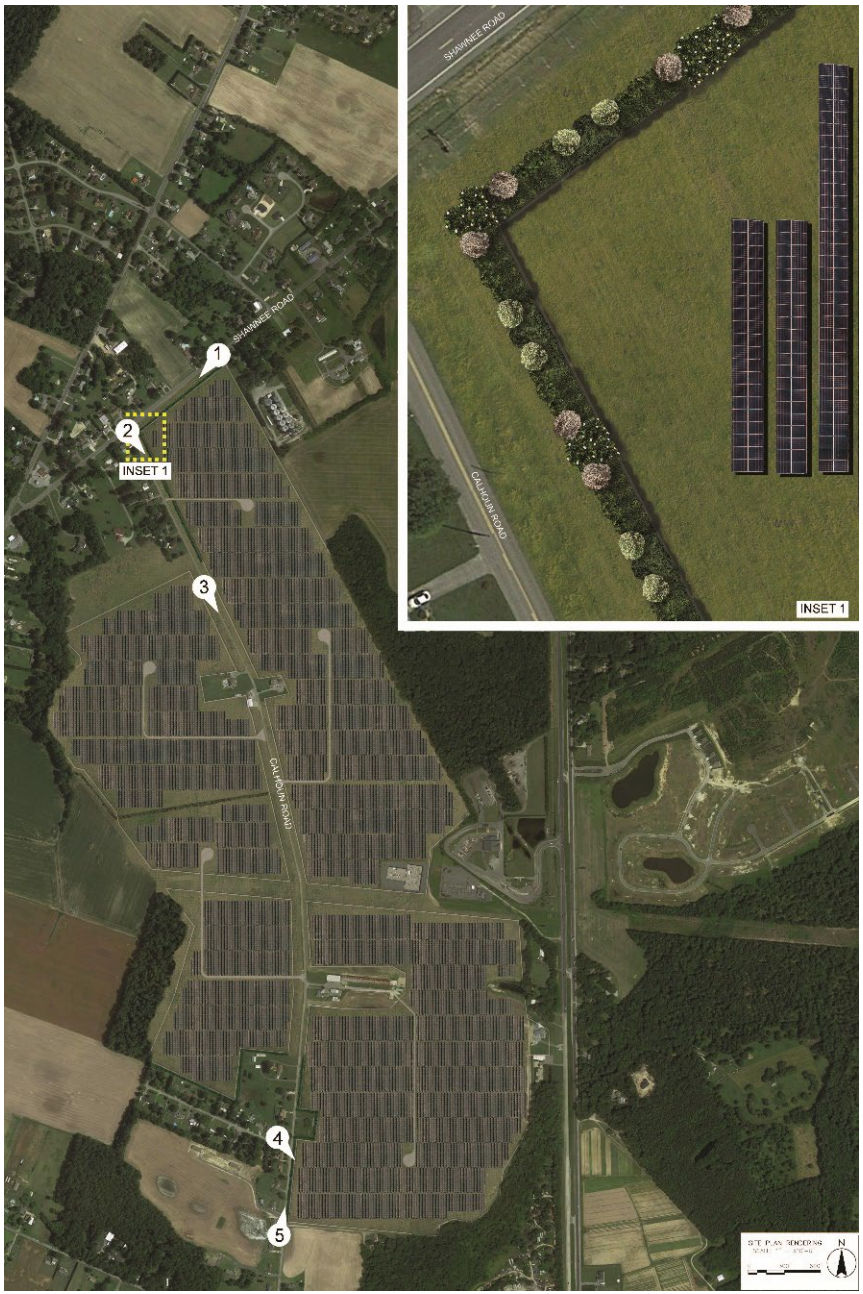
Project Substation



Interconnection Substation

FREEMAN SOLAR

Brookfield
Renewable U.S.

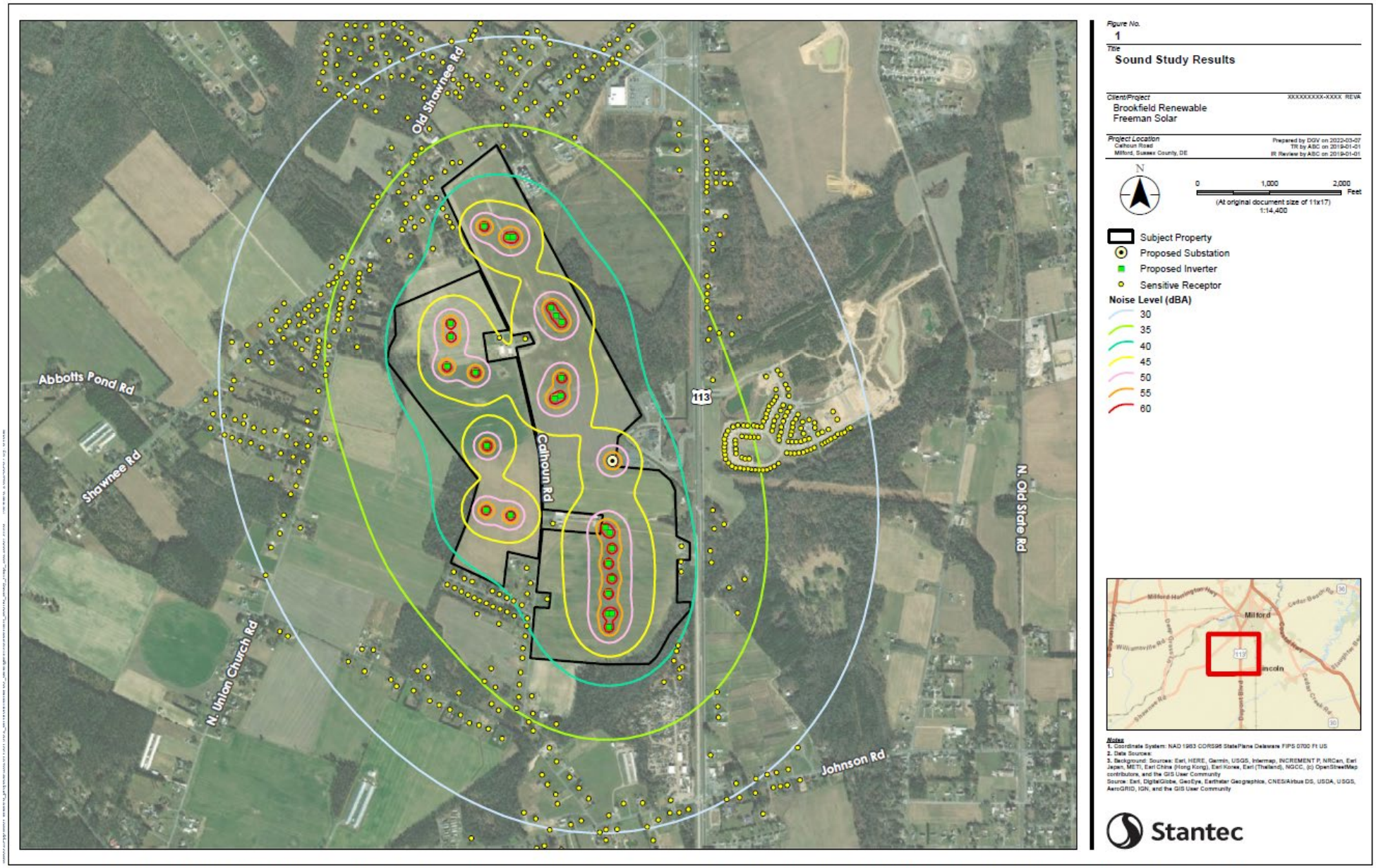


PROJECT DETAILS:

- 75 Megawatt(MW) Nameplate Capacity
- 351 Acres of Calhoun Family Property
- Operating Life of +20 years
- ~150,000 MWh of Energy/Year
- 13,350 Average Delaware Homes Energy Usage
- Single Axis Tracking Solar Racking
- ~166,500 Solar Panels
- Full Decommissioning Is Developer Responsibility
- Land Returned To Owner In “Current Condition”
- Virtually No Noise
- Designed To Withstand Hurricane Force Winds
- Fully Insured By Project Owner

ACOUSTIC ANALYSIS

Brookfield
Renewable U.S.



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PROJECT LAYOUT

Brookfield
Renewable U.S.

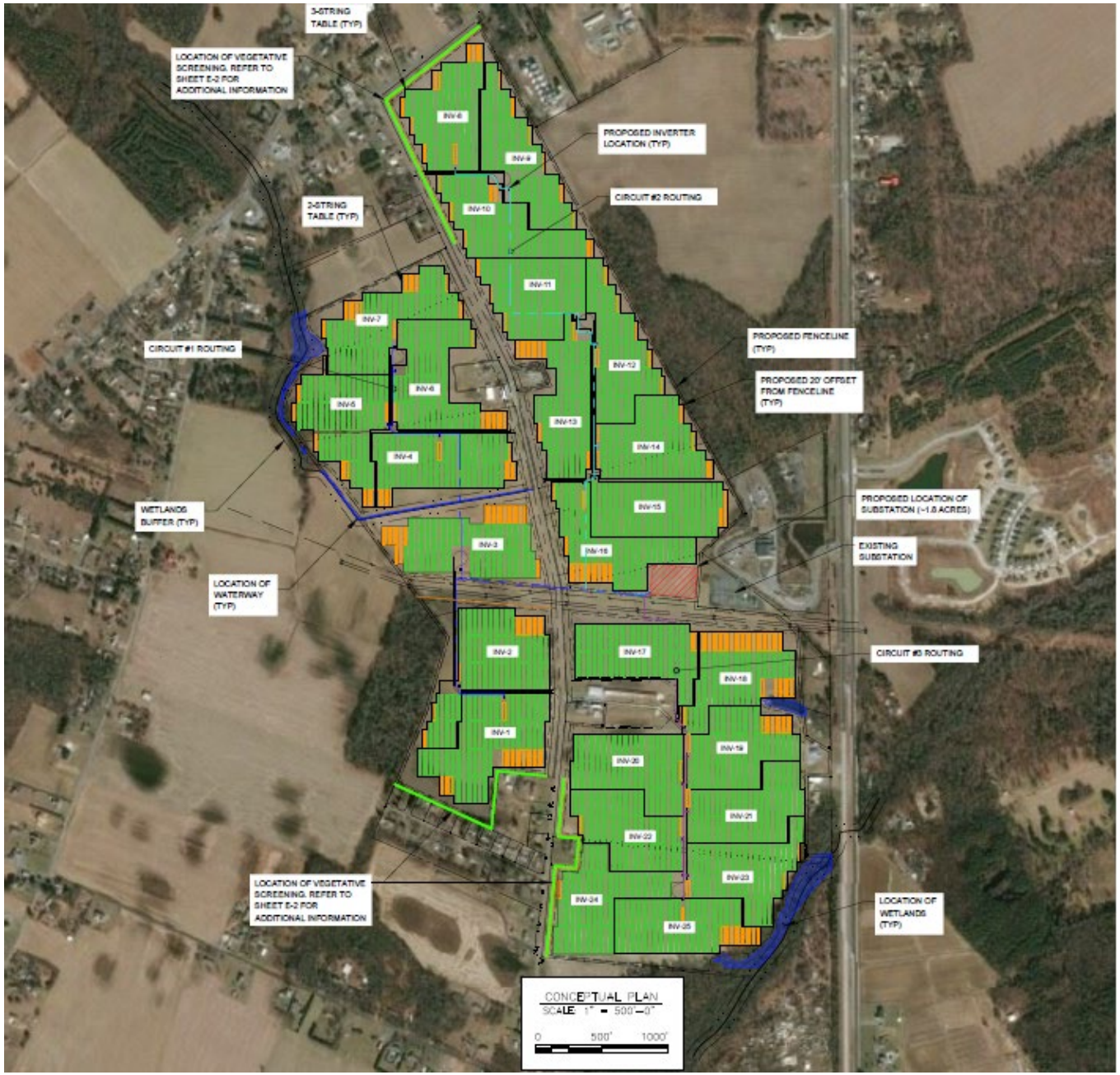

PHOTO SIMULATIONS

Brookfield
Renewable U.S.

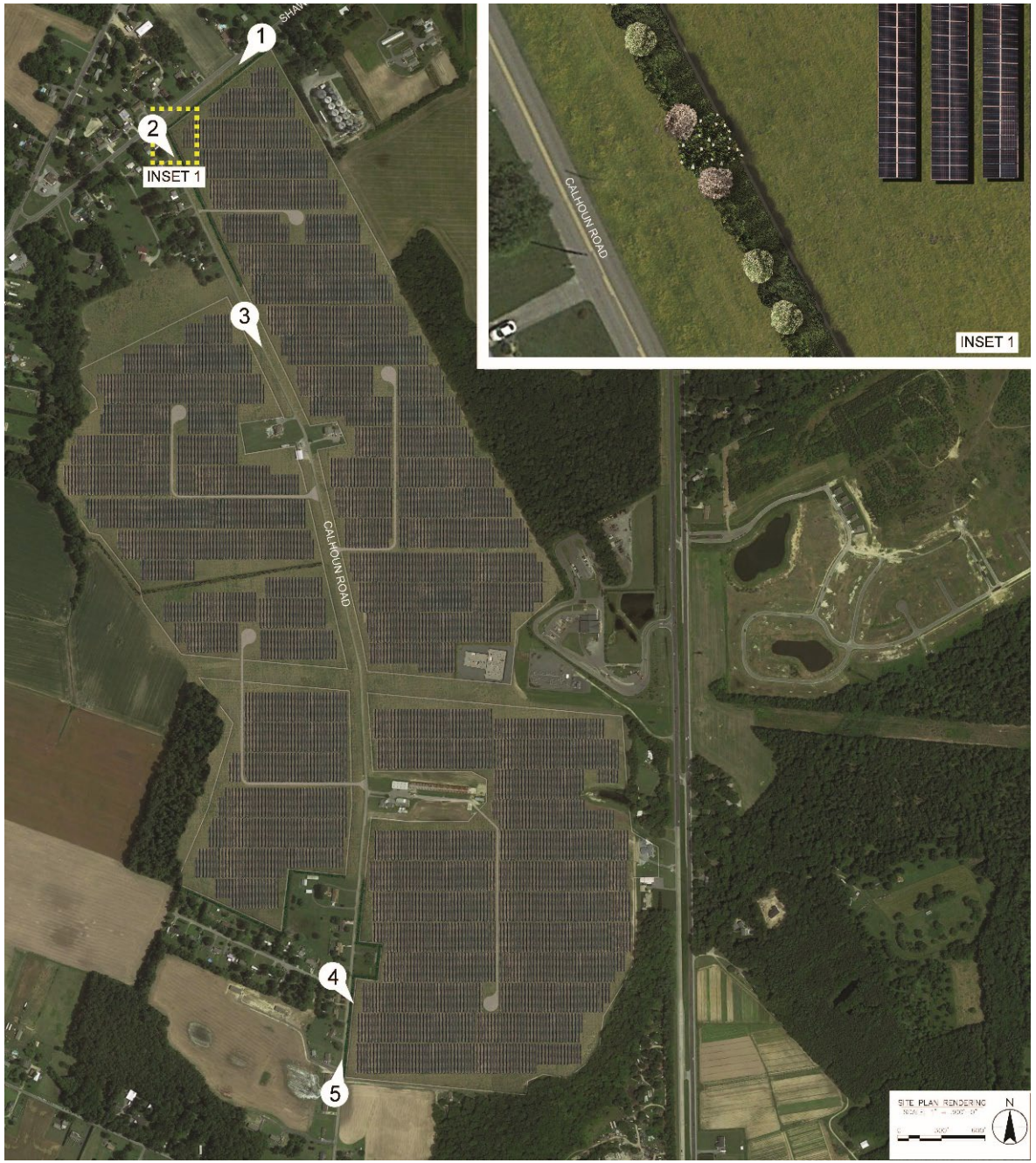

PHOTO SIMULATIONS

Brookfield
Renewable U.S.

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Renewable U.S.

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Brookfield
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OTHER PERMITTING REQUIREMENTS

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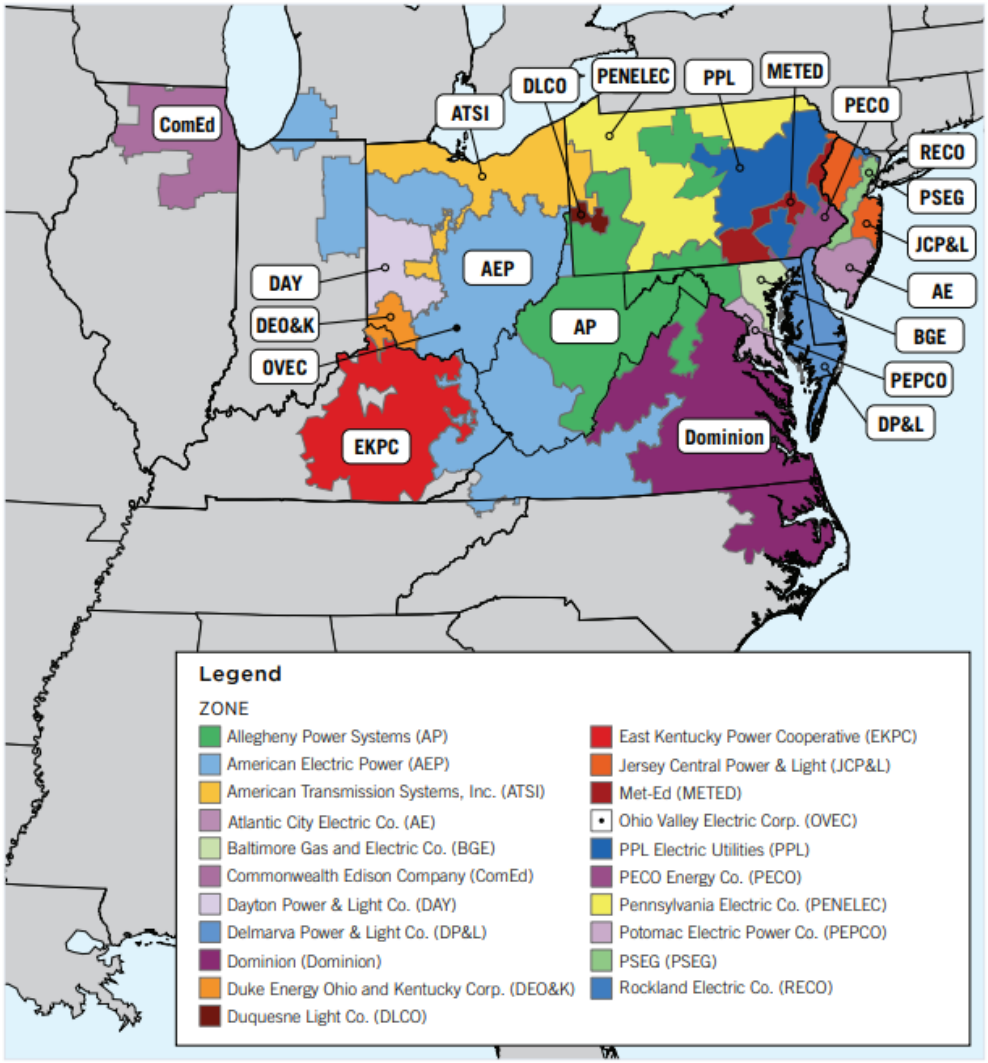
Large Generator Interconnection Agreement - PJM



- PJM is a regional transmission organization (RTO) also known as an independent service operator (ISO) that coordinates the movement, reliable supply and trading of wholesale electricity in all or part of 13 states and the District of Columbia.
- Authority is delegated from the Federal Energy Regulatory Commission (FERC).
- PJM is responsible for managing interconnection within its region for all FERC jurisdictional projects.
- Projects that interconnect at Transmission Voltage >69kV are typically FERC jurisdictional.
- Projects that interconnect to DP&L's Distribution System are not typically subject to the same regulations.
- PJM has a FERC approved Tariff that details the interconnection process.

OTHER PERMITTING REQUIREMENTS

Brookfield
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Large Generator Interconnection Agreement - PJM

- Freeman Solar LLC submitted an interconnection request to PJM in the fall of 2020 and obtained queue position AG1-529
- Freeman Solar LLC proceeded through the interconnection process and obtained System Impact Study Results in September of 2021.
- Freeman Solar LLC entered into a Facilities Study Agreement in October of 2021 with an expected study delivery date of May 31st 2023
- PJM currently has a backlog of +2,000 projects and is experiencing significant delays.
- PJM is advancing a queue reform process through FERC so the current timing for study delivery for this project is unknown.

CLOSING COMMENTS

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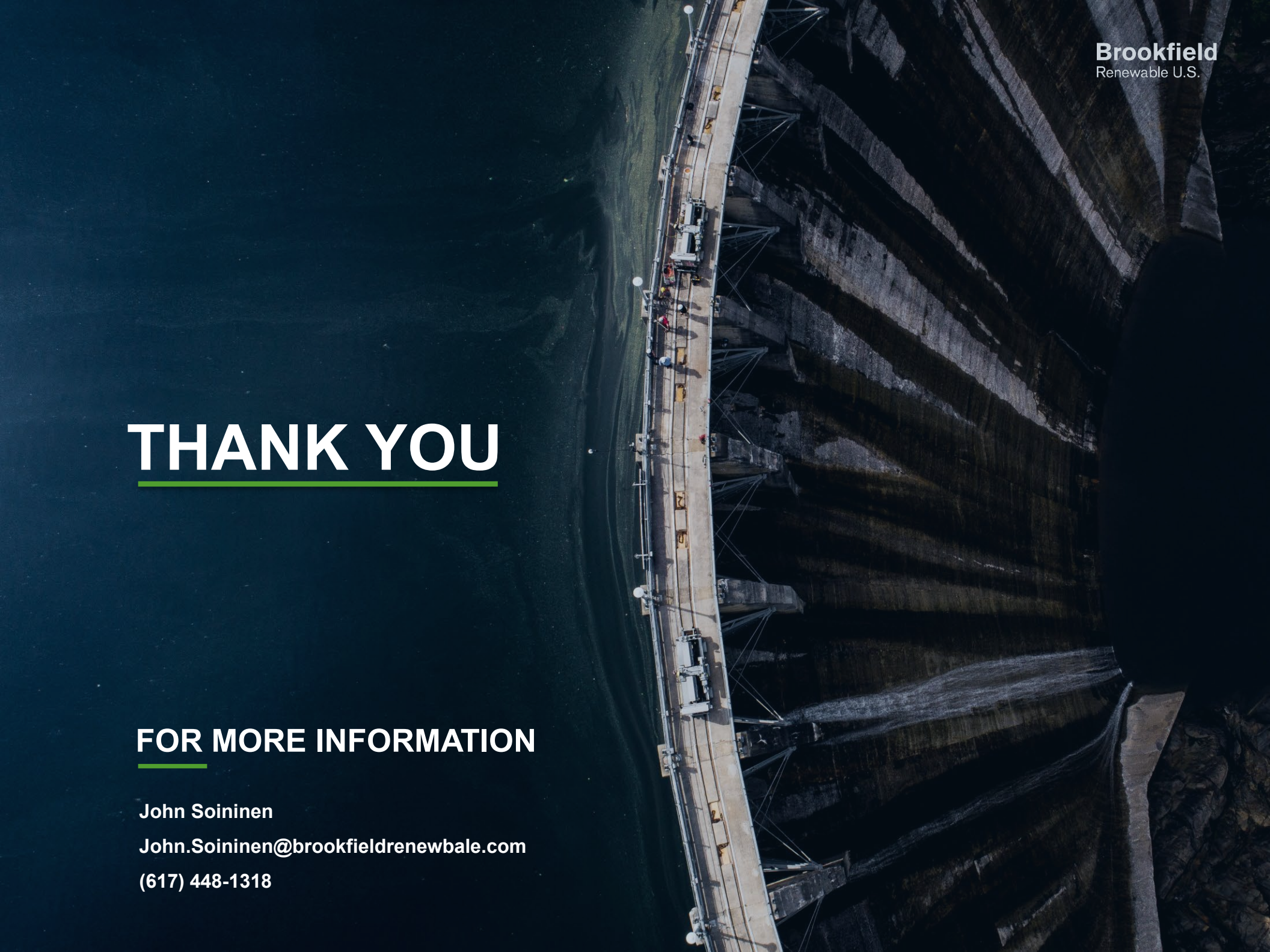
- Freeman Solar LLC is committed to being a good neighbor and long-term owner operator actively involved in the community.
- The construction phase of the project will be the most disruptive, but will last for less than a year, followed by +20 years of quiet operations.
- Studies demonstrate that solar projects do not negatively impact adjacent residential property values and, in many instances, help support healthy communities.
- At the end of its functional life the project will be fully decommissioned and the property will be returned to the landowners in its “current condition”.
- This project will produce enough clean, renewable energy to power approximately 13,350 homes every year for its operational life.



THANK YOU

FOR MORE INFORMATION

John Soininen

John.Soininen@brookfieldrenewbale.com

(617) 448-1318

TAB 4

ACOUSTIC REPORT

Freeman Solar Project Operational Pre-Construction Sound Report

Prepared for:
Freeman Solar, LLC
200 Liberty Street, 14th Floor
New York, NY 10281

Prepared by:
Stantec Consulting Services Inc.
1165 Scheuring Road
De Pere, WI 54115

Project Number: 2028095052

March 18, 2022

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Abbreviations

AC	alternating current
dB	decibel
dB(Z) or dBZ	decibel (unweighted)
dB(A) or dBA	decibel (A-weighted)
dB(C) or dbC	decibel (C-weighted)
DC	direct current
Hz	hertz
L_{eq}	equivalent continuous sound level
MW	megawatt
Project	Freeman Solar Project
PV	photovoltaic

1.0 Project Description

Freeman Solar, LLC (Freeman Solar) is proposing to develop and construct the Freeman Solar Project, a 75-megawatt (MW) utility-scale solar powered electric generating facility located in southern Sussex County, Delaware (Project). The Project will include photovoltaic (PV) solar panels mounted on a single-axis tracking system to maximize solar energy capture and electric generation of the array. The Project will be sited in an approximately 350-acre agricultural area approximately 1.6 miles southwest of the City of Milford, Delaware.

In addition to photovoltaic modules and single access trackers, the Project will include inverter stations, an electrical collection system, access roads, a Project substation, switchyard, and perimeter security fencing. Freeman Solar retained the services of Stantec Consulting Services Inc. (Stantec) to conduct a pre-construction sound study assessing the potential sound due to operation of the Project.

The solar arrays will be constructed on predominantly agricultural parcels roughly bounded by Dupont Boulevard/US Hwy 113 to the east, Fitzgeralds Road to the south, Old Shawnee Road to the west, and Shawnee Road/Seabury Avenue to the north. The electricity generated by the solar facility will be routed to an electrical substation located on the east-central portion of the Project area. The predominant land use of the area for the Project is agricultural land with surrounding residential development.

The two main sources of sound emissions from the operational Project will be the inverter stations and the substation transformer.

Solar panels produce direct current (DC) voltage which must be converted to alternating current (AC) voltage through a series of inverters. Solar energy facilities operate by converting solar radiation into electricity, meaning the Project will only produce electricity between sunrise and sunset. After sunset, the site no longer receives solar radiation, and the inverters will shift into stand-by mode.

Approximately 25 inverters will be installed in the Project area for the proposed 75-MW Project. The analysis performed for this report assumed the maximum sound pressure level of each inverter skid at the source is approximately 95.8 decibels, A-weighted (dBA). Manufacturer's specifications for an example inverter are provided in Appendix A.

The Project will include one main power transformer located within the substation footprint. The sound specification of the substation transformer indicates a sound pressure level of approximately 96.3 dBA at the source.[1]

[1] National Electric Manufacturers Association, *NEMA TR 1-2013 Transformers, Step Voltage Regulators and Reactors*

The Project inverters and transformers are generally expected to run during the times that the solar array will be generating power (daylight hours). The equipment will be energized during the nighttime but will produce minimal sound.

2.0 Sound Level Description

Sound is caused by vibrations that generate waves of minute pressure fluctuations in the surrounding air. Sound levels are typically measured using a logarithmic decibel (dB) scale. Human hearing varies in sensitivity for different sound frequencies. The ear is most sensitive to sound frequencies between 800 and 8,000 hertz (Hz) and is least sensitive to sound frequencies below 400 Hz or above 12,500 Hz. Consequently, several different frequency weighting schemes have been used to approximate the way the human ear responds to sound levels. The decibel (A-weighted) or dBA scale is the most widely used for regulatory requirements, such as the Occupational Safety and Health Administration, because it discriminates against low frequencies, like the response of the human ear. The decibel (C-weighted) sound level (dBC) does not discriminate against low frequencies. Unweighted sound levels are generally reported as dB or dBZ.

For context, a soft whisper has a sound level of approximately 30 dBA, while a normal conversation is approximately 60 dBA. Common household appliances range in sound pressure levels from 40 dBA (refrigerator hum) to 60 dBA (air conditioner)[2].

3.0 Sound Regulations

The proposed Project is located in northern Sussex County, Delaware. No local sound ordinance or regulations were identified; however, Chapter 71, Title 7 of the Delaware Code provides a state-wide standard for "Noise Control and Abatement." Pursuant to Title 7 of the Delaware Code, the Department of Natural Resources and Environmental Control adopted "Regulations Governing the Control of Noise" which are found in the Delaware Administrative Code. The most applicable regulation is found in Title 7, Chapter 1149 which states that no person(s) shall operate, or cause to be operated, any stationary source of sound in such a manner as to create a 24-hour equivalent A-weighted sound level which exceeds the L_{eq} limits set forth for a residential property when measured at the point of complaint origination within the receiving property boundary. Therefore, sound from the operation of Project facilities cannot exceed the daytime (7 am – 10 pm) limit of 65 dBA and the nighttime (10 pm – 7 am) limit of 55 dBA, as set forth in the Regulations.

4.0 Predicted Sound Analysis Methods

Approximately 25 inverters will be installed within the Project area. A maximum sound power level of approximately 95.8 dBA at the source was utilized for this analysis, including a tonal penalty of 5 dBA. The inverters will convert electricity when the sun is shining; therefore, they will produce minimal sound when operating in stand-by mode between sunset and sunrise.

[2] Centers for Disease Control and Prevention. 2019. What Noises Cause Hearing Loss? https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html

A conservative sound power level of 96.3 dBA at the source was utilized for the single-transformer substation. The substation transformer will be energized during nighttime hours but will produce minimal sound.

Sound attenuates between the source and the receptor due to a variety of factors, including but not limited to, atmospheric absorption, interaction with the ground, and attenuation due to vegetation and ground cover. Sound impact is also dependent on the distance between the sound source and each receptor. Locations of the inverters and substation are based on the current layout of the Project provided by Freeman Solar. Residences within approximately one-half mile of the Project facilities were identified and included in the analysis. Elevations for inverters, substation and receptors were calculated within the model, using the National Elevation Dataset acquired from the U.S. Geological Survey.

Sound results were calculated using sound modeling software and conservative ISO 9613-2 algorithms to estimate sound propagation and atmospheric absorption. The parameters and assumptions made in developing the estimates include the following:

- All inverters and the substation were considered as running at all times.
- An inverter sound power level of 95.8 dBA was used.
- A substation transformer sound power level of 96.3 dBA was used.
- A ground attenuation factor of 0.5 (on a scale of 0.0 representing hard ground to 1.0 representing porous ground) was modelled.
- Meteorological conditions used were conducive to sound propagation (10 degrees Celsius and 70 percent relative humidity).

5.0 Assessment of Sound Impacts during Operation

A sound analysis was completed for the invertor skids and the Project substation operating at full load. Coordinates (UTM Zone 18) of the inverter and transformer locations are included in Appendix B. Results of the sound analysis at receptors within approximately one-half mile of the Project are provided in tabular format in Appendix C. Sound contours are displayed in Figure 1; the figure displays the overall expected sound levels from within the solar array and substation, with a ground attenuation of 0.5. Results demonstrate that the maximum expected daytime sound from Project operation is 45.8 dBA at nearby residences. Nighttime noise will be substantially less, as all equipment will be energized, but operating in stand-by mode, only, and thereby producing minimal sound.

6.0 Summary

Sound analyses were completed for the Project, considering 25 inverters and one substation in full operation. The sound signature of the inverter is based on information provided by the equipment manufacturer for the example inverter. The maximum sound impact at a residence is predicted to be approximately 45.8 dBA. Sound due to Project operation is not expected to exceed 55 dBA at any non-participating residential property boundary. The facility will operate converting power during daytime hours, only. Sound from the inverters and substation will be minimal during the nighttime hours, due to equipment operating in an energized stand-by mode.

Figure

Sound Study Modelling Results

Figure No.
1

Title
Sound Study Results

Client/Project XXXXXXXXX-XXXX REVA
Brookfield Renewable
Freeman Solar

Project Location
Calhoun Road
Milford, Sussex County, DE

Prepared by DGV on 2022-03-07
TR by ABC on 2019-01-01
IR Review by ABC on 2019-01-01

N

0 1,000 2,000 Feet
(At original document size of 11x17)
1:14,400

- Subject Property
- Proposed Substation
- Proposed Inverter
- Sensitive Receptor

Noise Level (dBA)
- 30
- 35
- 40
- 45
- 50
- 55
- 60

Notes
1. Coordinate System: NAD 1983 CORS96 StatePlane Delaware FIPS 0700 Ft US
2. Data Sources:
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

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Appendix A

Manufacturer Specification Sheet – Inverters

SUNNY CENTRAL
2200 / 2475 / 2500-EV / 2750-EV / 3000-EV

SC-2200-10 / SC-2475-10 / SC-2500-EV-10 / SC-2750-EV-10 / SC-3000-EV-10

Optional now with DC Coupled Storage Systems for 1500V devices

Full power up to 35 °C

Efficient

- Up to 4 inverters can be transported in one standard shipping container
- Overdimensioning up to 225% is possible
- Full power at ambient temperatures of up to 35 °C

Robust

- Intelligent air cooling system OptiCool for efficient cooling
- Suitable for outdoor use in all climatic ambient conditions worldwide

Flexible

- Conforms to all known grid requirements worldwide
- Q on demand
- Available as a single device or turnkey solution, including medium-voltage block

Easy to Use

- Improved DC connection area
- Connection area for customer equipment
- Integrated voltage support for internal and external loads

SUNNY CENTRAL 2200 / 2475 / 2500-EV / 2750-EV / 3000-EV

The new Sunny Central: more power per cubic meter

With an output of up to 3000 kVA and system voltages of 1100 V DC or 1500 V DC, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV power plants. A separate voltage supply and additional space are available for the installation of customer equipment. True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.

SUNNY CENTRAL 1000 V

Technical Data	Sunny Central 2200	Sunny Central 2475
Input (DC)		
MPP voltage range V_{DC} (at 25 °C / at 35 °C / at 50 °C)	570 to 950 V / 800 V / 800 V	638 V to 950 V / 800 V / 800 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	545 V / 645 V	614 V / 714 V
Max. input voltage $V_{DC, max}$	1100 V	1100 V
Max. input current $I_{DC, max}$ (at 35°C / at 50°C)	3960 A / 3600 A	3960 A / 3600 A
Max. short-circuit current $I_{DC, sc}$	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused)	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Output (AC)		
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	2200 kVA / 2000 kVA	2475 kVA / 2250 kVA
Nominal AC power at cos φ =0.8 (at 35°C / at 50°C)	1760 kW / 1600 kW	1980 kW / 1800 kW
Nominal AC current $I_{AC, nom}$ = Max. output current $I_{AC, max}$	3300 A	3300 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1) 8)]	385 V / 308 V to 462 V	434 V / 347 V to 521 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals[9)]	> 2	
Power factor at rated power / displacement power factor adjustable[8) 10)]	● 1 / 0.8 overexcited to 0.8 underexcited ○ 1 / 0.0 overexcited to 0.0 underexcited	
Efficiency		
Max. efficiency[2)] / European efficiency[2)] / CEC efficiency[3)]	98.6% / 98.4% / 98.0%	98.6% / 98.4% / 98.0%
Protective Devices		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
AC overvoltage protection (optional)	Surge arrester, class I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP65 / IP34 / IP34	
General Data		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	
Weight	< 3400 kg / < 7496 lb	
Self-consumption (max.[4)] / partial load[5)] / average[6)])	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 300 W	
Internal auxiliary power supply	Integrated 8.4 kVA transformer	
Operating temperature range[8)]	−25°C to 60°C / −13°F to 140°F	
Noise emission[7)]	64.7 dB(A)	
Temperature range (standby)	−40°C to 60°C / −40°F to 140°F	
Temperature range (storage)	−40°C to 70°C / −40°F to 158°F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL[8)] 1000 m / 2000 m[11)] / 3000 m[11)] / 4000 m[11)]	● / ○ / ○ / ○	
Fresh air consumption	6500 m³/h	
Features		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply transformer for external loads	○ (2.5 kVA)	
Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, BDEW-MSRL, IEEE1547, UL 840 Cat. IV, Arrêté du 23/04/08	
EMC standards	IEC / EN 61000-6-2, FCC Part 15 Class A, Cispr 11, DIN EN55011:2017	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
● Standard features ○ Optional		
Type designation	SC-2200-10	SC-2475-10

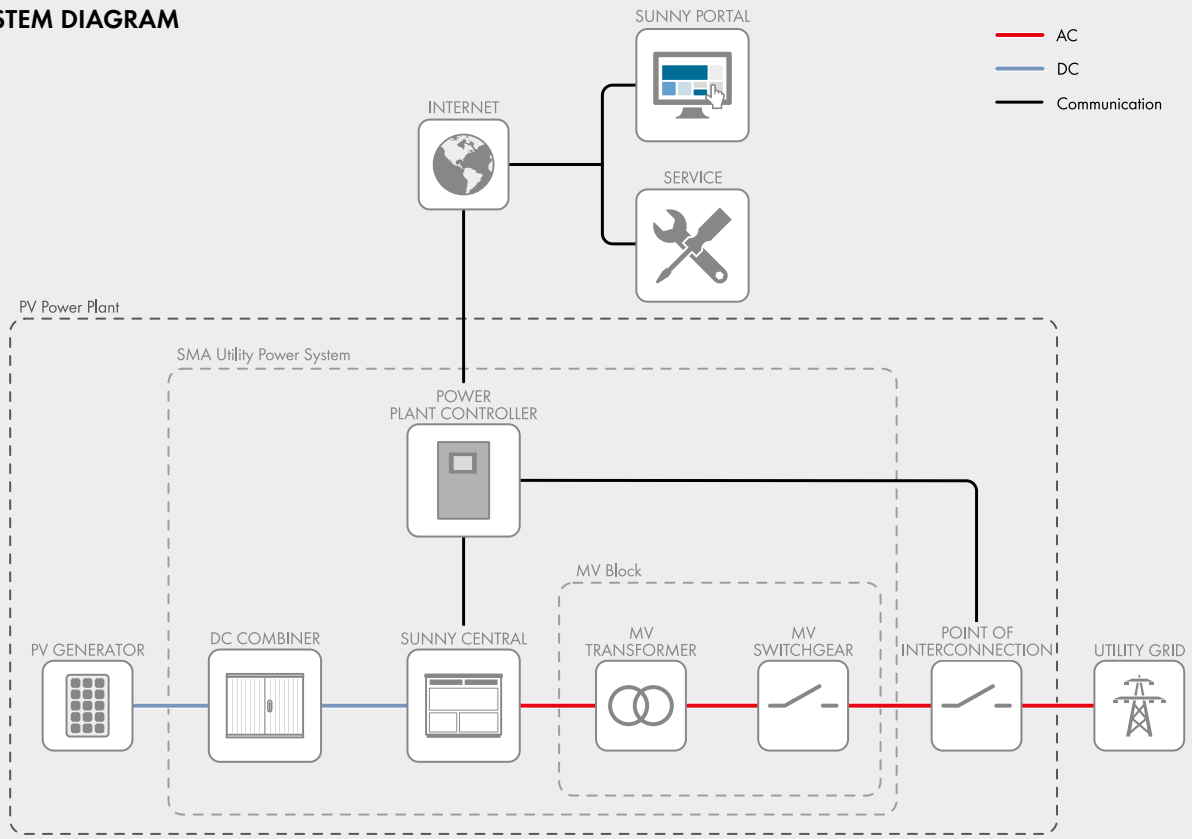
1) At nominal AC voltage, nominal AC power decreases in the same proportion
2) Efficiency measured without internal power supply
3) Efficiency measured with internal power supply
4) Self-consumption at rated operation
5) Self-consumption at < 75% Pn at 25°C
6) Self-consumption averaged out from 5% to 100% Pn at 25°C
7) Sound pressure level at a distance of 10 m
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) A short-circuit ratio of < 2 requires a special approval from SMA
10) Depending on the DC voltage
11) Earlier temperature-dependent de-rating and reduction of DC open-circuit voltage

SUNNY CENTRAL 1500 V

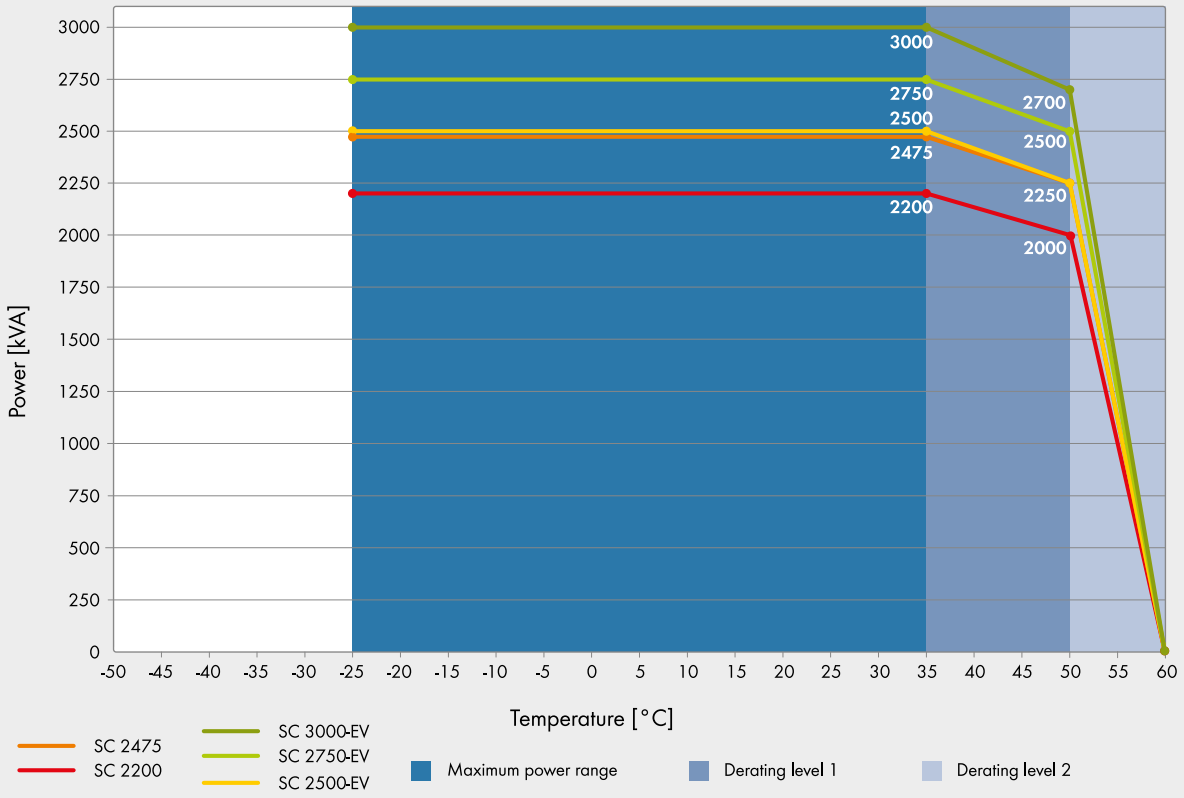
Technical Data	Sunny Central 2500-EV	Sunny Central 2750-EV	Sunny Central 3000-EV
Input (DC)			
MPP voltage range V_{DC} (at 25°C / at 35°C / at 50°C)	850 V to 1425 V / 1200 V / 1200 V	875 V to 1425 V / 1200 V / 1200 V	956 V to 1425 V / 1200 V / 1200 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	778 V / 928 V	849 V / 999 V	927 V / 1077 V
Max. input voltage $V_{DC, max}$	1500 V	1500 V	1500 V
Max. input current $I_{DC, max}$ (at 35°C / at 50°C)	3200 A / 2956 A	3200 A / 2956 A	3200 A / 2970 A
Max. short-circuit current rating	6400 A	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused) for PV		
Number of DC inputs with optional DC coupled storage	18 double pole fused (36 single pole fused) for PV and 6 double pole fused for batteries		
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²		
Integrated zone monitoring	○		
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A		
Output (AC)			
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	2500 kVA / 2250 kVA	2750 kVA / 2500 kVA	3000 kVA / 2700 kVA
Nominal AC power at cos φ =0.8 (at 35°C / at 50°C)	2000 kW / 1800 kW	2200 kW / 2000 kW	2400 kW / 2160 kW
Nominal AC current $I_{AC, nom}$ = Max. output current $I_{AC, max}$	2624 A	2646 A	2646 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1) 8)]	550 V / 440 V to 660 V	600 V / 480 V to 720 V	655 V / 524 V to 721 V[9)]
AC power frequency	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz		
Min. short-circuit ratio at the AC terminals[10)]	> 2		
Power factor at rated power / displacement power factor adjustable[8) 11)]	● 1 / 0.8 overexcited to 0.8 underexcited ○ 1 / 0.0 overexcited to 0.0 underexcited		
Efficiency			
Max. efficiency[2)] / European efficiency[2)] / CEC efficiency[3)]	98.6% / 98.3% / 98.0%	98.7% / 98.5% / 98.5%	98.8% / 98.6% / 98.5%
Protective Devices			
Input-side disconnection point	DC load-break switch		
Output-side disconnection point	AC circuit breaker		
DC overvoltage protection	Surge arrester, type I & II		
AC overvoltage protection (optional)	Surge arrester, class I & II		
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III		
Ground-fault monitoring / remote ground-fault monitoring	○ / ○		
Insulation monitoring	○		
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP65 / IP34 / IP34		
General Data			
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)		
Weight	< 3400 kg / < 7496 lb		
Self-consumption (max.[4)] / partial load[5)] / average[6)])	< 8100 W / < 1800 W / < 2000 W		
Self-consumption (standby)	< 370 W		
Internal auxiliary power supply	Integrated 8.4 kVA transformer		
Operating temperature range[8)]	–25 to 60°C / –13 to 140°F		
Noise emission[7)]	67.8 dB(A)		
Temperature range (standby)	–40 to 60°C / –40 to 140°F		
Temperature range (storage)	–40 to 70°C / –40 to 158°F		
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month / year) / 0 % to 95%		
Maximum operating altitude above MSL[8)] 1000 m / 2000 m[12)] / 3000 m[12)]	● / ○ / –	● / ○ / –	● / ○ / –
Fresh air consumption	6500 m³/h		
Features			
DC connection	Terminal lug on each input (without fuse)		
AC connection	With busbar system (three busbars, one per line conductor)		
Communication	Ethernet, Modbus Master, Modbus Slave		
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)		
Enclosure / roof color	RAL 9016 / RAL 7004		
Supply transformer for external loads	○ (2.5 kVA)		
Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, BDEW-MSRL, IEEE1547, Arrêté du 23/04/08		
EMC standards	EN55011:2017, IEC/EN 61000-6-2, FCC Part 15 Class A		
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001		
● Standard features ○ Optional – not available			
Type designation	SC-2500-EV-10	SC-2750-EV-10	SC-3000-EV-10

1) At nominal AC voltage, nominal AC power decreases in the same proportion
2) Efficiency measured without internal power supply
3) Efficiency measured with internal power supply
4) Self-consumption at rated operation
5) Self-consumption at < 75% Pn at 25°C
6) Self-consumption averaged out from 5% to 100% Pn at 35°C
7) Sound pressure level at a distance of 10 m
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) AC voltage range can be extended to 753V for 50Hz grids only (option „Aux power supply: external" must be selected, option "housekeeping" not combinable).
10) A short-circuit ratio of < 2 requires a special approval from SMA
11) Depending on the DC voltage
12) Available as a special version, earlier temperature-dependent de-rating and reduction of

SYSTEM DIAGRAM



TEMPERATURE BEHAVIOR (at cos φ =1 and installation altitudes of up to 1,000 m*)



*) For the temperature behavior for installations at above 1,000 m see the Technical Information document.

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Appendix C

Receptor Locations (UTM 18 Coordinates) and Sound Model Results

Appendix B

Freeman Solar Project - Inverter and Substation Transformer Locations

Inverter ID	X (UTM 18)	Y (UTM 18)
I-01	461,498	4,303,353
I-02	461,497	4,303,225
I-03	461,497	4,303,141
I-04	461,499	4,303,084
I-05	461,513	4,303,142
I-06	461,513	4,303,289
I-07	461,514	4,303,416
I-08	461,504	4,303,483
I-09	461,488	4,303,502
I-10	461,274	4,304,049
I-11	461,299	4,304,061
I-12	461,305	4,304,136
I-13	461,306	4,304,370
I-14	461,261	4,304,434
I-15	461,283	4,304,399
I-16	461,083	4,304,731
I-17	461,103	4,304,731
I-18	460,980	4,304,777
I-19	461,086	4,303,557
I-20	460,983	4,303,580
I-21	460,820	4,304,186
I-22	460,837	4,304,368
I-23	460,838	4,304,311
I-24	460,941	4,304,161
I-25	460,988	4,303,852

Substation ID	X (UTM 18)	Y (UTM 18)
SS-01	461,518	4,303,787

Appendix B

Project Inverter Locations (UTM 18 Coordinates)

Appendix C Freeman Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-001	459,801	4,304,050	29.5
R-002	459,843	4,304,078	29.9
R-003	459,831	4,303,991	29.7
R-004	459,879	4,303,981	30.1
R-005	459,910	4,304,096	30.5
R-006	459,920	4,304,132	30.6
R-007	459,982	4,304,213	31.2
R-008	460,081	4,304,205	32.2
R-009	460,034	4,304,250	31.7
R-010	459,913	4,304,293	30.5
R-011	459,978	4,304,281	31.1
R-012	460,032	4,304,365	31.6
R-013	460,080	4,304,294	32.2
R-014	460,082	4,304,388	32.1
R-015	460,101	4,304,424	32.2
R-016	460,115	4,304,342	32.5
R-017	460,140	4,304,360	32.8
R-018	460,155	4,304,379	32.9
R-019	460,131	4,304,310	32.7
R-020	460,181	4,304,286	33.4
R-021	460,208	4,304,262	33.7
R-022	460,230	4,304,304	34
R-023	460,281	4,304,298	34.7
R-024	460,275	4,304,338	34.5
R-025	460,197	4,304,364	33.5
R-026	460,133	4,304,456	32.5
R-027	460,194	4,304,409	33.3
R-028	460,218	4,304,377	33.7
R-029	460,251	4,304,404	34.1
R-030	460,223	4,304,431	33.6
R-031	460,238	4,304,446	33.8
R-032	460,276	4,304,426	34.3
R-033	460,257	4,304,470	34.0
R-034	460,287	4,304,494	34.3
R-035	460,312	4,304,447	34.8
R-036	460,360	4,304,388	35.7
R-037	460,416	4,304,391	36.6
R-038	460,364	4,304,409	35.7
R-039	460,322	4,304,531	34.6
R-040	460,368	4,304,433	35.6
R-041	460,371	4,304,452	35.6
R-042	460,421	4,304,440	36.5

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-043	460,429	4,304,462	36.5
R-044	460,380	4,304,475	35.7
R-045	460,388	4,304,520	35.6
R-046	460,451	4,304,505	36.6
R-047	460,447	4,304,538	36.3
R-048	460,449	4,304,562	36.2
R-049	460,453	4,304,582	36.2
R-050	460,398	4,304,542	35.6
R-051	460,343	4,304,541	34.8
R-052	460,358	4,304,564	34.9
R-053	460,376	4,304,582	35.1
R-054	460,337	4,304,611	34.4
R-055	460,495	4,304,594	36.7
R-056	460,499	4,304,616	36.6
R-057	460,422	4,304,630	35.4
R-058	460,379	4,304,649	34.7
R-059	460,496	4,304,669	36.2
R-060	460,671	4,304,654	39.0
R-061	460,764	4,304,684	40.5
R-062	460,633	4,304,765	37.5
R-063	460,578	4,304,719	37.0
R-064	460,687	4,304,776	38.3
R-065	460,511	4,304,865	34.9
R-066	460,634	4,304,765	37.5
R-067	460,647	4,304,797	37.4
R-068	460,576	4,304,835	36.0
R-069	460,672	4,304,814	37.7
R-070	460,721	4,304,804	38.8
R-071	460,531	4,304,903	34.8
R-072	460,620	4,304,923	35.8
R-073	460,651	4,304,874	36.8
R-074	460,847	4,304,774	43.2
R-075	460,834	4,304,796	42.4
R-076	460,823	4,304,819	41.6
R-077	460,807	4,304,853	40.6
R-078	460,742	4,304,860	38.7
R-079	460,778	4,304,897	39.0
R-080	460,684	4,304,900	37.1
R-081	460,714	4,304,924	37.3
R-082	460,732	4,304,966	37.0
R-083	460,759	4,304,981	37.2
R-084	460,581	4,305,005	34.5

Appendix C Freeman Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-085	460,637	4,304,960	35.7
R-086	460,651	4,304,995	35.5
R-087	460,678	4,305,049	35.1
R-088	460,816	4,305,008	37.6
R-089	460,847	4,305,046	37.2
R-090	460,882	4,305,048	37.6
R-091	460,591	4,305,110	33.5
R-092	460,693	4,305,080	34.9
R-093	460,718	4,305,108	34.8
R-094	460,751	4,305,190	33.9
R-095	460,661	4,305,237	32.7
R-096	460,967	4,305,124	36.4
R-097	461,159	4,304,982	39.8
R-098	461,075	4,305,203	35.0
R-099	461,063	4,305,113	36.8
R-100	461,156	4,305,165	35.6
R-101	461,118	4,305,241	34.3
R-102	461,062	4,305,278	33.8
R-103	461,163	4,305,271	33.8
R-104	461,197	4,305,300	33.3
R-105	461,116	4,305,308	33.3
R-106	461,137	4,305,337	32.9
R-107	461,252	4,305,246	33.9
R-108	461,270	4,305,267	33.5
R-109	461,305	4,305,295	33.0
R-110	461,267	4,305,359	32.3
R-111	461,330	4,305,083	35.9
R-112	461,364	4,305,151	34.6
R-113	460,829	4,305,340	32.4
R-114	460,863	4,305,342	32.5
R-115	460,881	4,305,324	32.8
R-116	460,893	4,305,361	32.3
R-117	460,875	4,305,377	32.1
R-118	460,852	4,305,397	31.7
R-119	460,956	4,305,373	32.3
R-120	460,931	4,305,396	32.0
R-121	460,998	4,305,412	31.9
R-122	461,037	4,305,380	32.3
R-123	460,908	4,305,413	31.7
R-124	460,909	4,305,413	31.7
R-125	461,158	4,305,373	32.4
R-126	460,726	4,305,367	31.6

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-127	461,254	4,305,462	31.1
R-128	461,059	4,305,357	32.6
R-129	461,122	4,305,420	31.8
R-130	461,093	4,305,443	31.5
R-131	461,058	4,305,469	31.2
R-132	461,071	4,305,507	30.8
R-133	461,112	4,305,522	30.6
R-134	461,135	4,305,487	31.0
R-135	461,187	4,305,533	30.4
R-136	461,262	4,305,546	30.2
R-137	461,175	4,305,465	31.2
R-138	461,155	4,305,553	30.2
R-139	460,730	4,305,319	32.2
R-140	460,894	4,305,502	30.6
R-141	460,776	4,305,389	31.6
R-142	460,680	4,305,397	31.0
R-143	460,758	4,305,429	31.0
R-144	460,810	4,305,470	30.8
R-145	460,639	4,305,413	30.7
R-146	460,766	4,305,492	30.4
R-147	460,712	4,305,445	30.7
R-148	460,727	4,305,503	30.2
R-149	460,679	4,305,524	29.8
R-150	460,641	4,305,483	30.0
R-151	460,585	4,305,476	29.8
R-152	460,525	4,305,264	31.4
R-153	460,480	4,305,286	30.9
R-154	460,553	4,305,325	31.1
R-155	460,489	4,305,352	30.4
R-156	460,439	4,305,307	30.5
R-157	460,447	4,305,368	30.0
R-158	460,394	4,305,324	30.1
R-159	460,403	4,305,381	29.7
R-160	460,370	4,305,337	29.8
R-161	460,435	4,305,421	29.5
R-162	460,592	4,305,410	30.5
R-163	460,532	4,305,405	30.2
R-164	460,527	4,305,464	29.6
R-165	460,459	4,305,486	29.1
R-166	460,310	4,305,356	29.3
R-167	460,285	4,305,386	28.9
R-168	460,302	4,305,431	28.7

Appendix C Freeman Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-169	460,314	4,305,469	28.5
R-170	460,312	4,305,506	28.2
R-171	460,320	4,305,553	27.9
R-172	460,338	4,305,587	27.8
R-173	460,375	4,305,405	29.3
R-174	460,363	4,305,461	28.8
R-175	460,367	4,305,524	28.4
R-176	460,421	4,305,508	28.8
R-177	460,395	4,305,573	28.1
R-178	460,404	4,305,629	27.8
R-179	460,441	4,305,627	27.9
R-180	460,438	4,305,567	28.4
R-181	460,484	4,305,624	28.1
R-182	460,507	4,305,568	28.7
R-183	460,510	4,305,534	29.0
R-184	460,571	4,305,508	29.5
R-185	460,557	4,305,582	28.8
R-186	460,553	4,305,632	28.3
R-187	460,603	4,305,633	28.5
R-188	460,619	4,305,573	29.1
R-189	460,650	4,305,551	29.4
R-190	460,638	4,305,618	28.8
R-191	460,676	4,305,594	29.1
R-192	460,525	4,305,702	27.7
R-193	460,845	4,305,559	29.9
R-194	460,717	4,305,566	29.5
R-195	460,926	4,305,563	30.0
R-196	460,936	4,305,582	29.9
R-197	460,947	4,305,604	29.7
R-198	460,969	4,305,634	29.4
R-199	460,985	4,305,666	29.1
R-200	461,004	4,305,704	28.7
R-201	461,040	4,305,690	28.9
R-202	461,024	4,305,710	28.7
R-203	460,969	4,305,776	28.1
R-204	461,238	4,305,573	30.0
R-205	461,209	4,305,599	29.7
R-206	461,165	4,305,591	29.8
R-207	460,975	4,305,835	27.5
R-208	460,995	4,305,867	27.3
R-209	461,087	4,305,865	27.3
R-210	461,102	4,305,899	27.1

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-211	461,337	4,305,328	32.4
R-212	461,305	4,305,383	31.9
R-213	461,372	4,305,343	32.1
R-214	461,342	4,305,410	31.5
R-215	461,412	4,305,394	31.4
R-216	461,442	4,305,406	31.1
R-217	461,377	4,305,431	31.1
R-218	461,550	4,305,312	31.6
R-219	461,588	4,305,418	30.4
R-220	461,647	4,305,462	29.7
R-221	461,401	4,305,448	30.9
R-222	461,369	4,305,497	30.5
R-223	461,449	4,305,494	30.2
R-224	461,484	4,305,441	30.6
R-225	461,510	4,305,459	30.3
R-226	461,542	4,305,463	30.2
R-227	461,526	4,305,483	30.1
R-228	461,554	4,305,499	29.8
R-229	461,489	4,305,522	29.8
R-230	461,513	4,305,543	29.6
R-231	461,547	4,305,563	29.3
R-232	461,595	4,305,603	28.8
R-233	461,629	4,305,514	29.4
R-234	461,590	4,305,529	29.4
R-235	461,610	4,305,620	28.6
R-236	460,406	4,304,342	36.5
R-237	460,346	4,304,336	35.6
R-238	460,441	4,304,271	37.3
R-239	460,280	4,304,271	34.7
R-240	460,276	4,304,252	34.6
R-241	460,324	4,304,276	35.3
R-242	460,315	4,304,199	35.2
R-243	460,268	4,304,227	34.5
R-244	460,260	4,304,196	34.4
R-245	460,308	4,304,152	35.0
R-246	460,205	4,304,179	33.7
R-247	460,279	4,304,086	34.5
R-248	460,305	4,303,885	34.3
R-249	460,230	4,303,959	33.7
R-250	460,245	4,303,901	33.7
R-251	460,266	4,303,997	34.2
R-252	460,211	4,303,787	33.0

Appendix C Freeman Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-253	460,169	4,303,808	32.6
R-254	460,231	4,303,854	33.4
R-255	460,144	4,303,897	32.6
R-256	460,182	4,303,862	32.9
R-257	460,117	4,303,825	32.1
R-258	460,095	4,303,919	32.1
R-259	460,047	4,303,916	31.6
R-260	460,038	4,303,848	31.4
R-261	460,003	4,303,932	31.2
R-262	459,991	4,303,868	31.0
R-263	459,946	4,303,876	30.6
R-264	459,911	4,303,890	30.3
R-265	459,961	4,303,949	30.9
R-266	459,965	4,303,981	30.9
R-267	459,925	4,303,967	30.5
R-268	459,880	4,303,902	30.1
R-269	459,820	4,303,932	29.6
R-270	460,194	4,303,746	32.7
R-271	460,181	4,303,686	32.4
R-272	460,159	4,303,651	32.1
R-273	460,076	4,303,718	31.5
R-274	460,128	4,303,563	31.5
R-275	460,199	4,303,508	32.0
R-276	460,112	4,303,486	31.1
R-277	460,074	4,303,426	30.6
R-278	460,051	4,303,309	30.0
R-279	460,143	4,303,052	29.7
R-280	460,110	4,303,072	29.6
R-281	460,399	4,302,943	31.1
R-282	460,457	4,302,996	31.8
R-283	460,505	4,302,992	32.2
R-284	460,466	4,302,902	31.3
R-285	460,579	4,302,867	31.9
R-286	460,601	4,302,839	31.9
R-287	460,674	4,302,820	32.3
R-288	460,691	4,302,903	33.1
R-289	460,720	4,302,922	33.5
R-290	460,735	4,302,875	33.2
R-291	460,742	4,302,776	32.5
R-292	460,781	4,302,759	32.7
R-293	460,826	4,302,739	32.8
R-294	460,864	4,302,808	33.7

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-295	460,872	4,302,716	33.0
R-296	460,973	4,302,857	35.2
R-297	461,019	4,302,832	35.3
R-298	461,001	4,302,911	36.0
R-299	461,002	4,302,763	34.5
R-300	461,033	4,302,735	34.4
R-301	461,108	4,302,744	35.1
R-302	461,126	4,302,895	37.2
R-303	461,121	4,302,843	36.5
R-304	461,118	4,302,791	35.8
R-305	461,173	4,302,795	36.4
R-306	461,178	4,302,721	35.4
R-307	461,158	4,302,685	34.8
R-308	461,179	4,302,648	34.4
R-309	461,276	4,302,676	35.5
R-310	461,247	4,302,576	33.9
R-311	461,047	4,302,616	33.2
R-312	460,989	4,302,656	33.3
R-313	460,949	4,302,672	33.1
R-314	460,908	4,302,683	32.9
R-315	461,277	4,302,517	33.2
R-316	461,214	4,302,462	32.3
R-317	461,236	4,302,422	31.9
R-318	461,272	4,302,379	31.5
R-319	461,137	4,302,303	30.4
R-320	461,331	4,302,452	32.5
R-321	461,279	4,302,340	31.1
R-322	461,370	4,302,405	32.0
R-323	461,411	4,302,361	31.6
R-324	460,914	4,302,197	28.7
R-325	461,187	4,302,276	30.3
R-326	461,335	4,302,252	30.3
R-327	460,979	4,301,979	27.2
R-328	461,222	4,302,162	29.2
R-329	461,191	4,302,152	29.1
R-330	461,294	4,302,146	29.2
R-331	461,246	4,302,231	29.9
R-332	461,379	4,302,267	30.5
R-333	461,497	4,302,290	30.8
R-334	461,484	4,302,231	30.1
R-335	461,483	4,302,185	29.7
R-336	461,457	4,302,218	30.0

Appendix C Freeman Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-337	461,530	4,302,231	30.1
R-338	461,559	4,302,339	31.3
R-339	461,639	4,302,341	31.2
R-340	461,657	4,302,241	30.1
R-341	461,704	4,302,269	30.3
R-342	461,683	4,302,183	29.5
R-343	461,696	4,302,138	29.0
R-344	461,754	4,302,298	30.4
R-345	461,794	4,302,299	30.3
R-346	461,832	4,302,314	30.3
R-347	461,761	4,302,481	32.4
R-348	461,797	4,302,535	32.9
R-349	461,815	4,302,479	32.2
R-350	461,757	4,302,352	31.0
R-351	461,583	4,302,505	33.3
R-352	461,807	4,302,398	31.3
R-353	461,994	4,302,355	30.0
R-354	462,049	4,302,363	29.8
R-355	462,147	4,302,293	28.7
R-356	462,116	4,302,381	29.6
R-357	462,192	4,302,404	29.3
R-358	462,220	4,302,409	29.2
R-359	462,249	4,302,415	29.1
R-360	462,304	4,302,435	28.9
R-361	462,294	4,302,572	29.8
R-362	462,118	4,302,442	30.1
R-363	462,165	4,302,459	29.9
R-364	462,205	4,302,468	29.7
R-365	462,255	4,302,480	29.5
R-366	462,034	4,302,423	30.4
R-367	461,957	4,302,423	30.8
R-368	461,927	4,302,541	32.2
R-369	461,933	4,302,475	31.5
R-370	461,960	4,302,701	33.6
R-371	461,959	4,302,746	34.1
R-372	461,956	4,302,808	34.8
R-373	461,798	4,302,870	37.7
R-374	461,732	4,302,851	38.3
R-375	461,773	4,302,940	39.2
R-376	461,798	4,302,905	38.2
R-377	461,808	4,302,914	38.2
R-378	461,784	4,302,982	39.7

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-379	461,791	4,303,005	39.8
R-380	462,044	4,303,141	36.2
R-381	462,008	4,303,248	37.2
R-382	462,074	4,303,284	36.2
R-383	461,806	4,303,317	41.5
R-384	461,806	4,303,358	41.5
R-385	461,933	4,303,354	38.7
R-386	461,929	4,303,404	38.8
R-387	461,808	4,303,425	41.4
R-388	461,946	4,303,497	38.3
R-389	461,987	4,303,516	37.6
R-390	461,940	4,303,575	38.3
R-391	462,220	4,303,771	34.0
R-392	462,201	4,303,759	34.3
R-393	462,184	4,303,751	34.5
R-394	462,169	4,303,745	34.7
R-395	462,153	4,303,743	34.9
R-396	462,136	4,303,743	35.1
R-397	462,120	4,303,744	35.3
R-398	462,104	4,303,746	35.5
R-399	462,089	4,303,748	35.7
R-400	462,072	4,303,748	35.9
R-401	462,057	4,303,752	36.1
R-402	462,038	4,303,753	36.3
R-403	462,021	4,303,761	36.5
R-404	462,008	4,303,775	36.7
R-405	461,995	4,303,792	36.8
R-406	461,993	4,303,810	36.8
R-407	461,990	4,303,827	36.7
R-408	461,991	4,303,843	36.7
R-409	461,993	4,303,857	36.6
R-410	461,991	4,303,875	36.6
R-411	461,998	4,303,892	36.4
R-412	462,006	4,303,909	36.2
R-413	462,135	4,303,881	34.7
R-414	462,115	4,303,883	35.0
R-415	462,099	4,303,883	35.2
R-416	462,084	4,303,884	35.3
R-417	462,066	4,303,887	35.6
R-418	462,037	4,303,869	36.0
R-419	462,038	4,303,853	36.0
R-420	462,039	4,303,833	36.1

Appendix C Freeman Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-421	462,040	4,303,815	36.1
R-422	462,065	4,303,798	35.8
R-423	462,078	4,303,793	35.7
R-424	462,095	4,303,792	35.5
R-425	462,230	4,303,904	33.6
R-426	462,222	4,303,886	33.7
R-427	462,223	4,303,869	33.8
R-428	462,275	4,303,905	33.1
R-429	462,272	4,303,890	33.2
R-430	462,261	4,303,863	33.4
R-431	462,277	4,303,863	33.2
R-432	462,294	4,303,862	33.0
R-433	462,314	4,303,864	32.8
R-434	462,330	4,303,870	32.7
R-435	462,349	4,303,876	32.5
R-436	462,325	4,303,897	32.7
R-437	462,356	4,303,829	32.5
R-438	462,338	4,303,824	32.7
R-439	462,323	4,303,818	32.8
R-440	462,305	4,303,815	33.0
R-441	462,287	4,303,813	33.2
R-442	462,270	4,303,814	33.4
R-443	462,254	4,303,815	33.6
R-444	462,028	4,303,927	35.9
R-445	462,048	4,303,934	35.6
R-446	462,072	4,303,933	35.3
R-447	462,089	4,303,931	35.1
R-448	462,115	4,303,932	34.8
R-449	462,130	4,303,929	34.7
R-450	462,149	4,303,928	34.4
R-451	462,156	4,303,951	34.3
R-452	462,166	4,303,964	34.1
R-453	462,170	4,303,983	34.1
R-454	462,177	4,303,997	33.9
R-455	462,181	4,304,013	33.8
R-456	462,194	4,304,024	33.7
R-457	462,203	4,304,037	33.5
R-458	462,211	4,304,052	33.4
R-459	462,210	4,304,082	33.3
R-460	462,262	4,304,085	32.8
R-461	462,265	4,304,056	32.9
R-462	462,240	4,304,017	33.2

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-463	462,228	4,303,994	33.4
R-464	462,214	4,303,970	33.6
R-465	462,202	4,303,952	33.8
R-466	462,198	4,303,930	33.9
R-467	462,194	4,303,909	34.0
R-468	462,269	4,304,008	33.0
R-469	462,258	4,303,989	33.1
R-470	462,249	4,303,971	33.3
R-471	462,240	4,303,950	33.4
R-472	462,231	4,303,926	33.6
R-473	462,279	4,303,924	33.1
R-474	462,281	4,303,942	33.0
R-475	462,294	4,303,958	32.8
R-476	462,302	4,303,978	32.7
R-477	462,322	4,303,946	32.6
R-478	462,314	4,303,919	32.7
R-479	462,349	4,303,955	32.3
R-480	462,372	4,303,942	32.1
R-481	462,374	4,303,921	32.1
R-482	462,387	4,303,895	32.1
R-483	462,404	4,303,903	31.9
R-484	462,431	4,303,914	31.6
R-485	462,467	4,303,956	31.2
R-486	462,451	4,303,990	31.3
R-487	462,371	4,303,837	32.3
R-488	462,404	4,303,851	32.0
R-489	462,417	4,303,859	31.8
R-490	462,430	4,303,866	31.7
R-491	462,441	4,303,874	31.6
R-492	462,457	4,303,881	31.4
R-493	462,470	4,303,894	31.3
R-494	462,487	4,303,896	31.1
R-495	462,499	4,303,901	31.0
R-496	462,514	4,303,916	30.8
R-497	462,524	4,303,921	30.7
R-498	462,251	4,304,104	32.9
R-499	462,231	4,304,146	32.9
R-500	462,218	4,304,163	33.0
R-501	462,168	4,304,138	33.6
R-502	461,694	4,303,893	41.6
R-503	461,943	4,304,124	36.1
R-504	462,024	4,304,318	34.4

Appendix C Freeman Solar Project - Receptor Locations and Total Sound Results

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-505	461,971	4,304,323	34.9
R-506	461,924	4,304,293	35.6
R-507	461,932	4,304,342	35.3
R-508	462,057	4,304,387	33.8
R-509	461,920	4,304,429	35.0
R-510	461,920	4,304,458	34.9
R-511	461,921	4,304,489	34.7
R-512	461,924	4,304,520	34.5
R-513	461,920	4,304,563	34.4
R-514	461,946	4,304,672	33.5
R-515	461,946	4,304,701	33.3
R-516	461,976	4,304,738	32.8
R-517	461,918	4,304,760	33.2
R-518	461,922	4,304,835	32.7
R-519	462,000	4,304,814	32.2
R-520	461,921	4,304,864	32.5
R-521	461,920	4,304,917	32.2
R-522	461,921	4,304,941	32.0
R-523	461,922	4,304,961	31.9
R-524	461,962	4,304,956	31.6
R-525	461,997	4,304,955	31.3
R-526	462,022	4,304,952	31.2
R-527	461,991	4,304,995	31.1
R-528	461,961	4,304,998	31.3
R-529	461,923	4,304,994	31.7
R-530	461,923	4,305,012	31.5
R-531	461,921	4,305,043	31.4
R-532	461,807	4,305,009	32.5
R-533	461,798	4,305,096	31.9
R-534	461,920	4,305,132	30.7
R-535	461,923	4,305,100	30.9
R-536	461,806	4,305,160	31.3
R-537	461,807	4,305,208	30.9
R-538	461,133	4,302,956	38.1
R-539	461,136	4,302,996	38.6
R-540	461,146	4,303,047	39.4
R-541	461,036	4,303,100	38.2
R-542	460,943	4,303,142	37.6
R-543	461,153	4,303,091	40.0
R-544	461,155	4,303,123	40.3
R-545	461,101	4,303,132	39.5
R-546	461,070	4,303,152	39.2

Receptor ID	X (UTM 18)	Y (UTM 18)	Expected Sound (dBA)
R-547	461,041	4,303,162	38.9
R-548	461,011	4,303,174	38.7
R-549	460,982	4,303,187	38.5
R-550	460,955	4,303,198	38.3
R-551	460,931	4,303,210	38.1
R-552	460,905	4,303,222	38.0
R-553	460,877	4,303,237	37.9
R-554	460,848	4,303,252	37.7
R-555	460,818	4,303,266	37.5
R-556	460,845	4,303,320	38.6
R-557	461,008	4,303,239	39.4
R-558	461,038	4,303,224	39.5
R-559	461,068	4,303,210	39.7
R-560	461,098	4,303,196	40.0
R-561	461,132	4,303,178	40.4
R-562	461,239	4,303,204	42.8
R-563	461,169	4,303,271	41.7
R-564	460,923	4,303,278	38.9
R-565	460,890	4,303,293	38.7
R-566	461,156	4,303,227	41.2
R-567	461,154	4,303,334	42.2
R-568	461,266	4,303,522	44.4
R-569	461,151	4,304,302	45.8
R-570	461,043	4,304,306	45.0

TAB 5

IMPACT STUDY REPORT

CohnReznick

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REAL ESTATE
ADJACENT PROPERTY VALUE IMPACT REPORT:

Site Specific Analysis Addendum Report:
For the Proposed 75 MW Freeman Solar Project
To Be Located in Cedar Creek Hundred, Sussex County, Delaware

Prepared For:
Mr. John Soininen
Senior Director, Asset Development
Brookfield Renewables, US
200 Liberty Street, 14th Floor
New York, NY 10006

Submitted By:

CohnReznick LLP
Valuation Advisory Services
200 S. Wacker Drive, Suite 2600
Chicago, Illinois 60606
(312) 508-5900

Patricia L. McGarr, MAI, CRE, FRICS
Andrew R. Lines, MAI
Sonia K. Singh, MAI

April 11, 2022

LETTER OF TRANSMITTAL

April 11, 2022

Mr. John Soininen
Senior Director, Asset Development
Brookfield Renewable US
200 Liberty Street, 14th Floor
New York, NY 10006

SUBJECT: Addendum - Property Value Impact Report
Proposed 75 MW Freeman Solar Project
Cedar Creek Hundred, Sussex County, Delaware

Dear Mr. Soininen:

This letter and associated report are considered an Addendum to the previously prepared property value impact report with an effective date of April 1, 2022 ("Primary Report"). All facts and circumstances surrounding the property value impact report that analyzes existing solar farms and any effect on adjacent property values are contained within the cited Primary Report. This Addendum cannot be properly understood without the cited Primary Report and should be reviewed in unison.

Per the client's request, we have researched the proposed solar farm on land located in Cedar Creek Hundred, in Sussex County, Delaware. The proposed solar use, called Freeman Solar, will have a total capacity of 75 MW AC (megawatts alternating current).

The purpose of this consulting assignment is to determine whether the proximity of the proposed renewable energy use (solar farm) will result in impact on adjacent property values.

The intended use of our opinions and conclusions is to assist the client in addressing local concerns and to address the required criteria for obtaining approvals for the solar project. We have not been asked to value any specific property, and we have not done so.

The client and intended user for the assignment is Freeman Solar, LLC. Additional intended users of our findings include Brookfield Renewable US, and Sussex County, Delaware Planning and Zoning Commission officials. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

Disclaimer: This report is limited to the intended use, intended users (Freeman Solar, LLC, Brookfield Renewable, U.S., and Sussex County, Delaware Planning and Zoning Commission officials as it relates to the evaluation of the Project), and purpose stated within. No part of this report may otherwise be reproduced or modified in any form, or by any means, without the prior written permission of CohnReznick LLP.

The assignment is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute as well as applicable state appraisal regulations.

Based on the analysis in the accompanying report, and subject to the definitions, assumptions, and limiting conditions expressed in the report, our findings follow below.

FINDINGS

I. Academic Studies: CohnReznick reviewed and analyzed published academic studies that specifically analyzed the impact of solar facilities on nearby property values. These studies include multiple regression analyses of hundreds and thousands of sales transactions, and opinion surveys, for both residential homes and farmland properties in rural communities, which concluded existing solar facilities have had no negative impact on adjacent property values.

Peer Authored Studies: CohnReznick also reviewed studies prepared by other real estate valuation experts that specifically analyzed the impact of solar facilities on nearby property values. These studies found little to no measurable or consistent difference in value between the Test Area Sales and the Control Area Sales attributed to the proximity to existing solar farms and noted that solar energy uses are generally considered a compatible use.

II. CohnReznick Studies: Further, CohnReznick has performed 27 studies in over 16 states, of both residential and agricultural property, in which we have determined that the existing solar facilities have not caused any consistent and measurable negative impact on property values.

For this Project, we have included 10 of our studies in the Primary Report which are most similar to the subject in terms of general location and size, summarized as follows:

CohnReznick - Existing Solar Farms Studied					
#	Solar Farm	County	State	MW AC	Acreage
1	North Star Solar	Chisago	MN	100.00	±1,000
2	Indy Solar III	Marion	IN	8.60	129.04
3	Dougherty Solar	Dougherty	GA	120.00	1,037.42
4	Miami-Dade Solar Energy Center	Miami-Dade	FL	74.50	465.61
5	Barefoot Bay Solar Energy Center	Brevard	FL	74.50	504.75
6	Innovative Solar 42	Bladen & Cumberland	NC	71.00	413.99
7	Rutherford Farm	Rutherford	NC	61.00	488.84
8	Elm City Solar	Wilson	NC	40.00	354.00
9	Woodland Solar	Isle of Wight	VA	19.00	211.12
10	DTE Lapeer Solar	LaPeer	MI	48.28	365.68

It is noted that proximity to the solar farms has not deterred sales of nearby agricultural land and residential single-family homes, nor has it deterred the development of new single-family homes on adjacent land.

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The Primary Report also includes four "Before and After" analyses, in which sales that occurred prior to the announcement and subsequent development of the solar farm project were compared with sales that occurred after completion of the solar farm project, for both adjoining and non-adjoining properties. No measurable impact on property values was demonstrated.

III. Market Participant Interviews: Our conclusions also consider interviews with over 45 County and Township Assessors, who have at least one solar farm in their jurisdiction, and determined that solar farms have not negatively affected adjacent property values.

To give us additional insight as to how the market evaluates farmland and single-family homes with views of solar farms, we interviewed numerous real estate brokers and other market participants who were party to actual sales of property adjacent to solar; these professionals also confirmed that solar farms did not diminish property values or marketability in the areas they conducted their business.

CONCLUSION

Considering all of the preceding, the data indicates that solar facilities do not have a negative impact on adjacent property values.

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CohnReznick

If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Very truly yours,

CohnReznick LLP

Andrew R. Lines, MAI
Principal - Valuation Advisory Services
Certified General Real Estate Appraiser
Delaware License No. X5-0011520
Expires 7/28/2022

Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services

Sonia K. Singh, MAI
Director – Valuation Advisory Services

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SCOPE OF WORK

CLIENT

The client for this assignment is Freeman Solar, LLC.

INTENDED USERS

Freeman Solar, LLC, Brookfield Renewable US, as well as Sussex County Planning and Zoning Commission officials; other intended users may include the client's legal and site development professionals.

INTENDED USE

The intended use of our findings and conclusions is to address certain criteria required for the granting of approvals for the proposed solar energy center use in Sussex County, Delaware. We have not been asked to value any specific property, and we have not done so. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

PURPOSE

The purpose of this consulting assignment is to determine whether proximity to the proposed solar facility will result in an impact on adjacent property values.

DEFINITION OF VALUE

This report utilizes Market Value as the appropriate premise of value. Market value is defined as:

"The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and

The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."[1]

[1] Code of Federal Regulations, Title 12, Chapter I, Part 34.42[h]

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EFFECTIVE DATE & DATE OF REPORT

April 11, 2022 (Paired sale analyses contained within each study in the Primary Report are periodically updated.)

PRIOR SERVICES

USPAP requires appraisers to disclose to the client any services they have provided in connection with the subject property in the prior three years, including valuation, consulting, property management, brokerage, or any other services.

We have not previously evaluated the Project site.

INSPECTION

Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.

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IDENTIFICATION AND DESCRIPTION OF THE PROPOSED PROJECT

The proposed Freeman Solar Project ("Freeman Solar" or "the Project") is to be 75 MW and will be located in the Cedar Creek Hundred in Sussex County, Delaware.

Based on development plans for a typical solar farm, the proposed 75-megawatt solar energy center project would generally consist of single-axis tracker mounted solar photovoltaic arrays, electrical inverters, underground and above-ground collection lines, security fencing, safety lighting, and other auxiliary infrastructure. The project will take approximately 9 to 12 months to construct and is expected to become operational in 2026. Vegetation in the solar array area and the on-site equipment will be maintained periodically.

Setbacks of 50-feet will be implemented around all property boundaries near inverters and solar panels. Landscape screening will also be implemented where necessary in areas around the solar project. Vegetative buffers of up to 15 foot wide strips at various locations around the solar site will be planted with trees and shrubs planned to be at least eight feet in height within five years. The electric generation facility will be surrounded by six-foot agricultural security fencing, which meets local and National Electrical Code (NEC) Article 100 requirements.

The Project will be situated on approximately ten leased land parcels utilized for agricultural purposes and is illustrated on the following page by the red outlined polygons. The Project parcels are bordered by agricultural farmland and rural homesteads.

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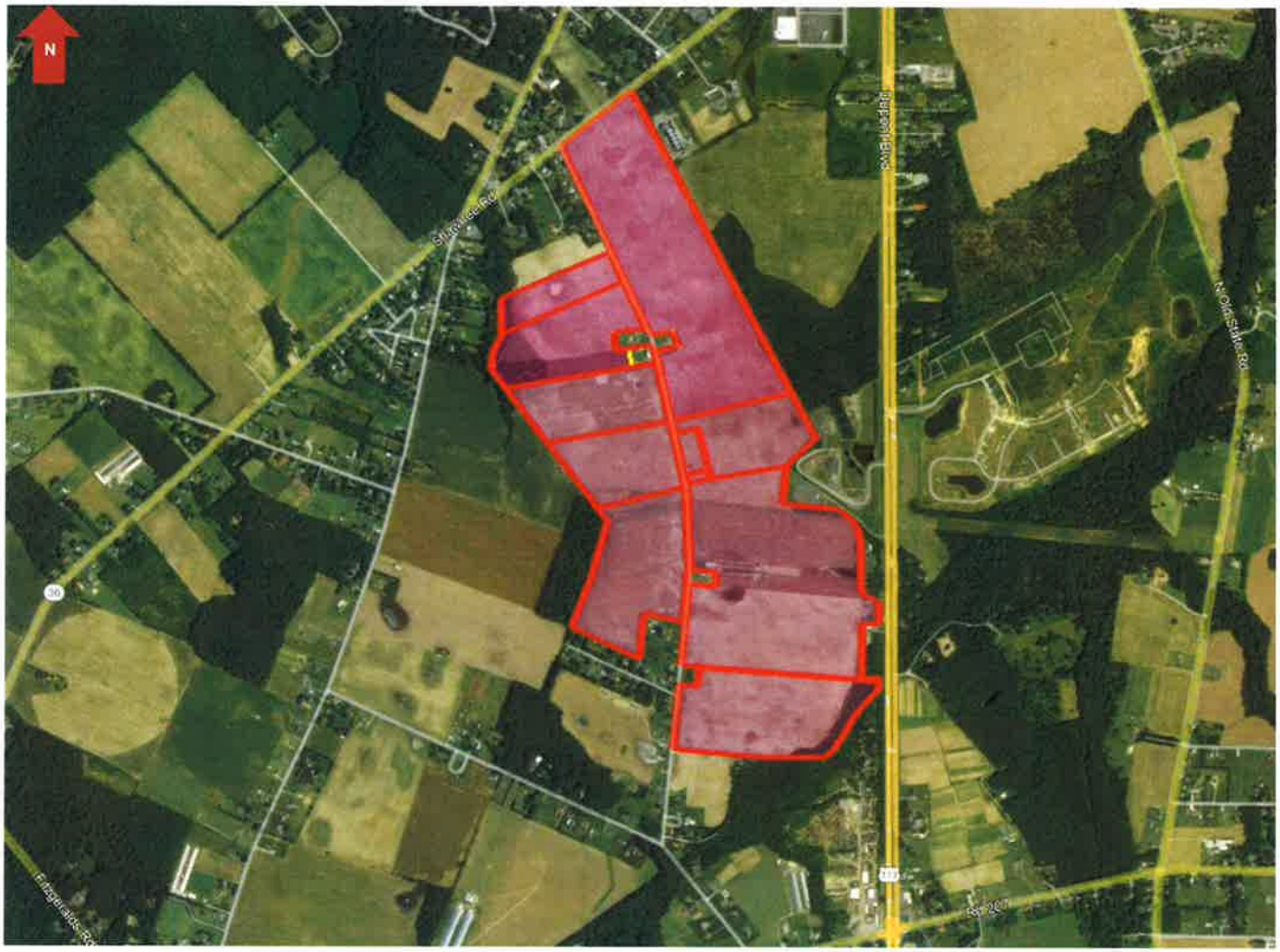

Proposed Freeman Solar Project boundaries outlined in red, solar array area outlined in red
Imagery provided by Brookfield Renewable US

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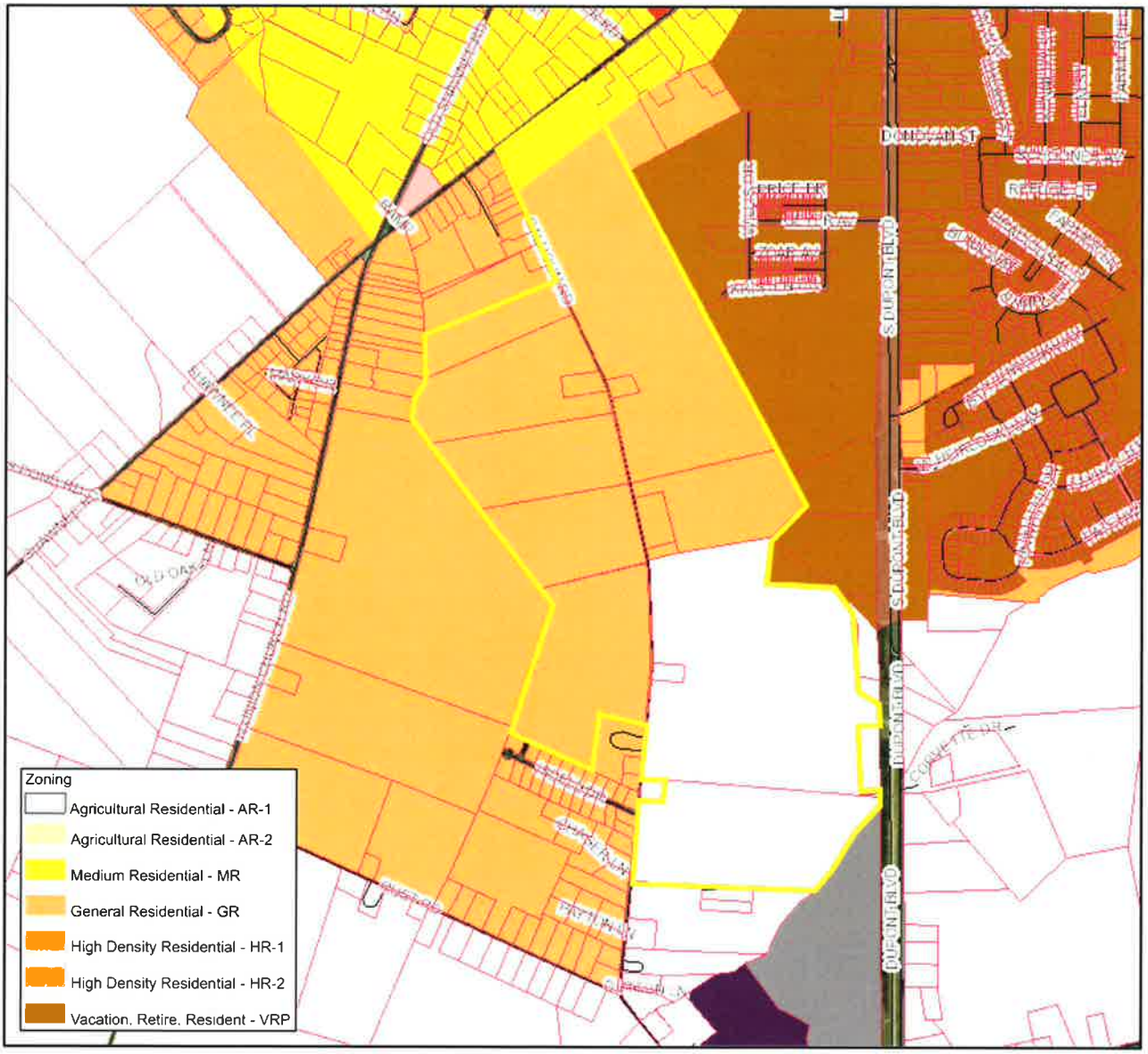
ZONING REGULATIONS

The Project is to be located on land with three zoning classifications: General Residential (GR), Agricultural Residential-1 (AR-1), and Medium Residential (MR), under the jurisdiction of Sussex County, Delaware. The zoning map below shows the proposed solar site outlined in yellow. The predominant zoning of the site is GR, followed by AR-1, with a small portion on the north side, along Shawnee Road, zoned MR. According to the Sussex County Future Land Use map from 2019, the proposed site area is to remain as currently zoned.



Sussex County, Delaware Zoning Map

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OVERVIEW OF THE SURROUNDING AREA OF THE PROJECT

The Project consists of a utility-scale, solar energy use in Cedar Creek Hundred, in Sussex County, Delaware known as the 75 MW Freeman Solar Project. A surrounding area map indicating the location of the Project (shown outlined in red) is presented below.

Aerial imagery provided by Google Earth, dated 2021
Parcel boundaries in red provided by Brookfield Renewable US

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TRAFFIC PATTERNS AND CONNECTIVITY

The entirety of the proposed Project Area is west of US Route 113 (Dupont Boulevard) and east of North Union Church Road, between State Route 36 (Shawnee Road) to the north, and Fitzgeralds Road to the south. Calhoun Road bisects the site from north to south. The city of Milford is approximately two miles northeast of the Project Area along Route 36.

DEMOGRAPHIC FACTORS

Demographic data is presented below, as compiled by ESRI, which indicates an increase in population in the area surrounding the Project, the county, and the state since 2010, but a relative slow-down in the increase in population in the next five years. The area is slightly more owner-occupied than renters. Median household income is lower at the local area than in the county and state. These features indicate a stable economic base.

DEMOGRAPHIC PROFILE			
	Milford City	**Sussex County**	**Delaware**
Population			
2026 Projection	12,577	279,275	1,055,548
2021 Estimate	11,586	253,731	1,003,934
2010 Census	9,767	197,145	897,934
Growth 2021 - 2026	8.55%	10.07%	5.14%
Growth 2010 - 2021	18.62%	28.70%	11.80%
Total Land Area	6,362 acres	765,440 acres	1,268,480 acres
Population Quotient	1.82/acre	0.33/acre	0.79/acre
Households			
2026 Projection	4,964	115,269	409,227
2021 Estimate	4,558	104,155	387,510
2010 Census	3,828	79,368	342,297
Growth 2021 - 2026	8.91%	10.67%	5.60%
Growth 2010 - 2021	19.07%	31.23%	13.21%
2021 Owner Occupied (%)	59.61%	54.53%	59.24%
2021 Renter Occupied (%)	40.39%	45.47%	40.76%
2021 Med. Household Income	$55,915	$64,404	$69,332
2021 Avg. Household Income	$70,925	$87,002	$93,253

CONCLUSION

Land uses in the area immediately surrounding the Project can be categorized as predominantly agricultural with some residential and industrial uses (waste transfer station). The factors presented previously indicate that the proposed Project would not be incompatible with surrounding uses and would not negatively impact surrounding properties.

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DELAWARE SOIL PRODUCTIVITY AND VALUE TRENDS

NCCPI PRODUCTIVITY INDEX

Crop yields have been the basis for establishing a soil productivity index, and are used by county assessors, farmers, and market participants in assessing agricultural land. While crop yields are an integral part in assessing soil qualities, it is not an appropriate metric to rely on because "yields fluctuate from year to year, and absolute yields mean little when comparing different crops. Productivity indices provide a single scale on which soils may be rated according to their suitability for several major crops under specified levels of management, such as an optimum level."[2] The productivity index, therefore, not crop yields, is best suited for applications in land appraisal and land-use planning.

The United States Department of Agriculture's (USDA) National Resources Conservation Services (NRCS) developed and utilizes the National Commodity Crop Productivity Index (NCCPI) as a national soil interpreter and is used in the National Soil Information System (NASIS), but it is not intended to replace other crop production models developed by individual states.[3] The focus of the model is on identifying the best soils for the growth of commodity crops, as the best soils for the growth of these crops are generally the best soils for the growth of other crops.[4] The NCCPI model describes relative productivity ranking over a period of years and not for a single year where external influences such as extreme weather or change in management practices may have affected production. At the moment, the index only describes non-irrigated crops, and will later be expanded to include irrigated crops, rangeland, and forestland productivity.[5]

Yields are influenced by a variety of different factors including environmental traits and management inputs. Tracked climate and soil qualities have been proven by researchers to directly explain fluctuations in crop yields, especially those qualities that relate to moisture-holding capacity. Except for these factors, "inherent soil quality or inherent soil productivity varies little over time or from place to place for a specific soil (map unit component) identified by the National Cooperative Soil Survey (NCSS)."[6] The NRCS Web Soil Survey website has additional information on how the ratings are determined. The state of Delaware does not have its own crop production model and utilizes the NCCPI.

The proposed solar energy project is located in Sussex County, on the northern border of the southernmost county in the state. An excerpt of a soil productivity map is presented on the following page as retrieved from the USDA Web Soil Survey, which provides an illustration of the variation in soil productivity across the local area that is based on the NCCPI. The approximate site area for the Project is within the boundary delineated in the image below. Note, numerical labels correspond to soil type, not productivity index.

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2 Bulletin 811: Optimum Crop Productivity of Illinois Soils. University of Illinois, College of Agricultural, Consumer and Environmental Sciences, Office of Research. August 200.
3 Agricultural land rental payments are typically tied to crop production of the leased agricultural land and is one of the primary reasons the NCCPI was developed, especially since the model needed to be consistent across political boundaries.
4 Per the User Guide for the National Commodity Crop Productivity Index, the NCCPI uses natural relationships of soil, landscape and climate factors to model the response of commodity crops in soil map units. The present use of the land is not considered in the ratings.
5 AgriData Inc. Docs: http://support.agridatainc.com/NationalCommodityCropProductivityIndex(NCCPI).ashx
6 USDA NRCS's User Guide National Commodity Crop Productivity Index (NCCPI)

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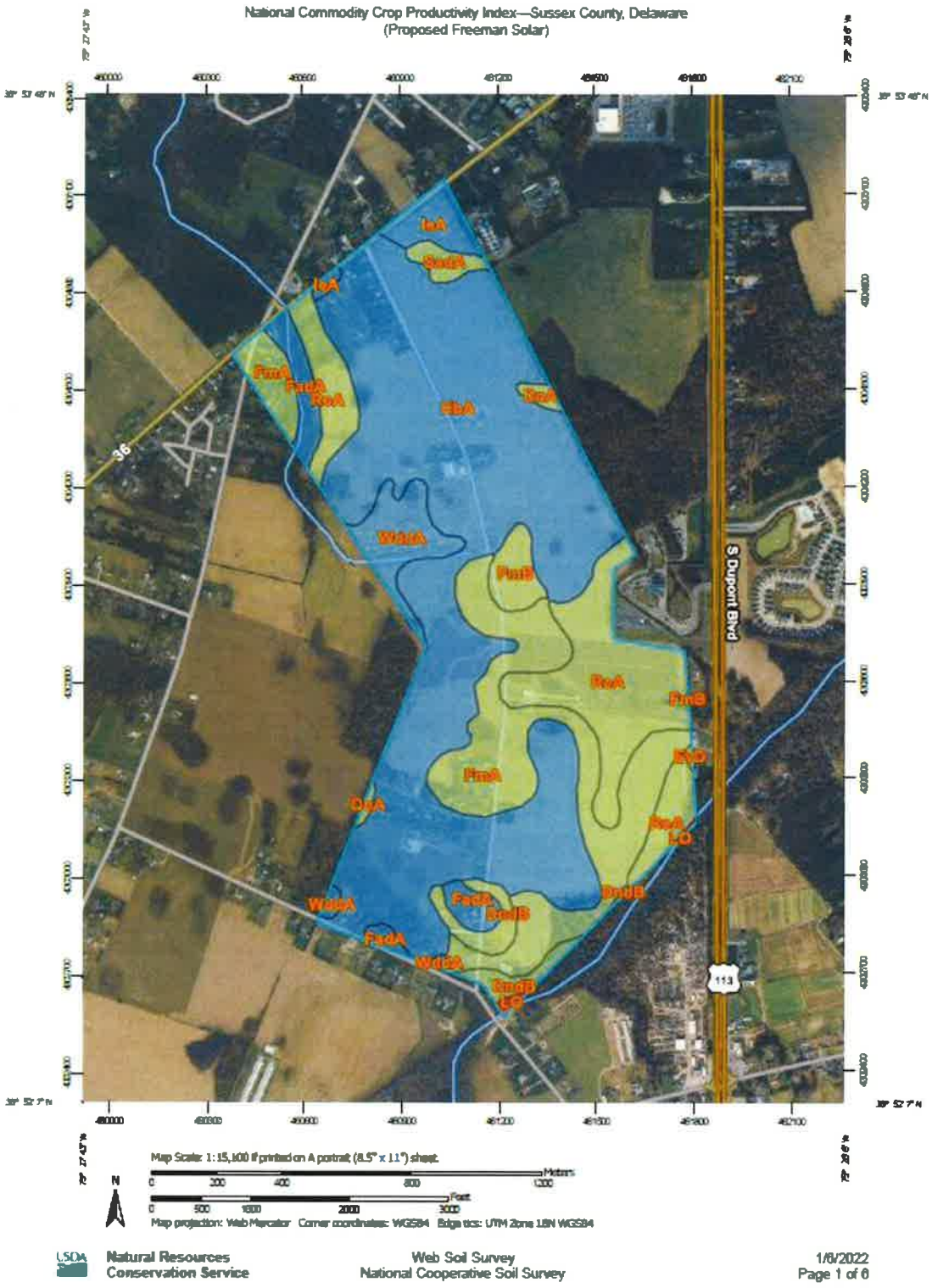

MAP LEGEND

Soils

Soil Rating Polygons

- Low inherent productivity
- Moderately low inherent productivity
- Moderate inherent productivity
- Moderately high inherent productivity
- High inherent productivity
- Not rated or not available

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Per the NCCPI, soil productivity is measured on both a numerical scale from 0 to 100, with 0 being the worst and 100 being the best,[7] and by qualitative ratings. The qualitative rating classifications below are determined by the USDA NRCS and provide general comments on the productivity of the soil.

> **High inherent productivity** indicates that the soil, site, and climate have features that are very favorable for crop production. High yields and low risk of crop failure can be expected if a high level of management is employed.
>
> **Moderately high inherent productivity** indicates that the soil has features that are generally quite favorable for crop production. Good yields and moderately low risk of crop failure can be expected.
>
> **Moderate inherent productivity** indicates that the soil has features that are generally favorable for crop production. Good yields and moderate risk of crop failure can be expected.
>
> **Moderately low inherent productivity** indicates that the soil has features that are generally not favorable for crop production. Low yields and moderately high risk of crop failure can be expected.
>
> **Low inherent productivity** indicates that the soil has one or more features that are unfavorable for crop production. Low yields and high risk of crop failure can be expected.

The weighted average soil productivity for the general area was determined to be approximately 58.23. A numerical scale that corresponds to the indicated qualitative ratings above was not available for the NCCPI; however, the soil productivity for this area is near the middle of the range, aligning with the "moderate inherent productivity" category. According to the qualitative scale above, land with the moderate inherent productivity classification is generally favorable for crop production with good yields, and a moderate risk of crop failure.

7 Quantitative ratings are also show in ranges of 0.00 to 1.00. AgriData Inc. presents the NCCPI index rating multiplied by 100 in a range of 0.00 to 100.00 to show up to four significant figures.

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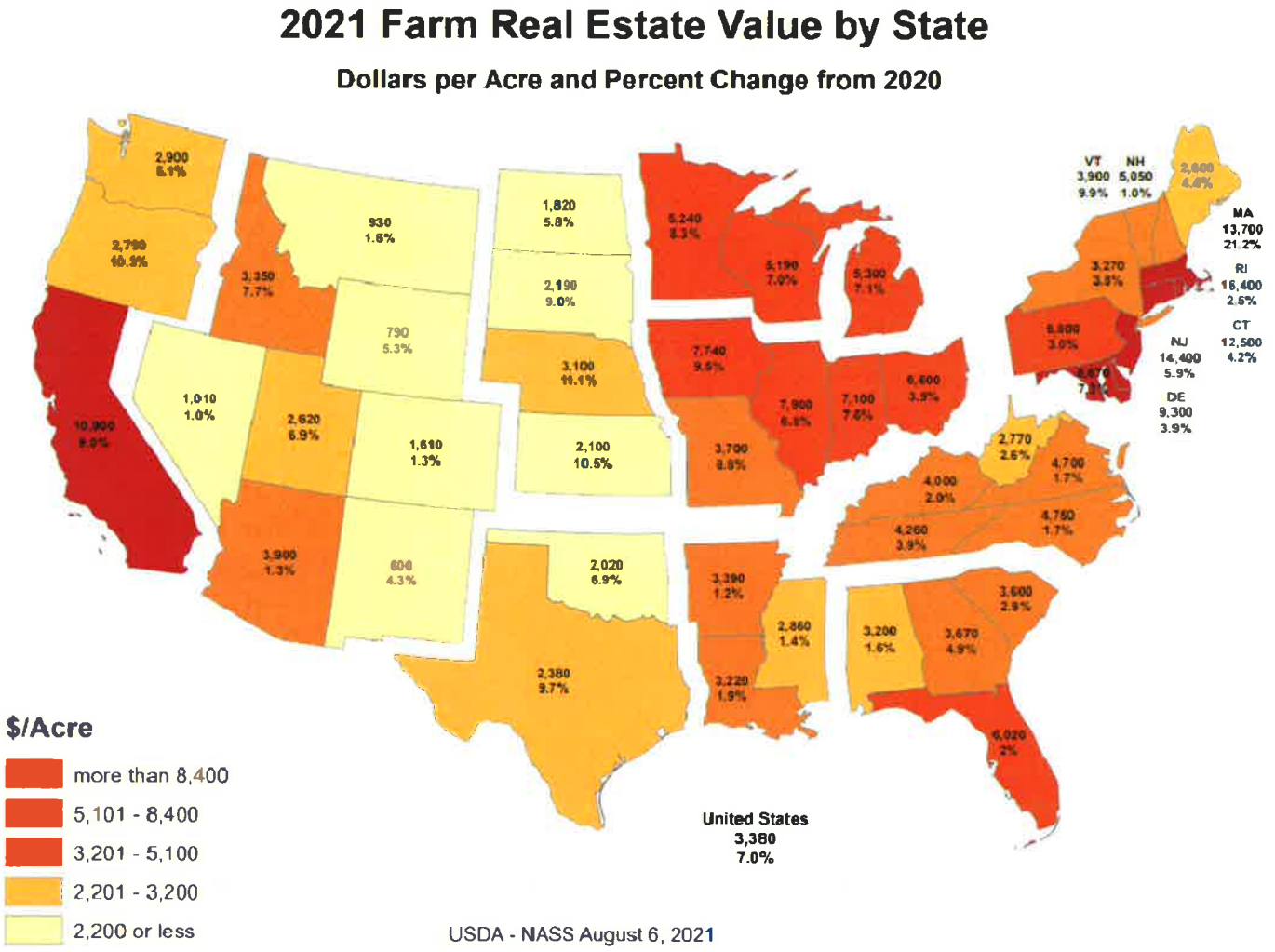
AREA VALUE TRENDS - CROPLAND

Agricultural land values are heavily influenced by relative crop production yields. The following exhibit compiled by the USDA National Agricultural Statistics Service (NASS) provides an illustration of how regional conditions such as weather conditions, geographies, and soil conditions can affect farm real estate values.



Per the NASS report, the average value of cropland in Delaware for 2021 was $9,300 per acre, which is an increase of 3.9 percent from 2020.

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AREA VALUE TRENDS – RESIDENTIAL HOMES

The proposed Project is to be located in Sussex County, in Cedar Creek Hundred, southwest of the city of Milford, Delaware. There has been some home sale activity in the area surrounding the proposed Project in the past year.

We researched sales in the surrounding area, from January 2021 through the end of December 2021, and identified eight market transactions of single-family homes in the area surrounding the proposed Project Area. The following table presents our findings.

Home Sales Surrounding Proposed Project Area
(January 2021 through December 2021)

Single Family Homes	Median Lot Size (Acres)	Median Living Area (SF)	Min. Sale Price	Max. Sale Price	Median Sale Price PSF
Milford Area	0.29	1,629	$165,000	$360,000	$143.06

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The table below illustrates residential home value trends for the proposed Project's Sussex County location. The source is the Federal Housing Finance Agency's (FHFA) House Price Index (HPI), which is a weighted, repeat-sales index measuring changes in single-family house prices.

FHFA House Price Index Sussex County, Delaware		
Year	**Annual Change (%)**	**HPI**
2001	11.13	266.05
2002	8.63	289.02
2003	8.19	312.68
2004	15.65	361.61
2005	18.79	429.58
2006	8.93	467.94
2007	1.68	475.80
2008	-3.53	459.01
2009	-7.22	425.87
2010	-5.47	402.58
2011	-5.67	379.74
2012	-2.61	369.84
2013	-0.84	366.75
2014	1.69	372.94
2015	2.89	383.74
2016	1.65	390.08
2017	3.48	403.66
2018	4.82	423.13
2019	3.03	435.93
2020	3.45	450.97
Annual Average Compounded % Change	**2.67%**	

Based on the data shown above, the trend in residential home values in Sussex County have fluctuated with the national macroeconomy over the past twenty years but show an average annual increase rate of 2.67 percent. The housing values in the county are considered to be stable.

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LOCAL LAND DEVELOPMENT TRENDS

Land values can be driven by a site's proximity to the path of development. The closer a property is to the path of development, and without natural barriers to development, the more value a property may have in the future; however, the path of development in the local area is north and east of the proposed Project Area, in the city of Milford. The Project Area has been agricultural land for at least 30 years.

Aerial Imagery dated September 2005

Aerial Imagery dated September 2021

According to the images above, there has been little new development in the local area over the past 16 years. Generally, any undeveloped agricultural land is considered to be an interim use as the intensity of uses grows in step with macroeconomic factors; however, the Project and the land surrounding have future designated land uses for agricultural purposes.

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SUMMARY AND FINAL CONCLUSIONS

The Project is located in a stable area that is predominantly agricultural in nature with some neighboring residential and industrial development. The population quotient (persons per acre) for Sussex County where the proposed Project is to be located is 0.33, which reflects a semi-rural environment. Local development has not been robust over the past 16 years, and the future land use designations of the immediately adjoining land parcels will remain unchanged. Based on our analysis of real estate taxes in the Primary Report, solar farm uses incur anywhere from 131% to ±1,000% increase in real estate tax revenue for the local area, feeding back into essential services and schools. Local land and residential home prices have remained stable over the past five years and are anticipated to align in the future with macroeconomic changes. Overall, the proposed Project is considered a locally compatible use.

The purpose of the Primary Report and this addendum is to determine whether the presence of a solar farm has caused a measurable and consistent impact on adjacent property values. Under the identified methodology and scope of work detailed in the Primary Report, CohnReznick reviewed published methodology for measuring impact on property values as well as published reports that analyzed the impact of solar farms on property values. These studies found little to no measurable and consistent difference between Test Area Sales and Control Area Sales attributed to the solar farms.

The chosen existing solar farms analyzed in the Primary Report reflected sales of property adjoining an existing solar farm (Test Area Sales) in which the unit sale prices were effectively the same or higher, except for one, than the comparable Control Area Sales that were not near a solar farm. The conclusions support that there is no negative impact for improved residential homes adjacent to solar, nor agricultural acreage. This was confirmed with market participants interviews, which provided additional insight as to how the market evaluates farmland and single-family homes with views of the solar farm.

It can be concluded that since the adjoining property sales (Test Area Sales) were not adversely affected by their proximity to the solar farm, that properties surrounding other proposed solar farms operating in compliance with all regulatory standards will similarly not be adversely affected, in either the short or long term periods.

Based upon the examination, research, and analyses of the existing solar farm uses, the surrounding areas, and an extensive market database, we have concluded that ***no consistent negative impact has occurred to adjacent property that could be attributed to proximity to the adjacent solar farm***, with regard to unit sale prices or other influential market indicators. Additionally, in our workfile we have retained analyses of additional existing solar farms, each with their own set of matched control sales, which had consistent results, indicating no consistent and measurable impact on adjacent property values. This conclusion has been confirmed by numerous county assessors who have also investigated this use's potential impact on property values

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

CohnReznick LLP

Andrew R. Lines, MAI
Principal - Valuation Advisory Services
Certified General Real Estate Appraiser
Delaware License No. X5-0011520
Expires 7/28/2022

Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services

Sonia K. Singh, MAI
Director – Valuation Advisory Services

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CERTIFICATION

We certify that, to the best of our knowledge and belief:

1. The statements of fact and data reported are true and correct.
2. The reported analyses, findings, and conclusions in this consulting report are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, findings, and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. We have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. We have no bias with respect to the property that is the subject of this report, or the parties involved with this assignment.
6. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value finding, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
8. Our analyses, findings, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which includes the Uniform Standards of Professional Appraisal Practice (USPAP).
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have viewed the exterior of the Project and of all comparable data referenced in this report in person, via photographs, or aerial imagery.
11. We have not relied on unsupported conclusions relating to characteristics such as race, color, religion, national origin, gender, marital status, familial status, age, and receipt of public assistance income, handicap, or an unsupported conclusion that homogeneity of such characteristics is necessary to maximize value.
12. Amanda G. Edwards provided consulting assistance to the persons signing this certification, including data verification, research, and administrative work all under the appropriate supervision.
13. We have experience in reviewing properties similar to the subject and we are in compliance with the Competency Rule of USPAP.
14. As of the date of this report, Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have completed the continuing education program for Designated Members of the Appraisal Institute.

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ASSUMPTIONS AND LIMITING CONDITIONS

The fact witness services will be subject to the following assumptions and limiting conditions:

1. No responsibility is assumed for the legal description provided or for matter pertaining to legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated. The legal description used in this report is assumed to be correct.
2. The property is evaluated free and clear of any or all liens or encumbrances unless otherwise stated.
3. Responsible ownership and competent management are assumed.
4. Information furnished by others is believed to be true, correct and reliable, but no warranty is given for its accuracy.
5. All engineering studies are assumed to be correct. The plot plans and illustrative material in this report are included only to help the reader visualize the property.
6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for obtaining the engineering studies that may be required to discover them.
7. It is assumed that the property is in full compliance with all applicable federal, state, and local and environmental regulations and laws unless the lack of compliance is stated, described, and considered in the evaluation report.
8. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described, and considered in the evaluation report.
9. It is assumed that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
10. It is assumed that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
11. The date of value to which the findings are expressed in this report apply is set forth in the letter of transmittal. The appraisers assume no responsibility for economic or physical factors occurring at some later date which may affect the opinions herein stated.
12. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the property, was not observed by the appraisers. The appraisers have no knowledge of the existence of such substances on or in the property. The appraisers, however, are not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, radon gas, lead or lead-based products, toxic waste contaminants, and other potentially hazardous materials may affect the value of the property. The value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value. No

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responsibility is assumed for such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

13. The forecasts, projections, or operating estimates included in this report were utilized to assist in the evaluation process and are based on reasonable estimates of market conditions, anticipated supply and demand, and the state of the economy. Therefore, the projections are subject to changes in future conditions that cannot be accurately predicted by the appraisers, and which could affect the future income or value projections.

14. Fundamental to the appraisal analysis is the assumption that no change in zoning is either proposed or imminent, unless otherwise stipulated. Should a change in zoning status occur from the property's present classification, the appraisers reserve the right to alter or amend the value accordingly.

15. It is assumed that the property does not contain within its confined any unmarked burial grounds which would prevent or hamper the development process.

16. The Americans with Disabilities Act (ADA) became effective on January 26, 1992. We have not made a specific compliance survey and analysis of the property to determine if it is in conformance with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect on the value of the property. Unless otherwise noted in this report, we have not been provided with a compliance survey of the property. Any information regarding compliance surveys or estimates of costs to conform to the requirements of the ADA are provided for information purposes. No responsibility is assumed for the accuracy or completeness of the compliance survey cited in this report, or for the eventual cost to comply with the requirements of the ADA.

17. Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in this report.

18. Any proposed improvements are assumed to have been completed unless otherwise stipulated; any construction is assumed to conform with the building plans referenced in this report.

19. Unless otherwise noted in the body of this report, this evaluation assumes that the subject does not fall within the areas where mandatory flood insurance is effective.

20. Unless otherwise noted in the body of this report, we have not completed nor are we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property.

21. This report should not be used as a basis to determine the structural adequacy/inadequacy of the property described herein, but for evaluation purposes only.

22. It is assumed that the subject structure meets the applicable building codes for its respective jurisdiction. We assume no responsibility/liability for the inclusion/exclusion of any structural component item which may have an impact on value. It is further assumed that the subject property will meet code requirements as they relate to proper soil compaction, grading, and drainage.

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23. The appraisers are not engineers, and any references to physical property characteristics in terms of quality, condition, cost, suitability, soil conditions, flood risk, obsolescence, etc., are strictly related to their economic impact on the property. No liability is assumed for any engineering-related issues.

The evaluation services will be subject to the following limiting conditions:

1. The findings reported herein are only applicable to the properties studied in conjunction with the Purpose of the Evaluation and the Function of the Evaluation as herein set forth; the evaluation is not to be used for any other purposes or functions.
2. Any allocation of the total value estimated in this report between the land and the improvements applies only to the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are not valid if so used.
3. No opinion is expressed as to the value of subsurface oil, gas, or mineral rights, if any, and we have assumed that the property is not subject to surface entry for the exploration or removal of such materials, unless otherwise noted in the evaluation.
4. This report has been prepared by CohnReznick under the terms and conditions outlined by the enclosed engagement letter. Therefore, the contents of this report and the use of this report are governed by the client confidentiality rules of the Appraisal Institute. Specifically, this report is not for use by a third party and CohnReznick is not responsible or liable, legally or otherwise, to other parties using this report unless agreed to in writing, in advance, by both CohnReznick and/or the client or third party.
5. Disclosure of the contents of this evaluation report is governed by the by-laws and Regulations of the Appraisal Institute has been prepared to conform with the reporting standards of any concerned government agencies.
6. The forecasts, projections, and/or operating estimates contained herein are based on current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to changes with future conditions. This evaluation is based on the condition of local and national economies, purchasing power of money, and financing rates prevailing at the effective date of value.
7. This evaluation shall be considered only in its entirety, and no part of this evaluation shall be utilized separately or out of context. Any separation of the signature pages from the balance of the evaluation report invalidates the conclusions established herein.
8. **Possession of this report, or a copy thereof, does not carry with it the right of publication, nor may it be used for any purposes by anyone other than the client without the prior written consent of the appraisers, and in any event, only with property qualification.**
9. The appraisers, by reason of this study, are not required to give further consultation or testimony or to be in attendance in court with reference to the property in question unless arrangements have been previously made.

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10. Neither all nor any part of the contents of this report shall be conveyed to any person or entity, other than the appraiser's client, through advertising, solicitation materials, public relations, news, sales or other media, without the written consent and approval of the authors, particularly as to evaluation conclusions, the identity of the appraisers or CohnReznick, LLC, or any reference to the Appraisal Institute, or the MAI designation. Further, the appraisers and CohnReznick, LLC assume no obligation, liability, or accountability to any third party. If this report is placed in the hands of anyone but the client, client shall make such party aware of all the assumptions and limiting conditions of the assignment.

11. This evaluation is not intended to be used, and may not be used, on behalf of or in connection with a real estate syndicate or syndicates. A real estate syndicate means a general or limited partnership, joint venture, unincorporated association or similar organization formed for the purpose of, and engaged in, an investment or gain from an interest in real property, including, but not limited to a sale or exchange, trade or development of such real property, on behalf of others, or which is required to be registered with the United States Securities and Exchange commissions or any state regulatory agency which regulates investments made as a public offering. It is agreed that any user of this evaluation who uses it contrary to the prohibitions in this section indemnifies the appraisers and the appraisers' firm and holds them harmless from all claims, including attorney fees, arising from said use.

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ADDENDUM A:
APPRAISER QUALIFICATIONS

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Patricia L. McGarr, MAI, CRE, FRICS, CRA

Principal and CohnReznick Group – Valuation Advisory National Director

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-508-5802
patricia.mcgarr@cohnreznick.com

Patricia L. McGarr, MAI, CRE, FRICS, CRA, is a principal and National Director of CohnReznick Advisory Group's Valuation Advisory Services practice. Pat's experience includes market value appraisals of varied property types for acquisition, condemnation, mortgage, estate, ad valorem tax, litigation, zoning, and other purposes. Pat has been involved in the real estate business since 1980. From June 1980 to January 1984, she was involved with the sales and brokerage of residential and commercial properties. Her responsibilities during this time included the formation, management, and training of sales staff in addition to her sales, marketing, and analytical functions. Of special note was her development of a commercial division for a major Chicago-area brokerage firm.

Since January 1984, Pat has been exclusively involved in the valuation of real estate. Her experience includes the valuation of a wide variety of property types including residential (SF/MF/LIHTC), commercial, industrial, and special purpose properties including such diverse subjects as quarries, marinas, riverboat gaming sites, shopping centers, manufacturing plants, and office buildings. She is also experienced in the valuation of leasehold and leased fee interests. Pat has performed appraisal assignments throughout the country, including the Chicago Metropolitan area as well as New York, New Jersey, California, Nevada, Florida, Utah, Texas, Wisconsin, Indiana, Michigan, and Ohio. Pat has gained substantial experience in the study and analysis of the establishment and expansion of sanitary landfills in various metropolitan areas including the preparation of real estate impact studies to address criteria required by Senate Bill 172. She has also developed an accepted format for allocating value of a landfill operation between real property, landfill improvements, and franchise (permits) value.

Over the past several years, Pat has developed a valuation group that specializes in the establishment of new utility corridors for electric power transmission and pipelines. This includes determining acquisition budgets, easement acquisitions, corridor valuations, and litigation support. Pat has considerable experience in performing valuation impact studies on potential detrimental conditions and has studied properties adjoining solar farms, wind farms, landfills, waste transfer stations, stone quarries, cellular towers, schools, electrical power transmission lines, "Big Box" retail facilities, levies, properties with restrictive covenants, landmark districts, environmental contamination, airports, material defects in construction, stigma, and loss of view amenity for residential high rises. Most recently, the firm has studied property values adjacent to Solar Farms to address criteria required for special use permits across the Midwest.

Pat has qualified as an expert valuation witness in numerous local, state, and federal courts.

Pat has participated in specialized real estate appraisal education and has completed more than 50 courses and seminars offered by the Appraisal Institute totaling more than 600 classroom hours, including real estate transaction courses as a prerequisite to obtaining a State of Illinois Real Estate Salesman License.

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Pat has earned the professional designations of Counselors of Real Estate (CRE), Member of the Appraisal Institute (MAI), Fellow of Royal Institution of Chartered Surveyors (FRICS) and Certified Review Appraiser (CRA). She has also been a certified general real estate appraiser in 21 states (see below).

Education

- North Park University: Bachelor of Science, General Studies

Professional Affiliations

- National Association of Realtors
- CREW Commercial Real Estate Executive Women
- IRWA International Right Of Way Association

Licenses and Accreditations

- Member of the Appraisal Institute (MAI)
- Counselors of Real Estate, designated CRE
- Fellow of Royal Institution of Chartered Surveyors (FRICS)
- Certified Review Appraiser (CRA)
- Alabama State Certified General Real Estate Appraiser
- California State Certified General Real Estate Appraiser
- Connecticut State Certified General Real Estate Appraiser
- Colorado State Certified General Real Estate Appraiser
- District of Columbia Certified General Real Estate Appraiser
- Illinois State Certified General Real Estate Appraiser
- Indiana State Certified General Real Estate Appraiser
- Louisiana State Certified General Real Estate Appraiser
- Maryland State Certified General Real Estate Appraiser
- Massachusetts Certified General Real Estate Appraiser
- Michigan State Certified General Real Estate Appraiser
- North Carolina State Certified General Real Estate Appraiser
- New Jersey State Certified General Real Estate Appraiser
- Nevada State Certified General Real Estate Appraiser
- New York State Certified General Real Estate Appraiser
- Pennsylvania State Certified General Real Estate Appraiser
- South Carolina State Certified General Real Estate Appraiser
- Tennessee State Certified General Real Estate Appraiser
- Texas State Certified General Real Estate Appraiser
- Virginia State Certified General Real Estate Appraiser
- Wisconsin State Certified General Real Estate Appraiser

Appointments

- Appointed by two Governors of Illinois to the State Real Estate Appraisal Board (2017 & 2021)
- Chairwoman of the State of Illinois Real Estate Appraisal Board (2021)

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Andrew R. Lines, MAI

Principal, CohnReznick Advisory

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-508-5892
andrew.lines@cohnreznick.com

Andrew R. Lines is a principal in CohnReznick's Valuation Advisory Services practice where he specializes in Real Estate, Affordable Housing, Cannabis and Renewable Energy. Andrew leads a group of appraisers across the country performing valuations of a wide variety of real estate property types including residential, commercial, industrial, hospitality and special purpose properties: landfills, waste transfer stations, marinas, hospitals, universities, self-storage facilities, racetracks, CCRCs, and railroad corridors. Affordable Housing experience includes Market Studies, Rent Compatibility Studies and Feasibility Analysis for LIHTC and mixed-income developments. Cannabis assignments have covered cultivation, processing, and dispensaries in over 10 states, including due diligence for mergers and acquisitions of multi-state operational and early stage companies. Renewable Energy assignments have included preparation of impact studies and testimony at local zoning hearings in eight states.

Andrew is experienced in the valuation of leasehold, leased fee, and partial interests and performs appraisals for all purposes including financial reporting, litigation, and gift/estate planning. Andrew is a State Certified General Real Estate Appraiser in the states of Illinois, Indiana, Maryland, Georgia, Florida, Ohio, New York, New Jersey, Arizona, Kentucky, and the District of Columbia.

Before joining CohnReznick, Andrew was with Integra Realty Resources, starting as analyst support in 2002 and leaving the firm as a director in late 2011 (including two years with the Phoenix chapter). His real estate experience also includes one year as administrator for the residential multifamily REIT Equity Residential Properties Trust (ERP), in the transactions department, where he performed due diligence associated with the sale and acquisition of REIT properties and manufactured home communities.

Education

- Syracuse University: Bachelor of Fine Arts
- MAI Designation (Member of the Appraisal Institute)

Professional Affiliations

- Chicago Chapter of the Appraisal Institute
  - Alternate Regional Representative (2016 - 2018)
  - MAI Candidate Advisor (2014 - Present)
- International Real Estate Management (IREM)
- National Council of Real Estate Investment Fiduciaries (NCREIF)

Community Involvement

- Syracuse University Regional Council - Active Member
- Syracuse University Alumni Association of Chicago, Past Board member
- Chicago Friends School - Treasurer & Board Member

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Sonia K. Singh, MAI

Director – Valuation Advisory Services

7501 Wisconsin Avenue, Suite 400E
Bethesda, Maryland 20814
301-280-5193
sonia.singh@cohnreznick.com

Sonia K. Singh, MAI is a director in the CohnReznick Valuation Advisory Services practice and is based in the Bethesda office. Since 2011, she has engaged in real estate valuation and other real estate consulting services and valued over $5 billion in real property.

Sonia is adept at valuing a variety of commercial real estate across the United States, including the following complex property types: athletic clubs; full-service hotels and beach resorts; marinas; historic redevelopment projects; recycling facilities; single-family rental home portfolios; master planned communities; and for-sale residential units or subdivisions. She has also performed real estate appraisals involving leasehold interests, air rights ownership, and right-of-way fee simple and easement acquisitions for utility corridors. She has performed these and other appraisals others for purposes including financial reporting, estate planning, gift and estate tax, bond and conventional financing, litigation (eminent domain), and asset management, with the ability to handle appraisals of large portfolios in expedited timeframes. With significant experience in the appraisal of senior living facilities including continuing care retirement communities, skilled nursing facilities, assisted living and memory care facilities, as well as age-restricted housing, Ms. Singh has elevated the firm's modelling of complex healthcare property ownership structures to help illuminate debt/income and lease coverage ratios for federal courts, resulting in millions of dollars in recovered credits for clients.

Additionally, Sonia is experienced in purchase price allocations (GAAP, IFRS, and IRC 1060) for financial reporting, including the early adoption of ASU 2017-01. She has also provided valuation services related to highest and best use analysis, market feasibility studies, and useful life analysis. She has prepared impact studies measuring the possible detrimental impact of economic and environmental influences on property values, including those related to high-voltage transmission lines, distribution warehouses, wind farms, and solar farms. She has provided expert witness testimony at local county zoning hearings for proposed solar energy uses and their potential detrimental impacts on adjacent property values.

Education

- University of Illinois: Bachelor of Science, Actuarial Science

Professional Affiliation, Licenses, and Exams

- MAI - Appraisal Institute, Designated Member
- Urban Land Institute, Associate Member
- Certified General Real Estate Appraiser with Active Licenses in DC and the States of MD, MO, and VA
- Successful completion of the following actuarial exams: Probability (1/P), Financial Mathematics (2/FM), and Models for Financial Economics (3/MFE)

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Awards and Recognitions

- 2019 National Association of Certified Valuators and Analysts (NACVA) and the Consultants Training Institute (CTI) 40 Under Forty Honoree

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Amanda G. Edwards

Valuation Research Specialist, Valuation Advisory Services

200 S. Wacker Drive, Suite 2600
Chicago, Illinois 60606
312-508-5453
amanda.edwards@cohnreznick.com

Amanda Edwards is a valuation research specialist in CohnReznick's Valuation Advisory Services practice group and is based in Chicago. Amanda has assisted other appraisers in the valuation of a variety of industrial properties, medical offices, hotels, multifamily properties, condominium developments, retail and mixed-use properties, developable and open space land, and single family subdivisions. She has also assisted with appraisals and continuing consulting for eminent domain litigation. Additionally, Amanda has provided audit support for Assurance clients of the firm.

Before joining CohnReznick, Amanda worked at the Inland Group of companies valuing properties and underwriting, as well as assisting in the closing of commercial mortgage loans, nationwide. Property types included industrial, office, multi-family, retail, and hotel, with an emphasis on value-add properties and new construction projects. Amanda has also worked as a commercial lender for builder-developer housing at Fifth Third Bank, specializing in the Chicago metro area. She has also worked valuing senior housing properties and associated business models for acquisition purposes at a senior housing developer/operator.

Amanda has spent considerable time in the consulting environment, developing and conducting in-depth interviews for primary research in a variety of industries such as technology, financial institutions, and industrial manufacturing for private equity clients.

Education

- Bryn Mawr College, Bachelor of Arts

Professional Affiliations

- Appraisal Institute - Practicing Affiliate
- Chicago Real Estate Council - Member

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IMPACT STUDY REPORT
WIP 4-01-2022

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REAL ESTATE ADJACENT PROPERTY VALUE IMPACT REPORT:

Academic and Peer Authored Property Value Impact Studies, Research and Analysis of Existing Solar Facilities, and Market Participant and Assessor Interviews

Work in Progress 4.1.22

Prepared For:
Mr. John Soininen
Senior Director, Asset Development
Brookfield Renewable, U.S.

Submitted By:

CohnReznick LLP
Valuation Advisory Services
200 S. Wacker Drive, Suite 2600
Chicago, Illinois 60606
(312) 508-5900

Patricia L. McGarr, MAI, CRE, FRICS
Andrew R. Lines, MAI
Sonia K. Singh, MAI

April 1, 2022

LETTER OF TRANSMITTAL

April 1, 2022

Mr. John Soinenen
Senior Director, Asset Development
Brookfield Renewable, U.S.

SUBJECT: Property Value Impact Report
An Analysis of Existing Solar Farms

To Whom it May Concern:

CohnReznick is pleased to submit the accompanying property values impact report for proposed solar energy uses in Delaware. Per the client's request, CohnReznick researched property transactions adjacent to existing solar farms, researched and analyzed articles and other published studies, and interviewed real estate professionals and Township/County Assessors active in the market where solar farms are located, to gain an understanding of actual market transactions in the presence of solar energy uses.

The purpose of this consulting assignment is to determine whether proximity to a renewable energy use (solar farm) has an impact adjacent property values. The intended use of our opinions and conclusions is to assist the client in addressing local concerns and to provide information that local bodies are required to consider in their evaluation of solar project use applications. We have not been asked to value any specific property, and we have not done so.

The client and intended user for the assignment is Brookfield Renewable, U.S. Additional intended users of our findings include all relevant permitting authorities for Brookfield Renewable, U.S.'s proposed solar projects in Delaware. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

This consulting assignment is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, as well as applicable state appraisal regulations.

Based on the analysis in the accompanying report, and subject to the definitions, assumptions, and limiting conditions expressed in the report, our findings are:

Work in Progress 4.1.22

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FINDINGS

I. Academic Studies *(pages 20-22):* CohnReznick reviewed and analyzed published academic studies that specifically analyzed the impact of solar facilities on nearby property values. These studies include multiple regression analyses of hundreds and thousands of sales transactions, and opinion surveys, for both residential homes and farmland properties in rural communities, which concluded existing solar facilities have had no negative impact on adjacent property values.

Peer Authored Studies: CohnReznick also reviewed studies prepared by other real estate valuation experts that specifically analyzed the impact of solar facilities on nearby property values. These studies found little to no measurable or consistent difference in value between the Test Area Sales and the Control Area Sales attributed to the proximity to existing solar farms and noted that solar energy uses are generally considered a compatible use.

II. CohnReznick Studies *(pages 23-120)*: Further, CohnReznick has performed 27 studies in over 16 states, of both residential and agricultural properties, in which we have determined that the existing solar facilities have not caused any consistent and measurable negative impact on property values.

For this Project, we have included 10 of these studies which are most similar to the subject in terms of general location and size, summarized as follows:

CohnReznick - Existing Solar Farms Studied					
#	Solar Farm	County	State	MW AC	Acreage
1	North Star Solar	Chisago	MN	100.00	±1,000
2	Dominion Indy Solar III	Marion	IN	8.60	129.04
3	Dougherty Solar	Dougherty	GA	120.00	1,280.93
4	Miami-Dade Solar Energy Center	Miami-Dade	FL	74.50	465.61
5	Barefoot Bay Solar Energy Center	Brevard	FL	74.50	504.75
6	Innovative Solar 42	Bladen & Cumberland	NC	71.00	413.99
7	Rutherford Farm	Rutherford	NC	61.00	488.84
8	Elm City Solar	Wilson	NC	40.00	354.00
9	Woodland Solar	Isle of Wight	VA	19.00	211.12
10	DTE Lapeer Solar	LaPeer	MI	48.28	365.68

It is noted that proximity to the solar farms has not deterred sales of nearby agricultural land and residential single-family homes, nor has it deterred the development of new single-family homes on adjacent land.

This report also includes four "Before and After" analyses, in which sales that occurred prior to the announcement and construction of the solar farm project were compared with sales that occurred after completion of the solar farm project, for both adjoining and non-adjoining properties. No measurable impact on property values was demonstrated. We have also included an additional study of the New Road Solar farm in New Jersey, for informational purposes.

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III. Market Participant Interviews *(pages 121-124)*: Our conclusions also consider interviews with over 45 County and Township Assessors, who have at least one solar farm in their jurisdiction, and in which they have determined that solar farms have not negatively affected adjacent property values.

With regards to the Project, we specifically interviewed Assessors in Delaware and neighboring states:

- Cheryl Bundek, the Supervisor of Assessments of Kent County, Delaware, reported that when she worked in the city of Dover's tax assessor's office, they had never received a complaint or appeal request about assessed values from home owners in nearby manufactured home communities regarding the Dover Sun Park solar farm.
- Nancy Cook in the South Brunswick Township tax assessor's office, in Middlesex County, New Jersey, said that to her recollection there had been no complaints or appeals filed about the presence of the New Road Solar facility in the township from nearby subdivision homeowners.
- Steve Lehr at the Department of Assessment for Tompkins County, New York, mentioned that the appraisal staff has made no adjustments regarding assessed values of properties surrounding solar farms. Marketing times for properties have also stayed consistent. Lehr noted that a few of the solar farms in Thompkins County are on land owned by colleges and universities and a few are in rural areas.
- Al Fiorille, Senior Valuation Specialist in the Tompkins County Assessment department in New York, reported that he could not measure any negativity from the solar farms and arrays that have been installed within the county.
- Mason Hass, the Riverhead Assessor in Suffolk County, on Long Island, New York stated that the solar farms in his town are in industrial zoned areas, and he has not seen any impact on adjacent properties.
- The Assessor for the town of Smithtown in Suffolk County, New York, Irene Rice, has not seen any impact on property values as a result of their location near the newly built solar farms in her town.
- Michael Zazzara, Assessor of the City of Rochester in Monroe County, New York commented that the City has a couple of solar farms, and they have seen no impact on nearby property values and have received no complaints from property owners.
- While there are one or two homes nearby to existing solar farms in the town of Lisbon in St. Lawrence County, New York, Assessor Stephen Teele has not seen any impact on property values in his town. The solar farms in the area are in rural or agricultural areas in and around Lisbon.
- The Assessor for the Village of Whitehall in Washington County, New York, Bruce Caza, noted that there are solar farms located in both rural and residential areas in the village and he has seen no impact on adjacent properties, including any concerns related to glare form solar panels.

Work in Progress 4.1.22

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To give us additional insight as to how the market evaluates farmland and single-family homes with views of solar farms, we interviewed numerous real estate brokers and other market participants who were party to actual sales of property adjacent to solar; these professionals also confirmed that solar farms did not diminish property values or marketability in the areas they conducted their business.

IV. Solar Farm Factors on Harmony of Use *(pages 125-130)*: In the course of our research and studies, we have recorded information regarding the compatibility of these existing solar facilities and their adjoining uses, including the continuing development of land adjoining these facilities.

CONCLUSION

Considering all of the preceding, the data indicates that solar facilities do not have a negative impact on adjacent property values.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Very truly yours,

CohnReznick LLP

Andrew R. Lines, MAI
Principal - Valuation Advisory Services
Certified General Real Estate Appraiser

Delaware License No. X5-0011520
Expires 7/28/2022
Florida License No. RZ3899
Expires 11/30/2022
Indiana License No. CG41500037
Expires 6/30/2022
Kentucky License 5663
Expires 6/30/2022
Georgia License No. 360939
Expires 10/31/2023

Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services
Certified General Real Estate Appraiser

Indiana License No. CG49600131
Expires 6/30/2022
North Carolina License No. A8131
Expires 6/30/2022
Virginia License No. 4001016998
Expires 3/31/2024
Michigan License No. 1201072979
Expires 7/31/2022

Sonia K. Singh, MAI
Director – Valuation Advisory Services
Certified General Real Estate Appraiser

Virginia License No. 4001017615
Expires 3/31/2024

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SCOPE OF WORK

CLIENT AND INTENDED USERS

The client and intended user of this report is Brookfield Renewable, U.S.; other intended users may include the client's legal and site development professionals. Additional intended users of our findings include all relevant permitting authorities for Brookfield Renewable, U.S.'s proposed solar projects in Delaware.

INTENDED USE

The intended use of our findings and conclusions is to address certain criteria required for the granting of approvals for proposed solar energy uses. We have not been asked to value any specific property, and we have not done so. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

PURPOSE

The purpose of this consulting assignment is to determine whether proximity to the proposed solar facility will result in an impact on adjacent property values.

DEFINITION OF VALUE

This report utilizes Market Value as the appropriate premise of value. Market value is defined as:

"The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."[1]

[1] Code of Federal Regulations, Title 12, Chapter I, Part 34.42[h]

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EFFECTIVE DATE & DATE OF REPORT

April 1, 2022 (Paired sale analyses contained within each study are periodically updated.)

PRIOR SERVICES

USPAP requires appraisers to disclose to the client any services they have provided in connection with the subject property in the prior three years, including valuation, consulting, property management, brokerage, or any other services.

This report is a compilation of the Existing Solar Farms which we have studied over the past year and is not evaluating a specific subject site. In this instance, there is no "subject property" to disclose.

INSPECTION

Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.

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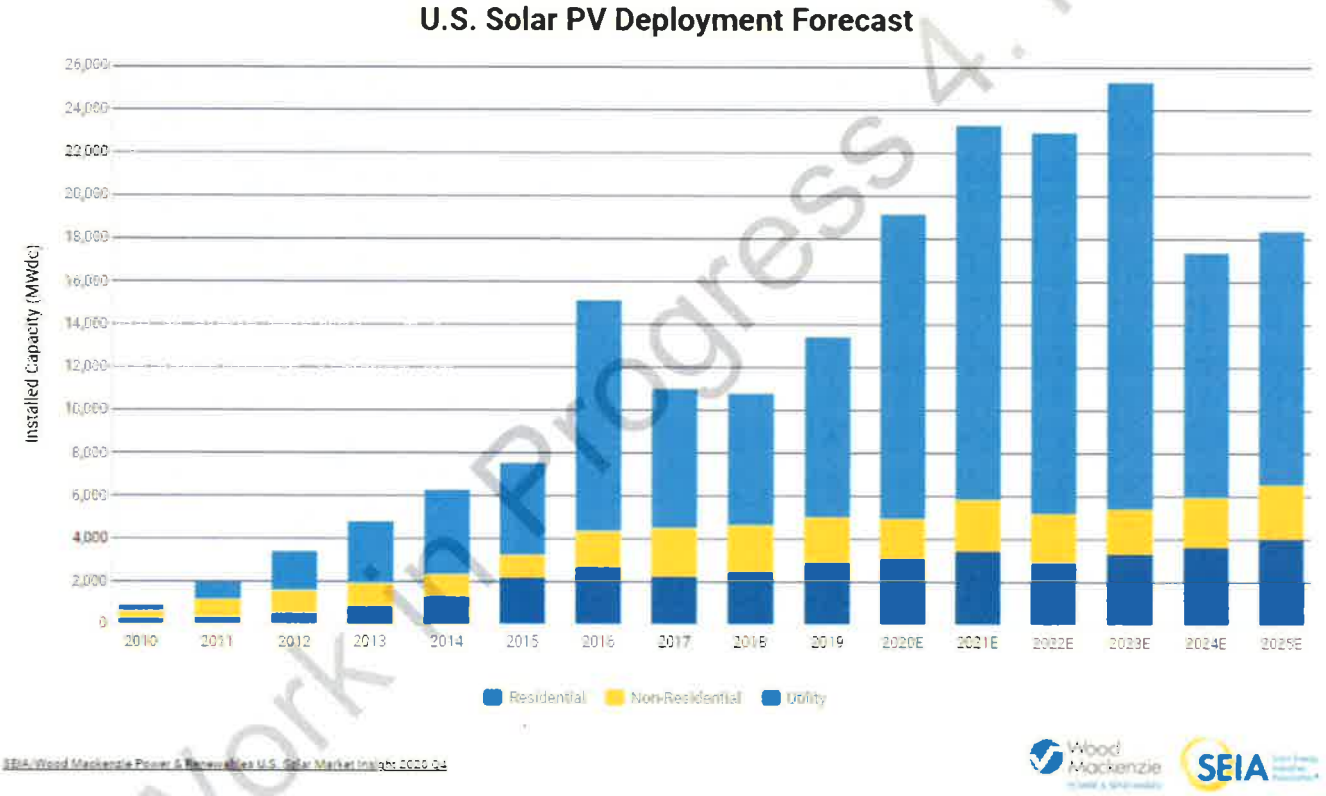
OVERVIEW OF SOLAR DEVELOPMENT IN THE UNITED STATES

Solar development increased almost exponentially over the past ten years in the United States as technology and the economic incentives (Solar Investment Tax Credits or ITC) made the installation of solar farms economically reasonable. The cost to install solar panels has dropped nationally by 70 percent since 2010, which has been one cause that led to the increase in installations. A majority of these solar farm installations are attributed to larger-scale solar farm developments for utility purposes. The chart below portrays the historical increase on an annual basis of solar installations in the US as a whole, courtesy of research by Solar Energy Industries Association (SEIA) and Wood Mackenzie, and projects solar photovoltaic (PV) deployment for the next five years through 2025, with the largest percentage of installations attributed to utility-scale projects.



The United States installed a record of 19.2 Gigawatts (GW) DC of solar photovoltaic capacity for both residential and utility-scale solar projects installed in 2020, representing an increase of 43 percent since 2019. Since the cost to install solar has decreased more than 70% over the past decade, solar has continued to rank either first or second in new electric capacity additions in each of the past eight years. The first quarter of 2021 was the largest Q1 on record, with the U.S. solar market installing more than 5 GW DC of solar capacity. Although, the coronavirus pandemic had put some supply-side constraint on solar construction. According to SEIA, "increasing demand for solar, combined with pandemic-related macroeconomic realities (such as increased shipping costs,

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microchip availability, and a residential home renovation boom) have led to increased commodity prices and delivery delays." The pipeline for utility-scale PV, as of first quarter 2021, includes capacity of 85 GW for contracted projects.[2] With the increase of utility-scale solar installations across the country, solar projects have become a common and understood feature of the landscape and will continue to do so with the projected additional capacity to come online in the coming years despite the downside risks caused by the coronavirus pandemic.

Recent articles show that over the past decade, the solar industry has experienced unprecedented growth. Among the factors contributing to its growth were government incentives, significant capacity additions from existing and new entrants and continual innovation. Solar farms offer a wide array of economic and environmental benefits to surrounding properties. Unlike other energy sources, solar energy does not produce emissions that may cause negative health effects or environmental damage. Solar farms produce a lower electromagnetic field exposure than most household appliances, such as TV and refrigerators, and studies have confirmed there are no health issues related to solar farms.[3]

Solar farm construction in rural areas has also dramatically increased the tax value of the land on which they are built, which has provided a financial boost to some counties. CohnReznick has studied real estate tax increases due to the installation of solar, which can range up to 10-12 times the rate for farmland. Majority of tax revenue is funneled back into the local area, and as much as 50% of tax revenue can typically be allocated to the local school district. By converting farmland to a passive solar use for the duration of the system's life, the solar energy use would not burden school systems, utilities, traffic, nor infrastructure as it is a passive use that does not increase population as say a residential subdivision would.

Beyond creating jobs, solar farms are also benefiting the overall long-term agricultural health of the community. The unused land, and also all the land beneath the solar panels, will be left to repair naturally. In the long run this is a better use of land since the soil is allowed to recuperate instead of being ploughed and fertilized year in and year out. A solar farm can offer some financial security for the property owner over 20 to 25 years. Once solar panel racking systems are removed, the land can revert to its original use.[4]

NATIONAL UTILITY-SCALE ENERGY PRODUCTION

As of July 2021, the U.S. produces almost 1.224 million megawatts (MW) of power each year, according to the U.S. Energy Information Administration (EIA) in ±23,700 unique power generation facilities. Of that power produced, approximately four percent is generated from solar facilities, or 51,907 MW AC, at 4,828 solar facilities across the country, reflecting an average facility size of 10.75 MW AC. For utility scale solar production, the

[2] Solar Energy Industries Association, Solar Market Insight Report 2021 Q2
[3] "Electromagnetic Field and Public Health." Media Centre (2013): 1-4. World Health Organization.
[4] NC State Extension. (May 2016). Landowner Solar Leasing: Contract Terms Explained. Retrieved from: https://content.ces.ncsu.edu/landowner-solar-leasing-contract-terms-explained

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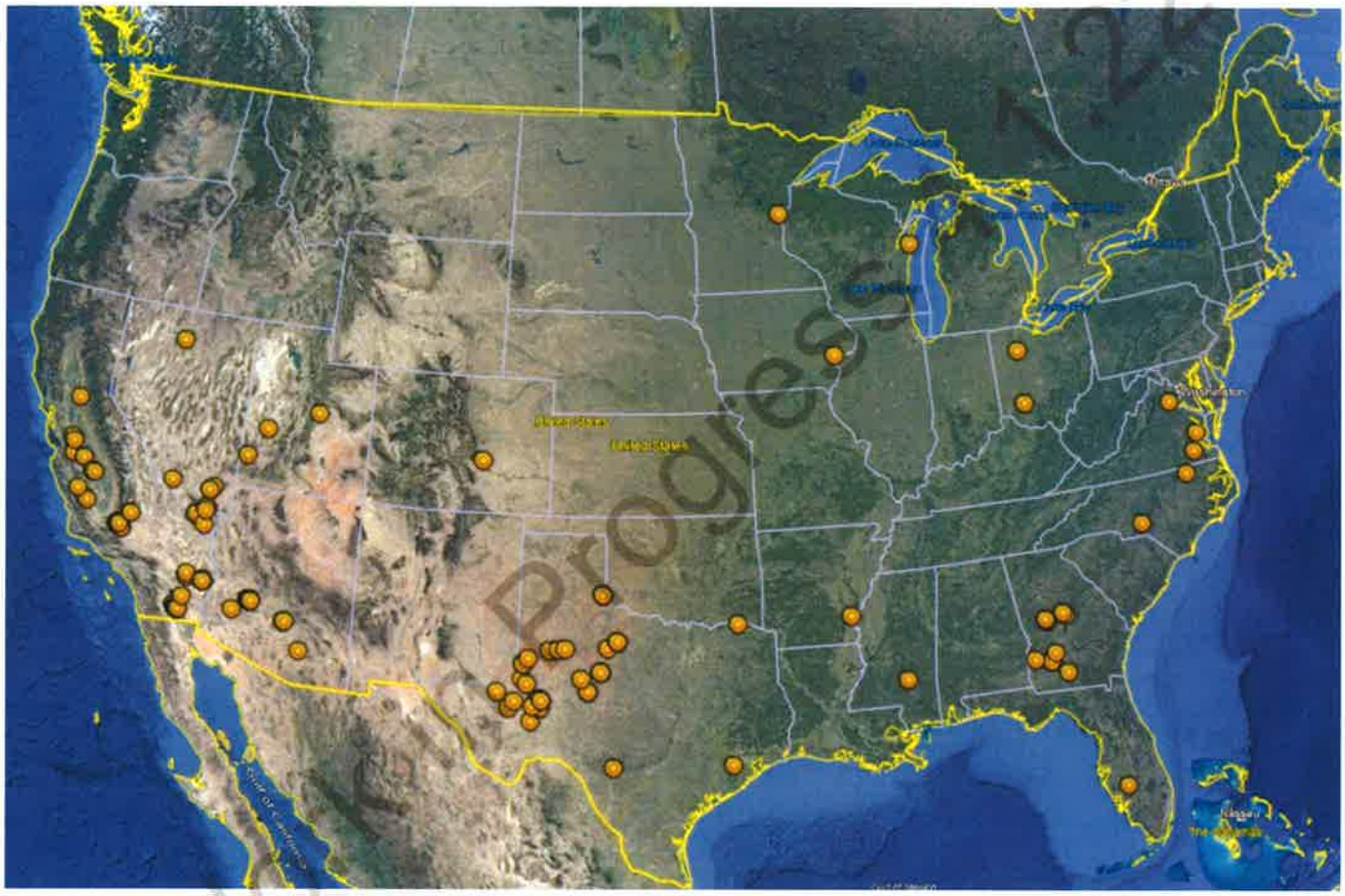
number of facilities that generate over 5 MW of power accounts for 33.6 percent of all solar facilities, nationwide, whereas 88.8 percent of solar power generated in the country comes from utility scale facilities, overall.

According to the U.S. Energy Information Administration (EIA) through July 2021, ±130 solar facilities in operation that generate 100 MW AC or more of power. A map illustrating existing solar farms with capacities greater than 100 MW is presented below (indicated by yellow suns), using data retrieved from the Energy Information Administration (EIA).



To meet zoning and planning requirements, and/or to take advantage of certain incentive programs, several solar farms are built by the same developer around the same location, de facto functioning as one larger solar farm. Many of these solar facilities are located in California, with several located in Florida, Texas, Nevada, North Carolina, Arizona, Georgia and Utah. Additionally, these installations are typically located in outlying areas where site costs are lowest, and residential development and sales activity is minimal in these areas. While we reviewed each for surrounding uses, the majority are not good candidates for a paired sales analysis since they were either recently constructed or surrounding development/sales activity was minimal.

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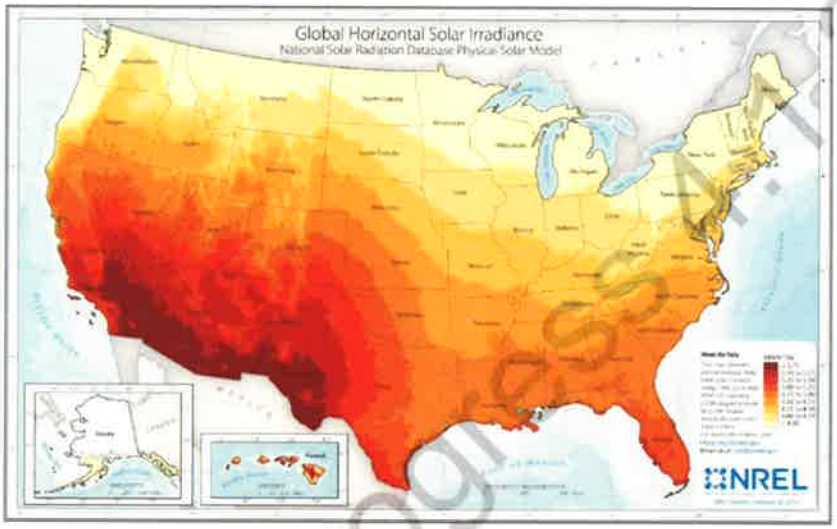
In the United States, there are ±41 operating solar farms with generating capacities above 200 MW AC, presented below. All of the existing solar farms in operation as of July 2021 that have a generating capacity of greater than 200 MW AC are located in the southwestern United States, with the exception of the 200 MW Hillcrest Solar project in Ohio and the 204 MW Twiggs Solar Project in Georgia. This is due to economies of scale for reducing development costs by maximizing size in areas where there is maximum sunlight. The map developed by the National Renewable Energy Laboratory (NREL), presented next, shows the solar resources released by the sun daily throughout in the United States. Red indicates the areas with the most solar resources.



The map below has solar installations larger than 200 MW (marked by green suns) and shows that the largest solar installations have been built in areas where there are the most solar resources.

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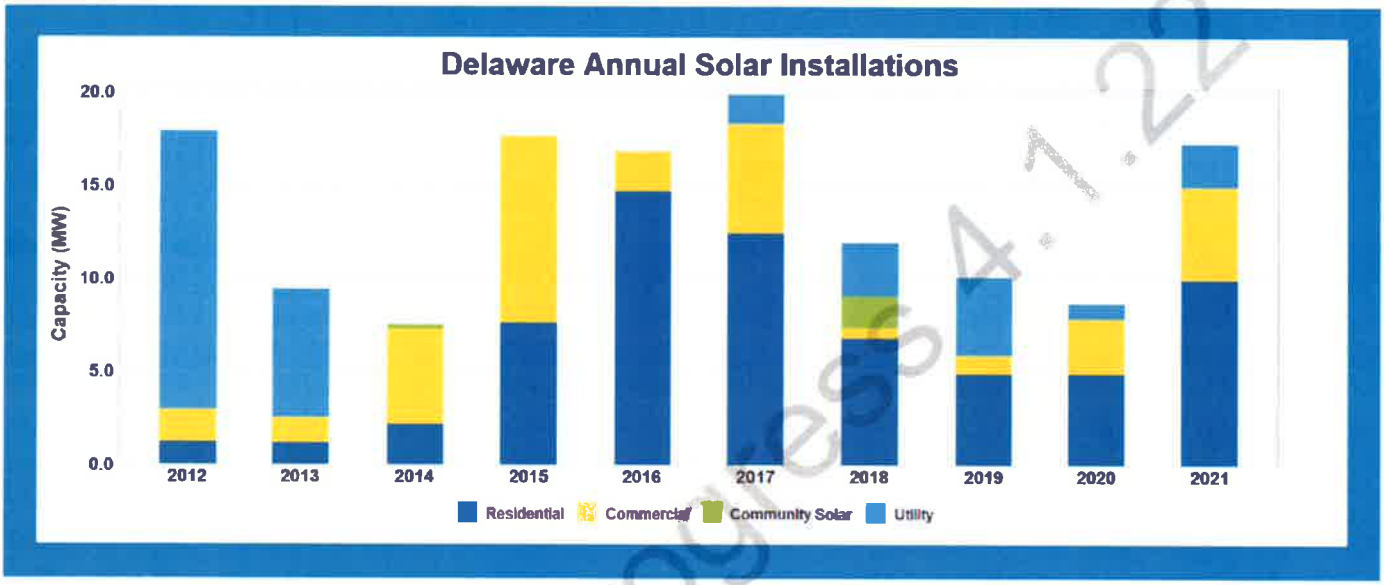
ENERGY PRODUCTION IN DELAWARE

As of the end of 2021, Delaware had 38.1 MW of solar installed, ranking only 41st in the nation for the capacity of solar installed. There have been only 9.3 MW of solar power installed in the state since 2015. However, significantly more utility investments in clean energy are on the horizon, with 214 MW of solar proposed to be installed over the next two years, and the state is expected to have over 400 MW installed in five years.



Delaware currently has 12 non-residential solar facilities in service and two generate over 5 MW, totaling 21.8 MW of power in utility-scale facilities. Milford Solar Farm in Kent County generates the most power at 11.8 MW and was developed in 2012. The most recent facility to be developed became operational in 2021 with 1.3 MW in suburban Wilmington on the JP Morgan Chase office campus.

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APPRAISAL THEORY – ADAJCENT PROPERTY'S IMPACT ON VALUE

According to Randall Bell, PhD, MAI, author of text *Real Estate Damages,* published by the Appraisal Institute in 2016, understanding the market's perceptions on all factors that may have an influence on a property's desirability (and therefore its value) is essential in determining if a diminution or enhancement of value has occurred.[5] According to Dr. Bell:

> *"There is often a predisposition to believe that detrimental conditions automatically have a negative impact on property values. However, it is important to keep in mind that if a property's value is to be affected by a negative condition, whether internal or external to the property, that condition must be given enough weight in the decision-making process of buyers and sellers to have a material effect on pricing relative to all the other positive and negative attributes that influence the value of that particular property."*[6]

Market data and empirical research through the application of the three traditional approaches to value should be utilized to estimate the market value to determine if there is a material effect on pricing due, to the influence of a particular characteristic of or on a property.

A credible impact analysis is one that is logical, innate, testable and repeatable, prepared in conformity with approved valuation techniques. In order to produce credible assignment results, more than one valuation technique should be utilized for support for the primary method, or a check of reasonableness, such as utilization of more than one approach to value, conducting a literature review, or having discussions (testimony) with market participants.[7] CohnReznick implemented the scientific method[8] to determine if a detrimental condition of proximity to a solar farm exists, further described in the next section.

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[5] Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Pages 1-2)
[6] Ibid, Page 314
[7] Ibid, Pages 7-8
[8] The scientific method is a process that involves observation, development of a theory, establishment of a hypothesis, and testing. The valuation process applies principles of the scientific method as a model, based upon economic principles (primarily substitution) as the hypothesis. The steps for the scientific method are outlined as follows:

1. Identify the problem.
2. Collect relevant data.
3. Propose a hypothesis.
4. Test the hypothesis.
5. Assess the validity of the hypothesis.

Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Pages 314-316)

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METHODOLOGY

The purpose of this report is to determine whether proximity to the solar facility resulted in any measurable and consistent impact on adjacent property values. To test this hypothesis, CohnReznick identified three relevant techniques to test if a detrimental condition exists.

(1) A review of published studies;
(2) Paired sale analysis of properties adjacent to existing solar generating facilities, which may include repeat sale analyses or "Before and After" analyses; and,
(3) Interviews with real estate professionals and local real estate assessors.

The paired sales analysis is an effective method of determining if there is a detrimental impact on surrounding properties.

> *"One of the most useful applications of the sales comparison approach is paired sale analysis. This type of analysis may compare the subject property or similarly impacted properties called* ***Test Areas*** *(at Points B, C, D, E, or F) with unimpaired properties called* ***Control Areas*** *(Point A). A comparison may also be made between the unimpaired value of the subject property before and after the discovery of a detrimental condition. If a legitimate detrimental condition exists, there will likely be a* ***measurable and consistent difference*** *between the two sets of market data; if not, there will likely be no significant difference between the two sets of data. This process involves the study of a group of sales with a detrimental condition, which are then compared to a group of otherwise similar sales without the detrimental condition."*[9]

As an approved method, paired sales analysis can be utilized to extract the effect of a single characteristic on value. By definition, paired data analysis is "a quantitative technique used to identify and measure adjustments to the sale prices or rents of comparable properties; to apply this technique, sales or rental data on nearly identical properties is analyzed to isolate a single characteristic's effect on value or rent."[10] The text further describes that this method is theoretically sound when an abundance of market data, or sale transactions, is available for analysis.

Where data is available, CohnReznick has also prepared "Before and After" analyses or a Repeat Sale Analysis,[11] to determine if a detrimental impact has occurred.

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[9] Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Page 33)
[10] *The Appraisal of Real Estate 14th Edition.* Chicago, IL: Appraisal Institute, 2013.
[11] Another type of paired sales analysis involves studying the sale and subsequent resale of the same property. This method is used to determine the influence of time on market values or to determine the impact of a detrimental condition by comparing values before and after the discovery of the condition.
Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Page 35)

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SCOPE OF WORK

The scope of work utilized to test the hypothesis stated on the prior page is as follows:

1. Review published studies, assess credibility, and validity of conclusions;
2. Prepare paired sale analyses for existing solar farms as follows:
    2.1. Identify existing solar farms comparable to the proposed project to analyze;
    2.2. Define Test Area Sales and Control Areas Sales;
    2.3. Collect market data (sale transactions) for both Test Area and Control Area Sales;
    2.4. Analyze and confirm sales, including omission of sales that are not reflective of market value;
    2.5. Prepare comparative analysis of Test Area and Control Area sales, adjusting for market conditions;
    2.6. Interpret calculations; and
3. Conduct interviews with real estate professionals and local real estate assessors who have evaluated real property adjacent to existing solar farms.

It should be noted that our impact report data and methodology have been previously reviewed by our peer in the field – Kirkland Appraisals, LLC – as well as by the Solar Energy Industries Association (SEIA).

The following bullet points summarize important elements to consider in our scope of work:

- Due to the limited number of existing larger utility scale projects in the state of Delaware, we have incorporated other utility scale projects in other states.
- Test Area Sales consists of sales that are adjacent to an existing solar facility. Ownership and sales history for each adjoining property to an existing solar farm through the effective date of this report is maintained within our workfile. Adjoining properties with no sales data or that sold prior to the announcement of the solar farm were excluded from further analysis.

- Control Area Sales are generally located in the same market area, although varies based on the general location of the existing solar farm under analysis. In rural areas, sales are identified first within the township, and expands radially outward through the county until a reliable set of data points is obtained.

- Control Area Sales are generally between 12 and 18 months before or after the date of the Test Area Sale(s), and are comparable in physical characteristics such as age, condition, style, and size.

- Sales of properties that sold in a non-arm's length transaction (such as a transaction between related parties, bank-owned transaction, or between adjacent owners) were excluded from analysis as these are not considered to be reflective of market value, as defined earlier in this report. The sales that remained after exclusions were considered for a paired sale analysis.

- The methodology employed in this report for paired sale analysis does not rely on multiple subjective adjustments that are typical in many appraisals and single-paired sales analyses. Rather, the

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methodology remains objective, and the only adjustment required is for market conditions[12] the analysis relies upon market conditions trends tracked by credible agencies such as the Federal Housing Finance Agency ("FHFA"), who maintains a House Price Index ("HPI")[13] for macro and micro regions in the United States. A market conditions adjustment is a variable that affects all properties similarly and can be adjusted for in an objective manner.

- To make direct comparisons, the sale price of the Control Area Sales was adjusted for market conditions to a common date. In this analysis, the common date is the date of the Test Area Sale(s). After adjustment, any measurable difference between the sale prices would be indicative of a possible price impact by the solar facility.

- If there is more than one Test Area Sale to evaluate, the sales are grouped if they exhibit similar transactional and physical characteristics; otherwise, they are evaluated separately with their own respective Control Area Sale groups.

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[12] Adjusting for market conditions is necessary as described in The Appraisal of Real Estate 14th Edition as follows: "Comparable sales that occurred under market conditions different from those applicable to the subject on the effective date of appraisal require adjustment for any differences that affect their values. An adjustment for market conditions is made if general property values have increased or decreased since the transaction dates."

[13] The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. This information is obtained by reviewing repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. Because of the breadth of the sample, it provides more information than is available in other house price indexes.

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TECHNIQUE 1: REVIEW OF PUBLISHED STUDIES

The following is a discussion of various studies that consider the impact of solar farms on surrounding property values. The studies range from quantitative analysis to survey-based formal research to less-formal analyses.

ACADEMIC REPORTS

There have been three academic reports that attempt to quantify the effect on property values due to proximity to solar.

i. The first report is a study completed by **The University of Texas at Austin**, published in May 2018.[14] The portion of the study focusing on property impact was an Opinion Survey of Assessors with no sales data or evidence included in the survey. The opinion survey was sent to 400 accessors nationwide and received only 37 responses. Of those 37 assessors, only 18 had assessed a home near a utility-scale solar installation, the remainder had not. Of the 18 assessors with experience in valuing homes near solar farms, 17 had not found any impact on home values near solar. Those are the actual facts in the study. A small number of those assessor respondents hypothetically surmised an impact, but none had evidence to support such statements.

   The paper admits that there is no actual sales data analyzed, and further denotes its own areas of weakness, including "This study did not differentiate between ground-mounted and rooftop installations." The author states on the last line of page 22: ***"Finally, to shift from perceived to actual property value impacts**, **future research can conduct analyses on home sales data to collect empirical evidence of actual property value impacts."***

   The paper concludes with a suggestion that a statistic hedonic regression model may better identify impacts. It should be noted that the type of statistical analysis that the author states is required to determine "*actual property value impacts*' was completed two years later by the following Academic Studies.

ii. The second report is a study prepared by a team at the **University of Rhode Island**, published in September 2020, "*Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island.*"[15] The study utilized a hedonic pricing model, or multiple regression analysis, to quantify the effect of proximity on property values due to solar by studying existing solar installations in Massachusetts and Rhode Island. The study evaluated 208 solar facilities, 71,373 housing sales occurring within one-mile of the solar facilities (Test Group), and 343,921 sales between one-to-three

[14] Al-Hamoodah, Leila, et al. An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations. Policy Research Project (PRP), LBJ School of Public Affairs, The University of Texas at Austin, May 2018, emp.lbl.gov/sites/default/files/property-value_impacts_near_utility-scale_solar_installations.pdf.

[15] Gaur, V. and C. Lang. (2020). Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island. Submitted to University of Rhode Island Cooperative Extension on September 29, 2020. Accessed at https://web.uri.edu/coopext/valuing-sitingoptions-for-commercial-scale-solar-energy-in-rhode-island/.

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miles (Control Group). Because it is a hedonic regression model, it allowed them to isolate specific variables that could impact value, including isolating rural and non-rural locations. The study defines "**Rural**," as an area having a "population density of 850 people per square mile or fewer."

The study provides data which found no negative impact to residential homes near solar arrays in rural areas: "these results suggest that [the Test Area] in rural areas ***is effectively zero*** (a statistically insignificant 0.1%), and that the negative externalities of solar arrays are only occurring in non-rural areas."[16] Further, the study tested to determine if the size of the installation impacted values, and found no evidence of differential property values impacts by the solar installation's size.

Thus, not only are there no impacts to homes in similar areas as the proposed Project, but any differences in the size of a solar farm are similarly not demonstrating an impact.

iii. The third report is a published study prepared by Dr. Nino Abashidze, School of Economics, Georgia Institute of Technology, dated October 20, 2020, entitled "*Utility Scale Solar Farms and Agricultural Land Values.*" Abashidze examined 451 solar farms in North Carolina. "Across many samples and specifications, we find ***no direct negative or positive spillover effect of a solar farm construction on nearby agricultural land values.*** Although there are no direct effects of solar farms on nearby agricultural land values, we do find evidence that suggests construction of a solar farm may create a small, positive, option-value for landowners that is capitalized into land prices. Specifically, after construction of a nearby solar farm, we find that agricultural land that is also located near transmission infrastructure may increase modestly in value."

VALUATION EXPERT REPORTS

We have similarly considered property value impact studies prepared by other experts, which have also noted that the installation of utility-scale solar on a property has no measurable or consistent impact on adjoining property value. According to a report titled "Mapleton Solar Impact Study" from Kirkland Appraisals, LLC, conducted in Murfreesboro, North Carolina in September 2017, which studied 13 existing solar farms in the state, found that the solar farms had no impact on adjacent vacant residential, agricultural land, or residential homes. The paired sales data analysis in the report primarily consisted of low density residential and agricultural land uses and included one case where the solar farm adjoined to two dense subdivisions of homes.

Donald Fisher, ARA, who has served six years as Chair of the American Society of Farm Managers and Rural Appraisers, and has prepared several market studies examining the impact of solar on residential values was quoted in a press release dated February 15, 2021 stating, "Most of the locations were in either suburban or

[16] The University of Rhode Island study's conclusion that there may be an impact to non-rural communities is surmised is that "land is abundant in rural areas, so the development of some land into solar does little to impact scarcity, whereas in non-rural areas it makes a noticeable impact."

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rural areas, and all of these studies found either a neutral impact or, ironically, a positive impact, where values on properties after the installation of solar farms went up higher than time trends."

REAL ESTATE ASSESSOR SOLAR IMPACT REPORTS

The Chisago County (Minnesota) Assessor's Office conducted their own study on property prices adjacent to and in the close vicinity of the North Star solar farm in Chisago County, Minnesota. At the November 2017 Chisago County Board meeting, John Keefe, the Chisago County Assessor, presented data from his study. He concluded that the North Star solar farm had, "no adverse impact" on property values. His study encompassed 15 parcels that sold and were adjacent or in the close vicinity to the solar farm between January 2016 and October 2017; the control group used for comparison comprised of over 700 sales within the county. Almost all of the [Test Area] properties sold were at a price above the assessed value. He further stated that, "It seems conclusive that valuation has not suffered."[17]

Furthermore, Grant County, Kentucky Property Value Administrator, Elliott Anderson, stated that Duke Energy built a solar farm near Crittenden, adjacent to existing homes on Claiborne Drive in December 2017. At the time of the interview, there have been nine arm's length homes sales on that street since the solar farm commenced operations. Each of those nine homes sold higher than its assessed value, and one over 32 percent higher. At the time, Anderson noted that several more lots were for sale by the developer and four more homes were currently under construction. Anderson said that *the solar farm had no impact either on adjoining home values or on marketability or desirability of those homes adjacent to the solar farm.*

CONCLUSION

These published studies and other valuation expert opinions, conclude that there is no impact to property adjacent to established solar farms. These conclusions have been confirmed by academic studies utilizing large sales databases and regression analysis investigating this uses' potential impact on property values. Further, the conclusion has been confirmed by county assessors who have also investigated this adjacent land use' potential impact on property values.

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[17] Chisago County Press: County Board Real Estate Update Shows No "Solar Effects" (11/03/2017)

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TECHNIQUE 2: PAIRED SALE ANALYSIS

SOLAR FARM 1: NORTH STAR SOLAR FARM, CHISAGO COUNTY, MINNESOTA

Coordinates: Latitude 45.486756, Longitude -92.884206

PINs: Multiple

Population Density (2020) Chisago County: 136 people per square mile (Largest City = North Branch)

Total Land Size: ±1,000 Acres

Date Project Announced: 2014

Date Project Completed: October 2016

Output: 100 MW AC

Overview and Surrounding Area:

The North Star Solar Farm is located approximately four miles southeast of the City of North Branch in unincorporated Chisago County, near the intersection of Route 69 and Route 72. The solar farm was developed by Community Energy Solar in 2016 and is the largest solar farm in the Midwest. The solar farm features 440,000

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solar panels and a power output capacity of 100 MW AC, which is enough to power 20,000 homes. The owner, North Star, LLC, has a 25-year purchase contract for the power produced by the project with Xcel Energy.

Chisago County lies on Minnesota's eastern border, abutting the western border of Wisconsin, across the Saint Croix River. The North Star Solar Farm is approximately 16 miles west of the border with Wisconsin and is just over one mile west of the Kost Dam public park and reservoir, a 28-acre park on the south branch of the Sunrise River.

The Immediate Area:

The North Star Solar Farm is adjoined by agricultural land to the north and west. To the south and east of the project there are several residential properties, including some located within the actual solar farm. The solar farm has agricultural and deer fencing around parts of the project. Additionally, native vegetation and trees previously existed as a buffer along the frontage roads.

Prior Use: Agricultural use

Real Estate Tax Information:

Prior to development of the solar farm, in 2015, this ±1,000-acre site paid real estate taxes of $37,250, annually. After the solar farm development, in 2017, real estate taxes increased to $112,856, a 203 percent increase in tax revenue for the site.

PIN	Acres	2015 Taxes Paid	2017 Taxes Paid	Tax Increase	2015 Assessed Value	2017 Assessed Value	Value Increase
Chisago County, MN							
09.00348.00	74.91	$ 2,806	$ 8,546	205%	$ 198,800	$ 233,900	18%
09.00349.00	74.30	$ 2,818	$ 8,578	204%	$ 199,600	$ 234,800	18%
09.00350.10	16.95	$ 644	$ 2,752	327%	$ 45,600	$ 75,300	65%
09.00351.10	68.01	$ 3,260	$ 9,806	201%	$ 230,900	$ 268,400	16%
09.00353.00	81.87	$ 3,114	$ 8,678	179%	$ 220,500	$ 237,500	8%
09.00354.00	121.84	$ 4,578	$ 13,324	191%	$ 324,200	$ 364,700	12%
11.00517.00	72.07	$ 3,382	$ 7,440	120%	$ 194,400	$ 224,100	15%
11.00528.00	66.42	$ 1,460	$ 6,836	368%	$ 180,000	$ 210,000	17%
11.00529.00	60.26	$ 1,506	$ 7,284	384%	$ 168,700	$ 168,800	0%
11.00726.00	40.55	$ 1,010	$ 3,968	293%	$ 110,700	$ 140,700	27%
11.00730.00	68.32	$ 3,426	$ 7,638	123%	$ 315,700	$ 338,200	7%
11.00731.00	160.83	$ 3,598	$ 17,924	398%	$ 422,500	$ 469,100	11%
11.00732.00	30.52	$ 788	$ 4,748	503%	$ 84,900	$ 109,500	29%
11.00732.10	10.00	$ 4,860	$ 5,334	10%	$ 257,700	$ 290,100	13%
TOTAL	**946.85**	**$ 37,250**	**$ 112,856**	**203%**	**$ 2,954,200**	**$ 3,365,100**	**14%**

Adjoining Properties:

The maps on the following pages display the parcels that contain the solar farm (outlined in yellow). Properties adjoining the solar site (outlined in red) are numbered for subsequent analysis.

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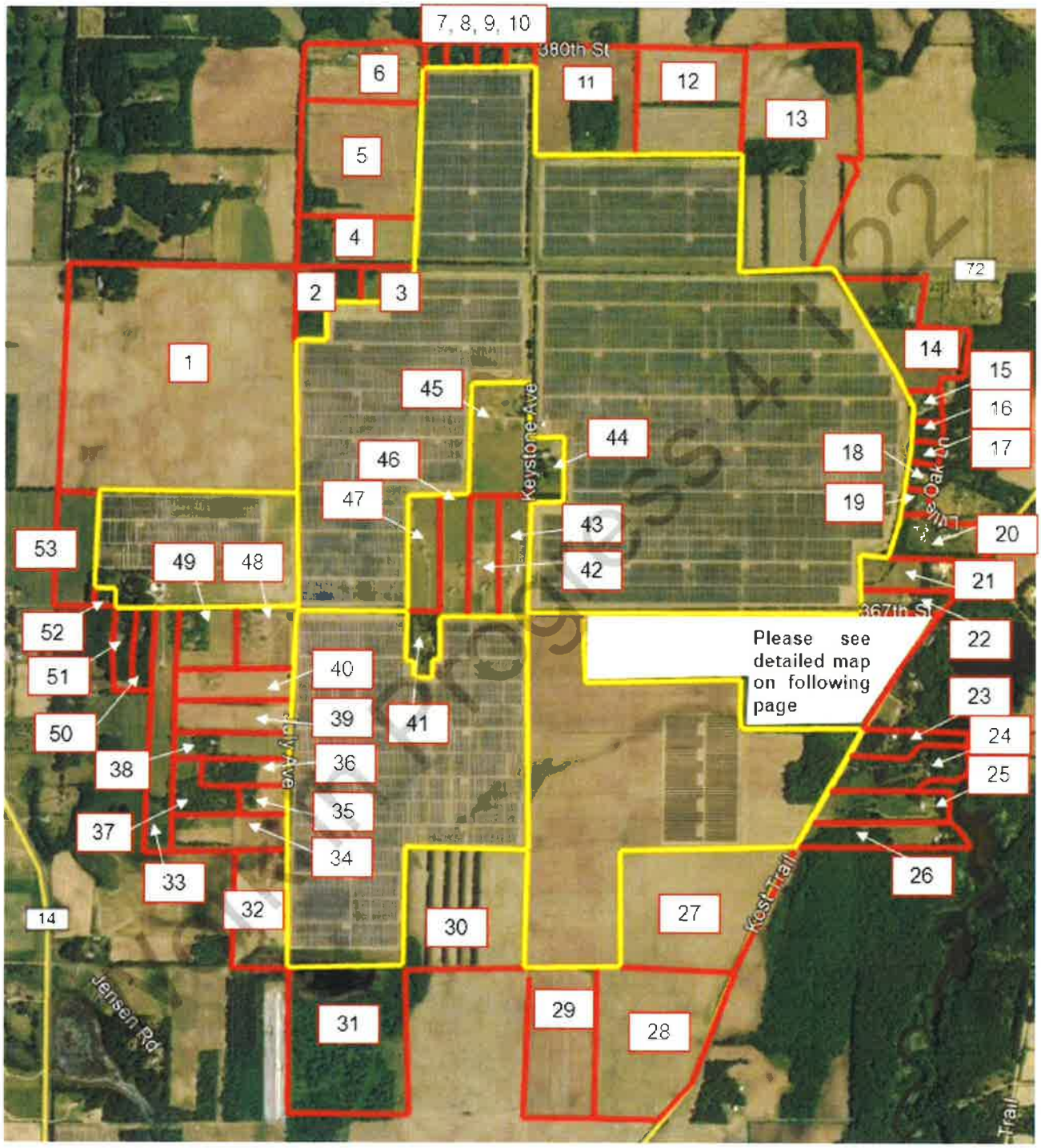

North Star Solar Farm - Adjoining Properties

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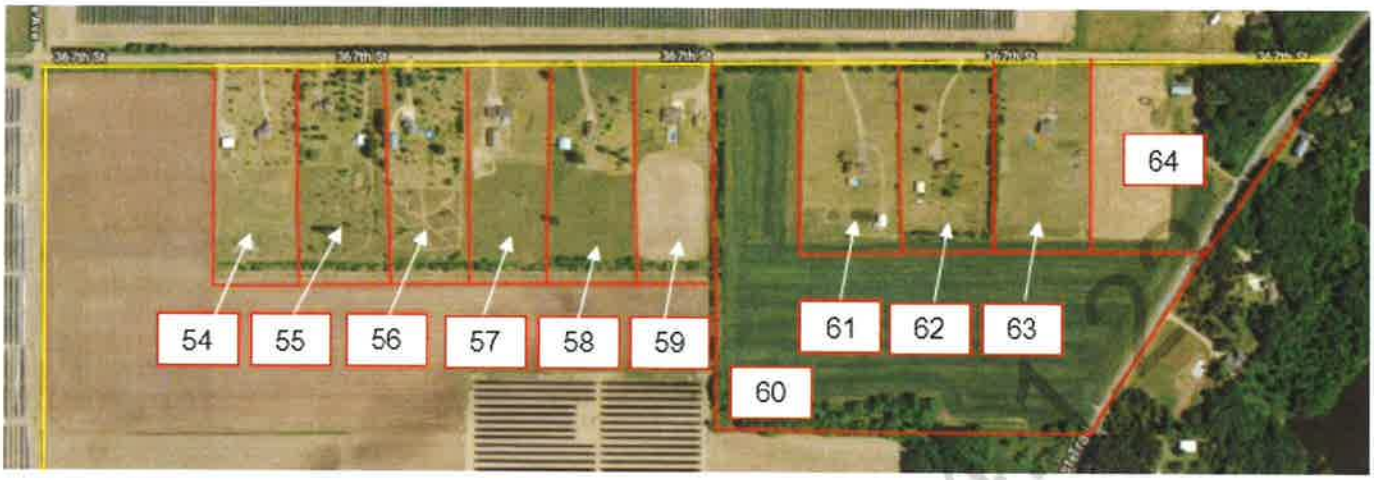

North Star Solar Farm - Adjoining Properties

In reviewing Adjoining Properties to study in a Paired Sales Analysis, several properties and sales were considered but eliminated from further consideration as discussed below.

While assembling the solar development site, the developer of the solar farm acquired seven homes along 367th Street and Keystone Avenue, which we refer to as Adjoining Properties 41, 42, 43, 44, 45, 46, and 47, and are surrounded by the solar arrays. According to conversations with the solar developer, they purchased the homes prior to development to provide interim housing for employees as the solar farm was under construction or for potential use for the project area (which ultimately was not necessary). The developer had each home appraised, and then negotiated separately with each homeowner. All of the houses sold above their appraised values, which the developer considered to be an assemblage premium. After construction, the developer sold all seven homes at market prices, six to new buyers, and one, Adjoining Property 47, which was re-purchased by the original owner. Over a year later, these subsequent sales from the developer to individual homeowners were still higher than the originally appraised values. This indicates that the development of the North Star Solar Farm did not deter transactions nor affect sale prices in the surrounding area.

Clifford Sheppeck, broker at Keller Williams Classic, was hired by Renewable Energy Asset Co, LLC, the solar farm developer, to market and sell the remaining properties that the developer owned. We discussed these transactions with Mr. Sheppeck who indicated they all sold within two months, which was in line with the market.

In addition to the seven homes sold by the developer, we identified six other properties all which sold since the construction of the solar farm: Adjoining Properties 3, 10, 18, 19, 22, 38, 54, 57 and 64. In all, a total of 16 identified Adjoining Properties have sold during or since the construction of the solar farm. These properties are discussed further in the following sections.

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Properties Excluded from Paired Sales Analysis

Adjoining Property 10, located at 10270 380th Street, sold in June 2018 for $163,800, or $143.18 per square foot of finished living area. The property is improved with a small, single-story, modular/pre-fabricated home with no basement, which is atypical for the area. Most of the homes in the area, while similar in gross living areas, are one-story, single-family homes with finished basements. We conducted a search in the area for comparable modular homes without basements but did not find sufficient data yield reliable conclusions in a paired sale analysis. Additionally, this home does not appear to have been listed on the local MLS as we could not identify a broker contact for the most recent sale. We have reached out to the buyer and seller to confirm the nature of the transaction, but as of this writing, we have not made contact. We note that the home sold previously in July 2004; however, county sale records indicate the 2004 sale was between related parties which disqualifies it as an arm's length transaction. Due to limited sales in the area to categorize as Control Area Sales, Adjoining Property 10 was excluded from further analysis.

Adjoining Property 38, located at 36438 July Avenue, sold during construction of the solar farm in October 2015 for $225,000, or $117.68 per square foot of finished living area. It is a home designed specifically as a passive solar home, taking advantage of the same renewable energy potential of the North Star solar farm. The property is set back behind five acres of agricultural land and is secluded behind trees and operates as a mixed-use "hobby farm." This is a highly atypical use with no comparable sales which sold during construction; we have excluded the 2015 sale from paired sale analysis because we cannot separate any influence from construction on the sale price at that time. We note that the home sold previously in November 2003; however, we could not prepare a Before and After analysis utilizing this prior transaction as the most recent sale was marketed as a passive solar home. For these reasons, Adjoining Property 38 was excluded from further analysis.

Adjoining Property 41, located at 10095 367th Street, is subject to an existing 30-year lease for the southern 6.24 acres of the parcel for solar panels in the North Star solar farm. The property most recently sold in April 2021 for $339,186 and previously in June 2017 for $336,900. The sale of this property in May 2016 was to the solar developer for an above appraised value of $365,000, which was an atypically motivated transaction. Because the property is a participating parcel in the solar farm, and due to the additional rental income from the land, this property was excluded from both paired sale and the Before and After Analysis.

Adjoining Property 44, located at 37083 Keystone Avenue, sold for $257,000, or $157.86 per square foot of finished living area, in August 2017 and is a one-story rambler style home with an unfinished basement. Sale listing materials indicated significant deferred maintenance, which would need to be accurately assessed in order to quantify an appropriate adjustment. Most comparable sales in the area either have finished or walk-out basements and no items of significant deferred maintenance. Due to limited comparable sales for this property, and the required adjustment for deferred maintenance, Adjoining Property 44 was excluded from a paired sales analysis. The prior sale of this property was in October 2016, to the solar developer for assemblage, for $302,500. Because this home traded in an atypically motivated transaction in 2016, we have not included it in a Before and After analysis.

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Adjoining Property 45, located at 37206 Keystone Avenue, sold in June 2017 for $290,000, or $149.48 per square foot of finished living area, from the solar farm developer. The property is a split-entry home on over 20 acres. The home features an attached 3-car garage, a detached two-car garage with a finished second story, and a fenced in-ground pool. The County Assessor classified this property as agricultural due to its large acreage. Because this home is atypical (large acreage and pool) there were no comparable sales in the area and Adjoining Property 45 was excluded from further analysis. This home was previously purchased by the solar farm developer in July 2016 for $450,000, an above market price, for assemblage during solar farm construction. After construction was complete, the home was sold in 2017 at a market-oriented price, in an average number of days listed on the Multiple Listing Service (MLS). Because this home traded in an atypically motivated transaction in 2016, we have not included it in a Before and After analysis.

Adjoining Property 47, located at 10090 367th Street, most recently sold in March 2018 for $302,500, or $127.53 per square foot of finished living area, from the solar farm developer. This home was previously purchased by the solar farm developer in August 2016 for $360,800, an above market price, for assemblage during solar farm construction. According to the broker, Cliff Sheppeck, the original owner leased the house back from the developer after the sale, never moved out, and was hired to do maintenance and upkeep on the other six houses the developer purchased in the area. When the developer no longer needed the property, he sold it back to the original owner in 2018 at a market-oriented price. Because of the relationship between the parties in 2018 and 2016, we have not included it in a Paired Sales Analysis nor a Before and After analysis.

Properties Included in Paired Sales Analysis

Adjoining Property 3, located at 10009 375th Street, sold most recently in July 2019 for $260,000, or $172.41 per square foot of finished living area. This property is improved with a one-story, modular/pre-fabricated home in the rambler style, with an English basement, on just over five acres of land. Although this home sold most recently in July 2019 for $260,000, it had also sold in March 2016 for $219,900, during construction of the solar farm. The home previously sold in March of 2005 for $163,000. We have excluded the 2016 sale from paired sale analysis because we cannot separate any influence from construction on the sale price at that time. However, we can calculate the average monthly appreciation from 2005 to 2019 (+0.27 percent), which is higher than the average monthly home price appreciation in the same zip code of 55056 - according to the FHFA Housing Price Index (discussed in more detail later), local home appreciation was 0.0 percent per month over the same period. It is evident that the home value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm. The buyer's broker in the 2019 sale, Gail Reinhard, noted that the buyer had no concerns or issues with the home's proximity to the solar farm and the price paid was market oriented. This home qualified for a paired sales analysis and was studied in Group 4, as detailed on subsequent pages.

Adjoining Property 18, located at 37096 Little Oak Lane, sold in April 2017 for $289,000, or $119.82 per square foot of finished living area. The home is a rambler style, one-story, home with a finished walk-out basement on a 2.07-acre parcel. The improvements on this property are located approximately 225 feet from the nearest solar panel. The buyer's broker, Amy Lamb, noted that the home was in good shape and had been on the market for two years, because the seller would not lower the price to market levels during previous listings. In the summer,

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Lamb noted, the solar panels were barely visible from the back of the property, but in winter they were visible. Lamb asked the buyers if the solar panel view would be a problem and their opinion was that the neighboring solar panels meant no other development that created traffic or noise would be built to disturb them. This home qualified for a paired sales analysis and was studied in Group 2, as detailed on subsequent pages. We have also studied this property in a Before and After analysis later in this report as it also sold in 2006, prior to construction of the North Star solar farm. The average monthly change in value from 2006 to 2017 (-0.05 percent) is higher than the average monthly home price appreciation in the same zip code of 55056 according to the FHFA Housing Price Index, which was -0.10 percent per month over the same period. It is evident that the home's value reflects a better rate from the prior sale than homes in the local area over the same period.

Adjoining Property 19, located at 37056 Little Oak Lane, sold in August 2021 for $435,000, or $205.09 per square foot of finished living area. The property was listed for approximately 14 days on the market before going under contract. The home is a is a split-level style house on 2.37 acres. The improvements on this property are located approximately 280 feet from the nearest solar panel. This property also sold previously in June 2013 for $208,000 before the solar farm was constructed. The average monthly appreciation from 2013 to 2021 (+0.76 percent) was higher than the average monthly home price appreciation in the same zip code, per the FHFA Housing Price Index, of 0.58 percent per month over the same period. The data indicates the home value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm. This home qualified for a paired sales analysis and was studied in Group 5, as detailed on subsequent pages.

Adjoining Property 22, located at 11210 367th Street, sold in April 2021 for $430,000, or $114.48 per square foot of finished living area. The property was listed on the market for 5 days before going under contract and sold $5,000 above its asking price. It is a rambler built in 1974 with a full finished basement and has some ancillary farm buildings on a 5.2 acre site. This property also sold previously in March 2015 for $280,000 during the construction of the solar farm and December 2003 for $107,000 before the solar farm was constructed. We have excluded the 2015 sale from paired sale analysis, due to the influence from construction on the sale price at that time but have analyzed the 2021 sale in our analysis. This sale's average monthly appreciation from 2003 to 2021 (+0.67 percent), is higher than the average monthly home price appreciation in the same zip code, per the FHFA Housing Price Index of 0.12 percent per month over the same period. This demonstrates that the Target home value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm. Additionally, the most recent sale of the Adjoining Property 22 was studied in Group 6, as detailed on subsequent pages.

Adjoining Property 42, located at 10200 367th Street, sold in November 2017 for $330,000, or $151.93 per square foot of finished living area. The home is a split-level style house on 9.30 acres. The improvements on this property are approximately 393 feet from the nearest solar panel. This home qualified for a paired sales analysis and was studied in Group 1, as detailed on subsequent pages. This home was previously purchased by the solar farm developer in July 2016 for $387,900, an above market price, for assemblage during solar farm construction. After construction was complete, the home was sold in 2017 at a market-oriented price, in an average number of days listed on the Multiple Listing Service (MLS). Because this home traded in an atypically motivated transaction in 2016, we have not included it in a Before and After analysis. However, this property also sold previously in

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October 2004 for $309,900 before the solar farm was constructed. The average monthly appreciation from 2004 to 2017 (+0.04 percent) is higher than the average monthly home price appreciation in the same zip code, per the FHFA Housing Price Index, of -0.02 percent per month over the same period. This home's value increased at a higher rate than homes in the local area over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 43, located at 10254 367th Street, sold for $335,000 in July 2017, for $156.84 per square foot of finished gross living area, and is a split-level home with an atypical floor design. Most of the homes in the area, while having similar gross living areas, are one-story, single-family homes with basements. We conducted a search in the area for comparable above-grade, split level homes. Mr. Sheppeck was the listing broker for this property and confirmed its atypical nature. He indicated that it sold at a price that was in-line with the market even though split-level, two story homes are considered to be rare in the area. However, we were able to find comparably designed sales in the area, and have included the sale within our analysis, studied in Group 7, as detailed on subsequent pages. The prior sale of this property was to the solar developer for assemblage during construction for $535,000, an above market price, in July 2016. Because this home traded in an atypically motivated transaction in 2016, we have not included this transaction a Before and After analysis. However, this property also sold previously in November 2005 for $373,000 before the solar farm was constructed. The average monthly change in value from 2005 to 2017 (-0.08 percent) was the same as the average monthly home price appreciation in the same zip code, according to the FHFA Housing Price Index over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 46, located at 10132 367th Street, sold most recently in December 2020 for $415,000, or $196.87 per square foot of finished living area. The home is a split-level style house on 9.31 acres. The home features an attached 3-car heated garage, an 816 square foot detached heated garage, and a 1,400 square foot outbuilding. The improvements on this property are approximately 330 feet from the nearest solar panel. This home also sold in October 2017 for $333,000 from the solar developer who had purchased it in September 2016 for $387,900, an above market price, for assemblage during solar farm construction. After construction was complete, the home was sold in 2017 at a market-oriented price, in an average number of days listed on the Multiple Listing Service (MLS). This home qualified for a paired sales analysis and was studied in Group 1 (2017 sale), and in Group 3 (2020 sale), as detailed on subsequent pages. Because this home traded in an atypically motivated transaction in 2016, we have not included the 2016 sale in a Before and After analysis. However, this property also sold previously in July 2001 for $226,800 before the solar farm was constructed. The average monthly appreciation from 2001 to 2017 (+0.20 percent) is higher than the average monthly home price appreciation in the same zip code according to the FHFA Housing Price Index, which was +0.08 percent per month over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 54, located at 10505 367th Street, sold in August 2016 for $260,500, or $137.83 per square foot of finished living area. The home is a split-level style house on 5.0 acres. The improvements on this property are located approximately 352 feet from the nearest solar panel. The sale of the property was at the end of the construction period, which completed in October 2016, after majority of the project infrastructure was completed; thus, we have incorporated this sale in the analysis. This home qualified for a paired sales analysis and was

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studied in Group 1, as detailed on subsequent pages. We have also studied this property in a Before and After analysis later in this report as it also sold in 1999 for $123,294, prior to construction of the North Star solar farm. The average monthly appreciation from 1999 to 2016 (+0.36 percent) is higher than the average monthly home price appreciation in the same zip code, according to the FHFA Housing Price Index, which was +0.15 percent per month over the same period. This information is also presented in the Before and After Analysis later in the study of the North Star solar farm.

Adjoining Property 57, located at 10655 367th Street, sold in November 2018 for $304,900, or $101.63 per square foot of finished living area. The home is a split-level style house on 5.0 acres. The home has an opportunity for a purchaser to add two baths (roughed in at the time of sale), two bedrooms, a family room, and storage in the lower level. We spoke with Jenna Bruski, the listing agent, who indicated that the improvements are unique, and could be divided into two separate dwelling units. According to the agent, the price paid reflected a slight discount because it required a specific buyer to undertake the build-out project on the lower level. It was on the market for a few months, but it was not unreasonable for the asset given its characteristics. Additionally, the agent indicated that potential purchasers did not mention the adjacency to the solar panels; there was no impact on the sale price because of adjacency to the panels. The improvements on this property are located approximately 285 feet from the nearest solar panel. This home qualified for a paired sales analysis and was studied in Group 9, as detailed on subsequent pages.

Adjoining Property 64, located at 36640 Kost Trail, sold in December 2019 for $310,000, or $139.70 per square foot of finished living area. The property is an above-grade, two-story home and has a partially finished basement, on 9.29 acres of land. The property also includes a detached 2-car garage and a pole barn. Jeff Turbeville, broker at Edina Realty Inc., explained this two-story home style is atypical in the area. However, we have identified comparable Control Area Sales and Adjoining Property 64 was studied in Group 8, as detailed on subsequent pages.

Paired Sales Analysis

Group 1

We analyzed three split-level homes that sold between 2016 and 2017 that were located adjacent to the North Star solar farm.

North Star Solar Test Area Sales - Group 1									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	GLA (SF)	Sale Date	Price PSF
54	10505 367th St	$260,500	5.00	3	2	1999	1,890	Aug-16	$137.83
42	10200 367th St	$330,000	9.30	4	3	2003	2,172	Nov-17	$151.93
46	10132 367th St	$333,000	9.31	4	3	2001	2,108	Oct-17	$157.97
Median		$330,000	9.30	4	3	2001	2,108	Oct-17	$151.93

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Throughout our analysis we have relied on square footage data from the Chisago County Assessor's office for home sizes. We have included above-grade and finished below-grade square footage in our calculations as the market in this area considers finished square feet on every level to be livable. Split-level homes and those with basements or walkout basements are prevalent in this area. We note that the square footage for Adjoining Property 42 is shown on the MLS real estate listing from 2017 as being 2,350, we have utilized the Assessor's livable square footage of 2,172 in our analysis.

We analyzed 11 Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sales, which were not located in close proximity to the solar farm.

The Control Area Sales for Group 1 are split-level homes with either 3 or 4 bedrooms and 1.5 to 4 bathrooms. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions.

When adjusting sale prices for market conditions (time between date of Test Area Sale and Control Area Sale date) throughout this analysis we have used regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for the zip code 55056, the zip code of all Test Area and Control Area Sales, for the compounded monthly rate of appreciation. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[18] We adjusted Group 1 Control Area Sales using the FHFA HPI for the period from 2016 through 2017.

The results of our analysis for Group 1 are presented following.

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[18] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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CohnReznick Paired Sale Analysis North Star Solar Group 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (3)	Adjoining solar farm	$151.93
Control Area Sales (11)	No: Not adjoining solar farm	$139.50
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		8.91%

We note a somewhat large positive difference in adjusted median price per square foot between the median of the Test Area Sales and the Control Area Sales. The price differential is likely attributable to the larger parcel sizes of the Test Area Sales, which range from 5.00 acres to 9.31 acres. The Control Area Sales home sites range from to 2.29 to 7.10 acres, with a median of 5.0 acres. Control Area Sales with lot sizes that bracketed the Test Area Sales on the high side did not transact during the period studied but the properties are considered comparable. **The sale prices of Adjoining Properties in Group 1 were not negatively impacted by the homes' proximity to the North Star solar farm.**

We note that the median unit sale price of the most recent sales of each of the excluded adjoining properties identified previously is $141.44 per square foot. As indicated above, the included Test Area Sales have a median unit price of $151.93 per square foot. Inclusion of the excluded adjoining property sales would not have made a conclusive impact on the conclusions of the paired sale analysis.

Group 2

We analyzed Adjoining Property 18, a single-story, rambler style home that sold in 2017.

North Star Solar Test Area Sale - Group 2									
Adj. Property #	**Address**	**Median Sale Price**	**Median Site Size (AC)**	**Median Beds**	**Median Baths**	**Median Year Built**	**Median GLA (SF)**	**Median Sale Date**	**Median Price PSF**
18	37096 Little Oak Ln	$289,000	2.07	4	3.0	2001	2,412	Apr-17	$119.82

We analyzed 10 Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

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Adjoining Property 18 sits on a somewhat small lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,700 square feet to 3,400 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 1 and 10 acres.

The Control Area Sales for Group 2 are rambler style homes with 4 bedrooms and 2 to 4 bathrooms on less than 10-acre parcels. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index for the zip code, for the period from 2016 through 2018.

CohnReznick Paired Sale Analysis North Star Solar Group 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$119.82
Control Area Sales (10)	No: Not adjoining solar farm	$116.33
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**3.00%**

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 2.

Group 3

Adjoining Property 46 was analyzed as a 2017 sale in Group 1 and sold again most recently in December 2020.

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Photo of 10132 367th Street (Adjoining Property 46) with view of solar arrays from 2020 MLS listing

North Star Solar Test Area Sale - Group 3									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median GLA (SF)	Median Sale Date	Median Price PSF
46	10132 367th St	$415,000	9.31	4	3.0	2001	2,108	Dec-20	$196.87

We analyzed ten Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

The Control Area Sales for Group 3 are split-level style homes and similar with 4 bedrooms and 2 or 3 bathrooms on one to ten acre parcels. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2018 through mid-year 2021 (the most recent data available). The results of our analysis are presented next.

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CohnReznick Paired Sale Analysis North Star Solar Group 3		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$196.87
Control Area Sales (10)	No: Not adjoining solar farm	$151.73
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		29.75%

We note that the sale price of the 2020 sale of Adjoining Property 46 is one of the highest for this home type (split-level) in all the County Assessor data from 2016 to year to date 2021 for North Branch and Sunrise Townships. However, the selling broker, Candace Rindahl, remarked that the price was market for the area at the time of sale. We see this in a study of the rate of appreciation over the course of three years between the prior sale and most recent sale. Adjoining Property 46 appreciated at a higher rate than the local area, as seen in the following table.

Test Area Sale										55056 Zip Code FHFA Housing Price Index Change	
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Monthly Appreciation Rate	Total Appreciation	Monthly Appreciation Rate
AP 46	10132 367th St	9.31	2,108	12/20/20	$415,000	10/20/17	$333,000	24.62%	0.58%	17.43%	0.42%

We note a somewhat large positive difference in adjusted median price per square foot between the Test Area Sale and the Control Area Sales. The most comparable Control Area Sale, 6836 410th Street, sold for an adjusted sale price per square foot of $193.35, reflecting a difference of 1.8 percent to the unit sale price of the Test Area Sale. We find that on a macro and micro level of analysis, **the sale price of Adjoining Property 46 (Group 3) was not negatively impacted by its proximity to the North Star solar farm.**

The differential between the Test Area Sale and the Control Area Sales is much higher than any of our other studies; we have considered this to be an outlier. While the indication shows that the adjacent solar farm has not negatively impacted the property value for this home, we have considered that this house has "set the market" for this kind of property type (home style, age and acreage) – we believe that this differential will likely stabilize in the near future as other homes catch up to the appreciation shown by Adjoining Property 46. Thus, we have not included this Group in the collection of impact studies in our conclusion.

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Group 4

We analyzed Adjoining Property 3, a single-story, rambler style home that sold in 2019.

North Star Solar Test Area Sale - Group 4									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
3	10009 375TH ST	$260,000	5.05	3	2.5	1980 / 2005	1,508	Jul-19	$172.41

We analyzed seven Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 3 sits on a somewhat large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,200 to 2,000 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 7 acres.

The Control Area Sales for Group 4 are rambler style homes with 2 to 4 bedrooms and 2 to 3 bathrooms on less than 7-acre parcels but greater than 2 acre parcels. We excluded sales that were bank-owned, those between related parties, or others under duress as non-arm's length transactions. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2018 through 2020.

CohnReznick Paired Sale Analysis North Star Solar Group 4		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$172.41
Control Area Sales (7)	No: Not adjoining solar farm	$170.86
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**0.91%**

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 4.

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Group 5

We analyzed Adjoining Property 19, a split level-style home that sold in 2021. While this sale is not yet published in the Chisago County Assessor's data, the sale has been recorded in the public record and the MLS.

North Star Solar Test Area Sale - Group 5									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
19	37056 LITTLE OAK LN	$435,000	2.37	4	3.0	2001	2,121	Aug-21	$205.09

We analyzed eight Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,500 to 2,500 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 6 acres.

The Control Area Sales for Group 5 are split level homes with 3 to 5 bedrooms and 2 to 3 bathrooms on less than 6-acre parcels but greater than 2 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2019 through mid-year 2021 (the most recent data available).

CohnReznick Paired Sale Analysis North Star Solar Group 5		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$205.09
Control Area Sales (8)	No: Not adjoining solar farm	$170.88
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**20.02%**

Noting no significant negative price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 5. We note that the sale price of the 2021 sale of Adjoining Property 19 is one of the highest for this home type (split-level) in all the County Assessor data from 2016 to year to date 2021 for North Branch and Sunrise Townships. We see this in a study of the rate of appreciation between the prior sale and most recent sale. Adjoining Property 19 appreciated at a higher rate than the local area, as seen in the following table.

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Test Area Sale										55056 Zip Code FHFA Housing Price Index Change	
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Monthly Appreciation Rate	Total Appreciation*	Monthly Appreciation Rate
AP 19	37056 Little Oak Lane	2.37	2,121	8/20/21	$435,000	6/21/13	$208,000	109.13%	0.76%	75.96%	0.58%

**The 2021 HPI for the zip code is not available as of the report date. The estimate presented relies on the index for 2020, grown by the 2021 trend for the census region on a monthly basis through August 2021.*

Group 6

We analyzed Adjoining Property 22, a rambler style home that sold in 2019. We note this site has a large lower-level with a second full kitchen, which is much larger than surrounding homes in the same marketplace.

North Star Solar Test Area Sale - Group 6									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	Finished GLA (SF)	Sale Date	Price PSF
22	11210 367TH ST	$430,000	5.34	4	2.5	1975	3,756	Apr-21	$114.48

We analyzed four Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 22 sits on a large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 3,200 to 5,000 square feet of finished gross living area were included. The parameters of our search for Control Area Sales include lot sizes between 1 and 10 acres.

Comparable sales of large rambler-style homes on larger lots with finished basements were less prevalent in Sunrise and North Branch Townships. The Control Area Sales for Group 6 are rambler style homes with 4 to 6 bedrooms on less than 10-acre parcels but greater than 1 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2020 through mid-year 2021 (the most recent data available).

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CohnReznick Paired Sale Analysis North Star Solar Group 6		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$114.48
Control Area Sales (4)	No: Not adjoining solar farm	$120.49
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		-4.99%

One of the Control Area Sales located at 44869 John Avenue reflects an adjusted unit value of $114.96 per square feet of finished gross living area, or a differential of -0.42 percent, which is considered nominal. While the unique characteristics of the Test Area Sale (Adjoining Property 22) result in what we consider to be an outlier in the marketplace, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 6.

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Group 7

We analyzed Adjoining Property 43, which is a split-level style home that sold in 2017.

North Star Solar Test Area Sale - Group 7									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
43	10254 367TH ST	$335,000	9.29	3	2.5	2005/2009	2,136	Oct-17	$156.84
Median		$335,000	9.29	3	2.5	2005/2009	2,136	Oct-17	$156.84

We analyzed 11 Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 43 sits on a large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,500 square feet to 2,500 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 10 acres.

The Control Area Sales for Group 7 are generally split-level homes with 3 to 4 bedrooms and 2 to 3 bathrooms on less than 10-acre parcels, but greater than 2 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2016 through 2019.

CohnReznick Paired Sale Analysis North Star Solar Group 7		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$156.84
Control Area Sales (11)	No: Not adjoining solar farm	$135.63
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**15.64%**

Noting no significant negative price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 6. Homes in this area are typically on 2 to 5 acre lot sizes. One home sale at 40723 Lowden Ave, an 1,896 square foot split level home built in 1999 on 10.1 acres, sold for a unit price of $152.43 per square foot, unadjusted, in June 2018, or $146.92 per square foot after adjustments for market conditions. This reflects a variance of 6.8 percent, which does not indicate a diminution in price.

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Group 8

We analyzed Adjoining Property 64, a two-story home that sold in 2019.

North Star Solar Test Area Sale - Group 8									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
64	36640 KOST TRL	$310,000	8.13	4	3.0	1987 / 2003	2,219	Dec-19	$139.70

We analyzed five Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 64 sits on a somewhat large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 1,500 square feet to 2,500 square feet of finished gross living area, the parameters of our search for Control Area Sales were widened to include lot sizes between 2 and 10 acres.

The Control Area Sales for Group 8 are two story homes with 3 to 4 bedrooms and 1.5 to 3 bathrooms on less than 10-acre parcels but greater than 2 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2018 through 2020.

CohnReznick Paired Sale Analysis North Star Solar Group 8		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining solar farm	$139.70
Control Area Sales (5)	No: Not adjoining solar farm	$132.68
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**5.29%**

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 8.

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Group 9

We analyzed Adjoining Property 57, a split-level home with a partially finished lower level that sold in 2018. The home has an opportunity for a purchaser to add two baths (roughed in at the time of sale), two bedrooms, a family room, and storage in the lower level. While the lower level is not fully finished, a purchaser would likely evaluate the sale price against comparables based on the potential gross living area, inclusive of the cost to complete the build-out. We have relied on this unit of comparison in our analysis.

North Star Solar Test Area Sale - Group 9									
Adj. Property #	Address	Sale Price	Site Size (AC)	Bedrooms	Bathrooms	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
57	10655 367TH ST	$304,900	5.00	3	4.0	1998	3,000	Nov-18	$101.63

We analyzed eight Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Test Area Sale, which were not located in close proximity to the solar farm.

Adjoining Property 57 sits on a somewhat large lot for the home size in this area. So as to capture homes that bracket the Test Area Sale home size, those ranging from 2,648 square feet to 4,324 square feet of finished gross living area were included. The parameters of our search for Control Area Sales were widened to include lot sizes between approximately 1 and 7 acres.

The Control Area Sales for Group 9 are split level and rambler homes with lower levels, with 3 to 5 bedrooms and 2 to 4 bathrooms on less than 7-acre parcels but greater than approximately 1 acre parcels. We adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from 2017 through 2019.

CohnReznick Paired Sale Analysis North Star Solar Group 9		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	$101.63
Control Area Sales (8)	No: Not adjoining solar farm	$103.95
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		-2.22%

Noting no significant price differential, it does not appear that the North Star solar farm had any negative impact on adjacent property value in Group 9.

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Repeat Sales Analysis (Before and After Construction of the Solar Farm)

In a 2017 study conducted by Chisago County Assessor John Keefe, Keefe analyzed the sales of 15 homes alongside or near the North Star Solar Farm that sold between January 2016 and October 2017. Based on trends exhibited by 750+ sales throughout the county, Keefe concluded that the homes, located on 375th, 367th, Keystone, Little Oak, Lincoln Trail, and Kost Trail were all "in excess of assessed" and reported that "valuation hasn't suffered."[19]

Considering Keefe's 2017 study, we conducted a supplemental analysis in which we compared the sale prices of homes that are in our Test Area Groups that are adjacent to the North Star Solar Farm to the previous sale price of the home, commonly known as a "Repeat Sales Analysis" utilizing a sale and resale of the same property. These sales reflect the average site size, home type, and home size of properties in the surrounding area. In our comparison for each property analyzed, we calculated the total appreciation between each sale, the number of months that elapsed between each sale, and determined the monthly appreciation rate for the property. We then compared the extracted monthly appreciation rates to the change in the Federal Housing Finance Agency (FHFA) Home Price Index in Minnesota's 55056 zip code (where the studied homes are located) over the same period. The index for zip codes is measured on a yearly basis and is presented to the right. We note, there were two Test Area Sales which transacted in April and August 2021. The FHFA Home Price Index (HPI) by zip code does not have 2021 data available as of the report date since the calendar year has not completed. We have analyzed the FHFA Home Price Index, not seasonally adjusted, for the West North Central region of the USA, which includes Minnesota, and have estimated the percentage increase from December 2020 to each April and August 2021 by the corresponding monthly change for the West North Central census division.

55056 Zip Code - Housing Price Index Change (Year Over Year) Not Seasonally Adjusted

Year	Annual Index	Annual Change (%)	Compounded Monthly Change (%)
1991	100.00		
1992	101.15	1.15%	0.10%
1993	105.00	3.81%	0.31%
1994	110.54	5.28%	0.43%
1995	121.51	9.92%	0.79%
1996	127.27	4.74%	0.39%
1997	134.29	5.52%	0.45%
1998	141.08	5.06%	0.41%
1999	149.86	6.22%	0.50%
2000	169.13	12.86%	1.01%
2001	187.18	10.67%	0.85%
2002	200.83	7.29%	0.59%
2003	212.82	5.97%	0.48%
2004	226.83	6.58%	0.53%
2005	246.73	8.77%	0.70%
2006	251.83	2.07%	0.17%
2007	243.35	-3.37%	-0.29%
2008	223.07	-8.33%	-0.72%
2009	196.72	-11.81%	-1.04%
2010	179.99	-8.50%	-0.74%
2011	163.09	-9.39%	-0.82%
2012	155.38	-4.73%	-0.40%
2013	165.02	6.20%	0.50%
2014	175.59	6.41%	0.52%
2015	187.02	6.51%	0.53%
2016	203.03	8.56%	0.69%
2017	220.28	8.50%	0.68%
2018	235.98	7.13%	0.58%
2019	248.44	5.28%	0.43%
2020	258.67	4.12%	0.34%

We conducted the same analysis for 38 single-family Control Group properties that had repeat sales that are not within proximity to the North Star Solar Farm. The tables on the following page present this study. The applied same estimation for the HPI for the Control Area Sales that sold in 2021.

Some homes experienced depreciation between sale dates. During the calendar years of 2005, 2006 and 2007, housing prices in the United States were reaching their peak. In 2006

[19] https://www.cleanenergyresourceteams.org/chisago-county-boards-real-estate-update-shows-solar-has-no-impact-property-values

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the HPI for the zip code reached 251.83, a record at that time. Post-recession homes prices, after 2008 continued to fall until 2012, the effective bottom at 155.38, a drop of more than 38% in market value over 6 years from the peak. The market did not recover to the same or higher levels until 2019 and 2020. When the homes sold in 2017 and 2016, respectively, the housing market had not fully recovered in the area and the negative appreciation tracks with the overall market conditions.

Test Area Sales Group											55056 Zip Code - FHFA Housing Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Year of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate
AP 3	10009 375th Street	5.10	1,508	Jul-19	$260,000	Mar-05	$163,000	59.51%	172	0.27%	248.44	246.73	0.69%	0.00%
AP 18	37096 Little Oak Lane	2.10	2,412	Apr-17	$289,000	Jan-06	$308,000	-6.17%	134	-0.05%	220.28	251.83	-12.53%	-0.10%
AP 19	37056 Little Oak Lane	2.37	2,121	Aug-21	$435,000	Jun-13	$208,000	109.13%	98	0.76%	290.37	165.02	75.96%	0.58%
AP 22	11210 367th Street	5.20	3,756	Apr-21	$430,000	Dec-03	$107,000	301.87%	208	0.67%	274.78	212.82	29.11%	0.12%
AP 42	10200 367th Street	9.30	2,172	Nov-17	$330,000	Oct-04	$309,900	6.49%	157	0.04%	220.28	226.83	-2.89%	-0.02%
AP 43	10254 367th Street	9.30	2,136	Oct-17	$335,000	Nov-05	$373,000	-10.19%	143	-0.08%	220.28	246.73	-10.72%	-0.08%
AP 46	10132 367th Street	9.31	2,108	Oct-17	$333,000	Jul-01	$226,800	46.83%	196	0.20%	220.28	187.18	17.68%	0.08%
AP 54	10505 367th Avenue	5.00	1,890	Aug-16	$260,500	Apr-99	$123,294	111.28%	208	0.36%	203.03	149.86	35.48%	0.15%
Median - Test Area Sales		*5.15*	*2,129*							*0.23%*				*0.04%*

Control Area Sales Group											55056 Zip Code - FHFA Housing Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Year of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate
G1-1	10589 Wilcox Road	5.00	1,900	Jul-16	$262,500	Sep-07	$223,700	17.34%	105	0.15%	203.03	243.35	-16.57%	-0.17%
G1-2	5183 366th Street	2.29	1,530	Jul-16	$227,708	Apr-07	$207,000	10.00%	112	0.09%	203.03	243.35	-16.57%	-0.16%
G1-3	4359 Elk Court	2.50	1,970	Jan-17	$263,000	Nov-98	$175,365	49.97%	218	0.19%	220.28	141.08	56.14%	0.20%
G1-4	39088 More Ferry Road	5.00	1,838	Jan-17	$229,000	Sep-05	$185,000	23.78%	136	0.16%	220.28	246.73	-10.72%	-0.08%
G1-7/G5-4	4737 377th Street	2.50	2,002	Nov-20	$298,000	May-99	$138,400	115.32%	257	0.30%	258.67	149.86	72.61%	0.21%
G1-8	8628 380th Street	5.00	1,842	Jul-17	$275,000	Apr-10	$203,000	35.47%	86	0.35%	220.28	179.99	22.38%	0.23%
G1-9	6417 360th Street	5.00	2,346	Jul-17	$325,009	May-08	$270,000	20.37%	110	0.17%	220.28	223.07	-1.25%	-0.01%
G2-1	36338 Lincoln Trail	10.00	2,641	Jun-16	$304,000	Feb-06	$361,036	-15.80%	124	-0.14%	203.03	251.83	-19.38%	-0.17%
G2-10	4779 374th Street	1.25	2,252	Aug-18	$255,000	Sep-00	$155,860	63.61%	215	0.23%	235.98	169.13	39.53%	0.15%
G2-2	40956 Greystone Ave	2.03	2,571	Aug-16	$267,776	Aug-05	$285,900	-6.34%	132	-0.05%	203.03	246.73	-17.71%	-0.15%
G2-3	6551 372nd Street	4.98	2,552	Jun-17	$290,000	Oct-04	$319,990	-9.37%	152	-0.06%	220.28	226.83	-2.89%	-0.02%
G2-6	37420 Falcon Ave	9.93	1,792	May-18	$285,900	Mar-04	$225,000	27.07%	170	0.14%	235.98	226.83	4.03%	0.02%
G2-9/G9-8	38586 July Ave	6.02	3,082	Jun-18	$308,000	Sep-05	$275,000	12.00%	153	0.07%	235.98	246.73	-4.36%	-0.03%
G3-10/G4-5	4360 Elk Court	2.52	1,773	Apr-20	$299,900	Jul-99	$163,500	83.43%	248	0.24%	258.67	149.86	72.61%	0.22%
G3-5	9389 430th Street	9.95	2,235	Jan-21	$340,000	Feb-95	$110,200	208.53%	311	0.36%	260.02	121.51	113.99%	0.24%
G3-6	40625 Finley Road	1.09	1,840	Dec-19	$241,000	May-09	$174,500	38.11%	126	0.26%	248.44	196.72	26.29%	0.18%
G3-8	42155 Joywood Ave	5.00	2,180	Apr-20	$308,300	Jun-00	$195,000	58.10%	238	0.19%	258.67	169.13	52.94%	0.18%
G3-9/G7-1	6836 410th Street	9.79	1,817	Oct-19	$322,000	Sep-99	$110,000	192.73%	242	0.45%	248.44	149.86	65.78%	0.21%
G4-1	5584 411th Street	2.03	1,912	Feb-18	$286,000	Jan-03	$230,000	24.35%	181	0.12%	235.98	212.82	10.88%	0.06%
G4-2	9672 420th Street	5.04	1,466	Nov-18	$245,000	Apr-94	$114,580	113.82%	296	0.26%	235.98	110.54	113.48%	0.26%
G4-3	4403 366th Court	2.39	1,714	Nov-18	$287,000	Jun-06	$263,500	8.92%	149	0.06%	235.98	251.83	-6.29%	-0.04%
G4-4	42205 Joywood Ave	5.04	1,262	Jun-19	$234,000	Mar-99	$133,680	75.04%	244	0.23%	248.44	149.86	65.78%	0.21%
G5-1/G7-9	9726 420th Street	5.00	1,720	Dec-19	$253,000	Mar-95	$95,500	164.92%	296	0.33%	248.44	121.51	104.46%	0.24%
G5-3	4885 366th Street	2.00	1,617	Jul-20	$292,000	Feb-99	$80,200	264.09%	257	0.50%	258.67	149.86	72.61%	0.21%
G5-5	7630 393rd Court	3.09	2,325	Dec-20	$360,000	Sep-04	$247,000	45.75%	195	0.19%	258.67	226.83	14.04%	0.07%
G5-6	37867 Eaglewood Ave	2.50	1,856	Dec-20	$308,000	Nov-11	$164,000	87.80%	109	0.58%	258.67	163.09	58.61%	0.42%
G5-7	40620 Finley Road	2.34	1,604	May-21	$302,000	Jul-98	$116,982	158.16%	274	0.35%	283.31	141.08	100.81%	0.26%
G5-8	40830 Fenian Way	2.59	2,310	Jun-21	$356,000	Oct-96	$127,305	179.64%	296	0.35%	287.37	127.27	125.80%	0.28%
G6-2	44869 John Ave	9.70	3,292	Mar-20	$340,000	Nov-05	$340,000	0.00%	172	0.00%	258.67	246.73	4.84%	0.03%
G6-3	7259 407th Street	1.02	3,258	Jun-21	$430,000	Mar-98	$199,900	115.11%	279	0.28%	287.37	141.08	103.70%	0.26%
G7-1	7630 393rd Ct	3.09	2,325	Nov-18	$319,900	Sep-04	$247,000	29.51%	170	0.15%	235.98	226.83	4.03%	0.02%
G7-10	5460 367th Ct	7.10	1,612	Feb-17	$201,000	May-07	$226,000	-11.06%	117	-0.10%	220.28	243.35	-9.48%	-0.08%
G7-11	5183 366th St	2.28	1,579	Jul-16	$201,000	Apr-07	$207,000	-2.90%	112	-0.03%	203.03	243.35	-16.57%	-0.16%
G7-3	8628 380th St	5.00	1,978	Jul-17	$275,000	Nov-99	$140,000	96.43%	211	0.32%	220.28	149.86	46.99%	0.18%
G7-4	5967 Birch St	2.65	1,963	Oct-18	$272,000	Jan-96	$102,000	166.67%	273	0.36%	235.98	127.27	85.42%	0.23%
G7-5	39088 More Ferry Rd	5.00	1,906	Mar-19	$266,000	Sep-05	$185,000	43.78%	162	0.22%	248.44	246.73	0.69%	0.00%
G7-9	39779 Elk Ave	3.36	1,620	Jun-17	$255,000	Feb-13	$216,000	18.06%	52	0.32%	220.28	165.02	33.49%	0.56%
G8-2	4406 366th Street	2.50	2,464	Oct-18	$270,000	Jun-05	$260,000	3.85%	160	0.02%	235.98	246.73	-4.36%	-0.03%
G8-4	6670 372nd Street	4.00	2,111	Aug-19	$255,550	Feb-07	$238,000	7.37%	150	0.05%	248.44	243.35	2.09%	0.01%
G9-1	6021 371st Street	5.09	3,754	Jun-19	$385,000	Aug-98	$109,900	250.32%	250	0.50%	248.44	141.08	76.10%	0.23%
G9-5	39221 Edgewater Lane	0.92	2,648	Jan-18	$275,000	Nov-10	$185,000	48.65%	87	0.46%	235.98	179.99	31.11%	0.31%
G9-6	40655 Harvester Cir	1.75	2,936	May-19	$325,000	Aug-01	$204,950	58.58%	213	0.22%	248.44	187.18	32.73%	0.13%
G9-8	7579 397th Street	2.04	2,712	May-18	$281,000	Jan-96	$127,000	121.26%	269	0.30%	235.98	127.27	85.42%	0.23%
Median - Control Area Sales		*3.09*	*1,970*							*0.22%*				*0.18%*

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Most home sites outside of a subdivision in this area are within the 2.00- to 5.00-acre range, as shown in the Control Area Sales table above. The median gross living area for each group differs by approximately 160 square feet of living area; however, the analysis described in this section, does not require adjustments to the sales as we are evaluating the difference in appreciation rates between a sale and resale of the same property.

Conclusion

In our analysis of 102 resales of homes adjacent to the North Star Solar facility and in the surrounding area, when compared to the FHFA home price index for the local zip code, the median monthly appreciation rate of the Test Area Sales group and the Control Area Sales group both outperformed the average for the zip code, as depicted in the far-right column in the tables on the prior page. Additionally, there is no discernable difference between the median rates of appreciation for the Test Area Sales compared to the Control Area Sales. As such, we concur with Assessor Keefe's conclusion that there does not appear to be a consistent detrimental impact on properties adjacent to the North Star Solar Farm.

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SOLAR FARM 2: DOMINION INDY SOLAR III, MARION COUNTY, IN

Coordinates: Latitude 39°39'14.16"N, Longitude 86°15'35.06"W

PIN: 49-13-13-113-001.000-200

Population Density (2019) Marion County: 2,434 people per square mile (Largest City = Indianapolis)

Total Land Size: 129.04 acres

Date Project Announced: August 2012

Date Project Completed: December 2013

Output: 8.6 MW AC (11.9 MW DC)

Aerial imagery retrieved from Google Earth

Work in Progress 4.1.22

Overview and Surrounding Area:

The Dominion Indy III Solar Farm was developed by Dominion Renewable Energy and became operable in December 2013. This solar farm has ground-mounted solar panels and has the capacity for 8.6 Megawatts (MW) AC of power. The panels are mounted in a fixed tilt fashion with 12 inverters.

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The Dominion Indy III solar farm is located in Decatur Township, in the southwest portion of Marion County, Indiana. The solar farm is approximately 10 miles southeast of the Indianapolis International Airport and approximately eight and a half miles from the center of Indianapolis.

The Immediate Area:

The solar installation is on the southern side of West Southport Road. Adjoining parcels to the west, south, and east are agricultural in nature, actively farmed primarily with row crops and large areas of mature trees. There is one single family home on 4.78 acres of land at the northwest corner of the solar site, with frontage on West Southport Road, identified in our analysis as Adjoining Property 9.

To the north, across West Southport Road from the solar site, is the single-family residential subdivision known as Crossfield. Originally developed with over 81 acres of land by the Key Life Insurance Company, the one- and two-story homes in the subdivision were built between approximately 1998 and 2011.

All of the adjacent land parcels to the solar farm are used for agricultural or residential purposes.

The solar farm is surrounded by a chain link fence that contains all the solar panels. Additionally, there are some natural shrubs and deciduous trees on all sides of the property; this vegetation was in place before the solar farm was developed.

Prior Use: Agricultural use

Real Estate Tax Information: Prior to development of the solar farm, in 2013, the owner of this 129-acre site paid real estate taxes of $1,788 annually. After development of the solar farm development, in 2015, real estate taxes increased to approximately $16,405, an 818 percent increase in tax revenue for the site.

PIN	Acres	2013 Taxes Paid	2015 Taxes Paid	Tax Increase	2013 Assessed Value	2015 Assessed Value	Value Increase
Marion County, IN							
49-13-13-113-001.000-200	129.04	$ 1,788	$ 16,405	818%	$ 89,400	$ 109,900	23%
TOTAL	**129.04**	**$ 1,788**	**$ 16,405**	**818%**	**$ 89,400**	**$ 109,900**	**23%**

Paired Sale Analysis:

The maps on the following pages display the parcels within the solar farm is located (outlined in blue). Properties adjoining this site are numbered for subsequent analysis.

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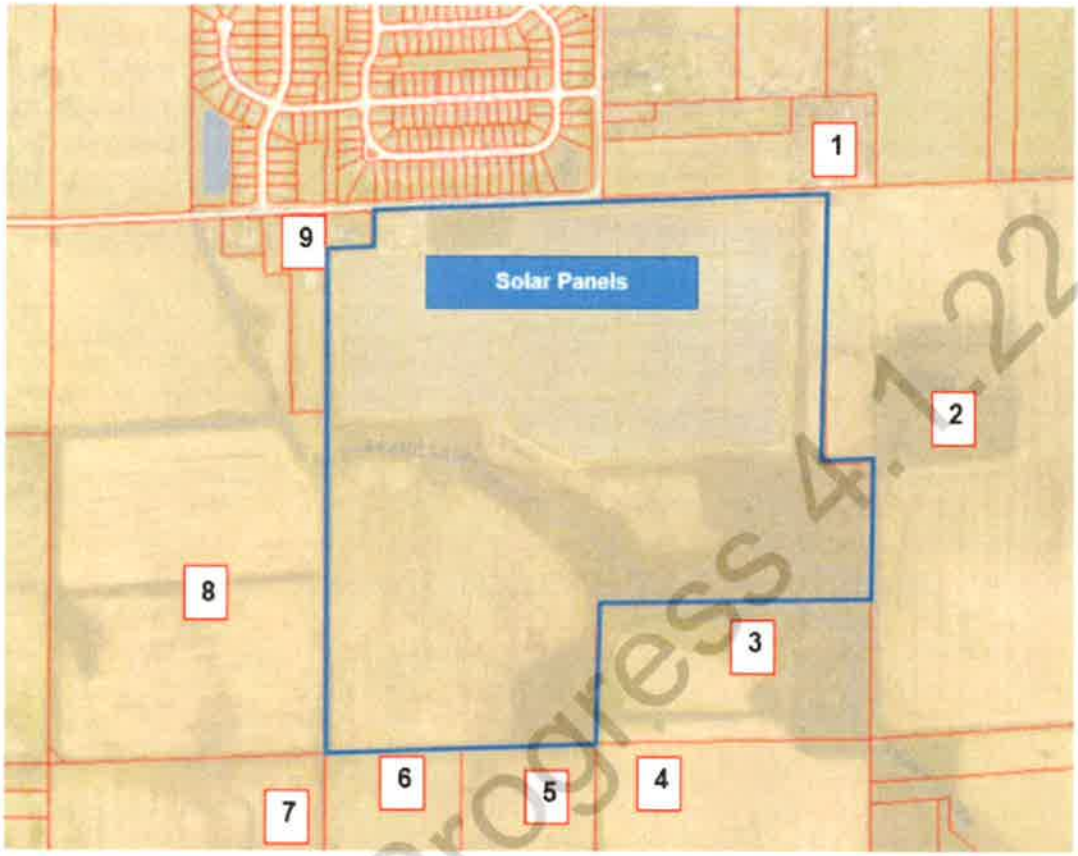

Dominion Indy III - Adjoining Properties

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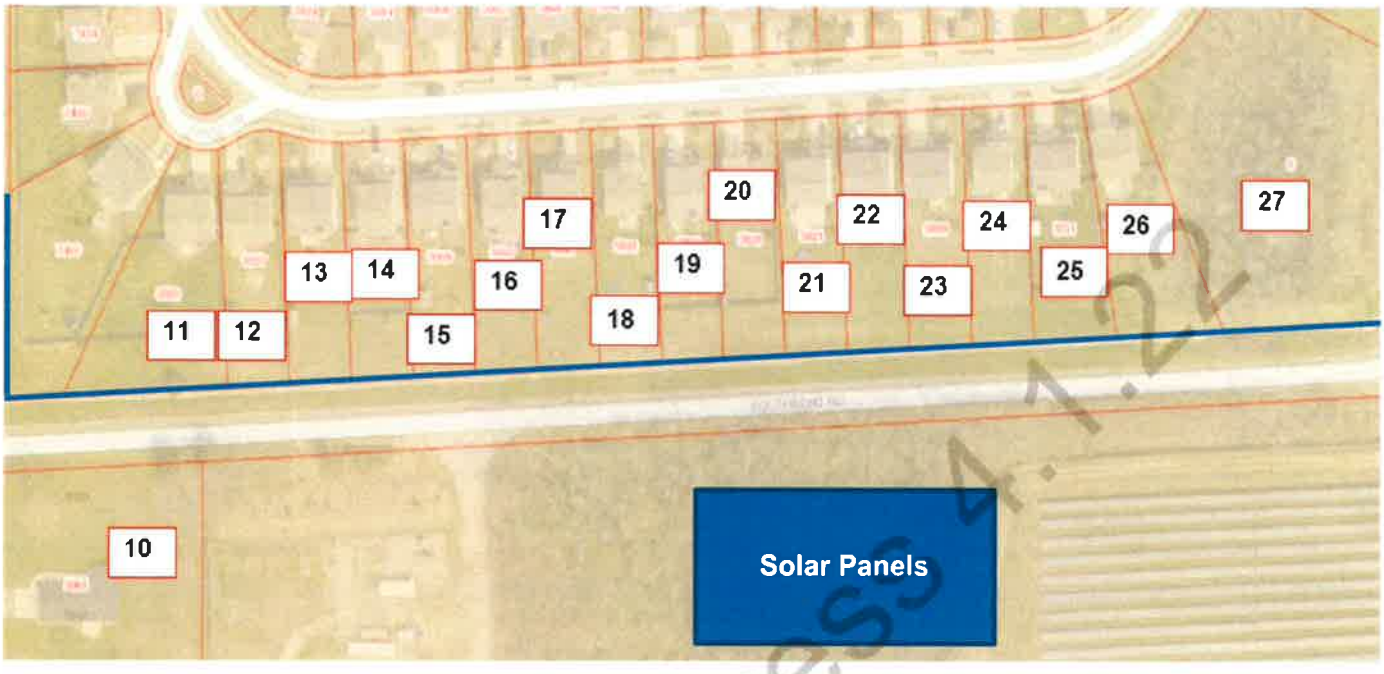

Dominion Indy III - Adjoining Properties

We have considered two types of paired sales analysis with regards to the Dominion Indy III Solar Farm. The first compares sales of Adjoining Properties to the solar farm after the completion of the solar farm site (Test Area Sales) to similar properties not proximate to the solar farm (Control Area Sales). We utilized this type of paired sale analysis for all three Groups of Adjoining Properties under study.

The second type of paired sale analysis is known as a Before and After analysis which compares sales of Adjoining Properties that occurred prior to the announcement of the solar farm with the sales of the same Adjoining Properties after the completion of the solar farm development. We were able to use home sale data from the Crossfield subdivision that is located to the north of the solar site, across West Southport Road.

Group 1 – Agricultural Land

Adjoining Property 2 is a vacant 86.96-acre agricultural parcel located to the east of the solar site. Adjoining Property 2 sold in October 2017 and was considered for a paired sale analysis, known as a Test Area Sale, in Group 1.

The property line of this unimproved parcel is approximately 166 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 2.

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Test Area Sale Group 1 - Agricultural Land								
Adjoining Property #	Address	Sale Price	Site Size (AC)	NCCPI Index	Wetlands	Floodplain	Sale Price/AC	Sale Date
Adjoining Property 2	5755 W Southport Rd, Indianapolis, IN	$738,584	89.96	63.4	1%	Zone X	$8,210	Oct-17

Crop yields have been the basis for establishing a soil productivity index, and are used by county assessors, farmers, and market participants in assessing agricultural land. While crop yields are an integral part in assessing soil qualities, it is not an appropriate metric to rely on because "yields fluctuate from year to year, and absolute yields mean little when comparing different crops. Productivity indices provide a single scale on which soils may be rated according to their suitability for several major crops under specified levels of management such as an average level." The productivity index, therefore, not crop yields, is best suited for applications in land appraisal and land-use planning.

The United States Department of Agriculture's (USDA) National Resources Conservation Services (NRCS) developed and utilizes the National Commodity Crop Productivity Index (NCCPI) as a national soil interpreter and is used in the National Soil Information System (NASIS), but it is not intended to replace other crop production models developed by individual states.[20] The focus of the model is on identifying the best soils for the growth of commodity crops, as the best soils for the growth of these crops are generally the best soils for the growth of other crops.[21] The NCCPI model describes relative productivity ranking over a period of years and not for a single year where external influences such as extreme weather or change in management practices may have affected production. At the moment, the index only describes non-irrigated crops, and will later be expanded to include irrigated crops, rangeland, and forestland productivity.[22]

Yields are influenced by a variety of different factors including environmental traits and management inputs. Tracked climate and soil qualities have been proven by researchers to directly explain fluctuations in crop yields, especially those qualities that relate to moisture-holding capacity. Some states such as Illinois have developed a soil productivity model that considers these factors to describe "optimal" productivity of farmed land. Except for these factors, "inherent soil quality or inherent soil productivity varies little over time or from place to place for a specific soil (map unit component) identified by the National Cooperative Soil Survey (NCSS)."[23] The NRCS Web Soil Survey website has additional information on how the ratings are determined. The **State of Indiana** does not have its own crop production model and utilizes the NCCPI.

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[20] Agricultural land rental payments are typically tied to crop production of the leased agricultural land and is one of the primary reasons the NCCPI was developed, especially since the model needed to be consistent across political boundaries.
[21] Per the User Guide for the National Commodity Crop Productivity Index, the NCCPI uses natural relationships of soil, landscape and climate factors to model the response of commodity crops in soil map units. The present use of the land is not considered in the ratings.
[22] AgriData Inc. Docs: http://support.agridatainc.com/NationalCommodityCropProductivityIndex(NCCPI).ashx
[23] USDA NRCS's User Guide National Commodity Crop Productivity Index (NCCPI)

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In analyzing agricultural land sales for Control Area Sales with similar characteristics to Adjoining Property 12, we have excluded any parcels with NCCPI soil indices less than 50.0 and greater than 85.0.

We identified and analyzed four Control Area Sales that were comparable in location, size, and use that were not located in close proximity to the solar farm. The Control Area Sales for Adjoining Property 2 are land tracts that were larger than 20 acres and utilized specifically as farmland. We excluded sales that were bank-owned, those between related parties, split transactions, and land with significant improvements.

The Control Area Sales were adjusted for market conditions using a regression and trend analysis to identify the appropriate monthly market condition adjustment. Using the agricultural land sale data published in the *Land Sales Bulletin,*[24] from January 2016 through December 2017, which includes reliable and credible data for analysis, we extracted a monthly rate of change of 0.50 percent.

The results of our analysis for Adjoining Property 2, in Group 1 is presented below.

CohnReznick Paired Sale Analysis Dominion Indy III Solar Group 1 - Agricultural Land		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per Acre**
Test Area Sale (Adjoining Property 2)	Yes: Solar Farm was completed by the sale date	$8,210
Control Area Sales (4)	No: Not adjoining solar farm	$8,091
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**1.47%**

It is noted that we have kept this analysis within our study despite it being the sole land-only analysis. While we have not tabulated the difference in our reconciled average of variance (from study to study), this is important because it shows that agricultural land adjacent to solar but also lying in the future path of development does not show any degradation of value.

Noting the relatively low price differential, in which the Test Area Sale was higher than the median for the Control Areas Sales, it does not appear that the Dominion Indy III solar farm had any negative impact on the adjoining agricultural property values.

We idenitified a total of nine Adjoining Properties that sold after the develoment of the solar farm as single-family home uses. Adjoining Properties 11, 13, 14, 15, 18, 20, 22, 24 and 26 were analyzed in two paired sales analyses

[24] https://www.landsalesbulletin.com/

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(Group 2 and Group 3). These nine properties were analyzed as single-family homes and they are located in the Crossfield subdivision, across West Southport Road from the solar site, as seen in the prior aerials.

It should be noted that Adjoining Properties 11 and 24 have sold more than once since the solar farm was constructed, and each sale is included in the analysis. Adjoining Property 11 sold first in December 2015 and later in July 2018, approximately two and a half years later. Adjoining Property 24 sold first in February 2014 and later in April 2019, approximately five years later. Our research indicated that these were arm's-length sales between typically motivated buyers and sellers.

The nine Adjoining Properties that were included in our paired sales analysis were divided into two groups, based on the sale dates of the Test Area Sales.

Group 2

For Group 2 (sales occurring between 2014 – 2016), we analyzed four Control Area Sales with similar location, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Group 2 Test Area Sales described below.

Dominion Indy III Solar Test Area Sales Group 2									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
11, 20, 22, 24	5933 Sable Dr, 5829 Sable Dr, 5813 Sable Dr, 5737 Sable Dr	$129,375	0.23	4	2.0	2008	2,163	Jul-15	$59.10

The Test Area Sales in Group 2 are located between 230 feet and 404 feet from the house to the solar panels. The Control Area Sales for Group 2 are located beyond this area in other areas of the Crossfield subdivision and in other nearby subdivisions. The Control Area Sales did not have a view of the solar farm.

Group 3

For Group 3 (sales between 2017 - 2019), we analyzed a set of seven Control Area Sales with similar locations, square footages, lot sizes, and ages that sold within a reasonable time frame from the median sale date of the Group 3 Test Area Sales described on the next page.

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Test Area Sales Group 3									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
11, 13, 14, 15, 18, 24, 26	5933 Sable Dr, 5921 Sable Dr, 5921 Sable Dr, 5915 Sable Dr, 5909 Sable Dr, 5841 Sable Dr, 5737 Sable Dr, 5731 Sable Dr	$169,900	0.23	3	2.5	2006	2,412	Jul-18	$72.15

The Test Area Sales in Group 3 are located between 227 feet and 419 feet from the house to the solar panels. The Control Area Sales are located beyond this area, in other areas of the Crossfield Subdivision, and in other nearby subdivisions. The Control Area Sales did not have a view of the solar farm.

Control Area Sales in Groups 2 and 3 were adjusted for market conditions using a regression analysis to identify the appropriate monthly market condition adjustment. The results of our study are presented below.

CohnReznick Paired Sale Analysis Dominion Indy III Solar Group 2		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (4)	Adjoining solar farm	$59.10
Control Area Sales (8)	No: Not adjoining solar farm	$57.84
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**2.18%**

CohnReznick Paired Sale Analysis Dominion Indy III Solar Group 3		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (7)	Adjoining solar farm	$72.15
Control Area Sales (11)	No: Not adjoining solar farm	$71.69
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**0.65%**

Working Model 3.4.1.92

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The Test Area Sales for Group 2 sold with a median of 33 days on market, while the Control Area Sales for Group 2 sold with a median of 31 days on market. The Test Area Sales for Group 3 sold with a median of 17 days on market, while the Control Area Sales for Group 3 sold with a median of 25 days on market. There is no ***significant negative marketing time differential.***

Noting the relatively low price differentials, it does not appear that the Dominion Indy III solar farm has had any negative impact on adjoining residential property values.

Before Announcement and After Construction of the Solar Farm Analysis:

Due to the number of sales over time in the Crossfield subdivision, we were able to conduct an analysis on the unit prices of single-family homes before the solar farm announcement date in comparison to the prices of single-family homes after the construction of the Dominion Indy III solar farm. We have provided our conclusions from the data below and the following page contains a chart with the data.

- 25 Test Area Sales were sold from 2006 to 2019 and 46 Control Area Sales sold from 2008 to 2019.
    - The Test Area Sales are homes located adjoining the Dominion Indy III Solar Farm in the Crossfield subdivision.
    - The Control Area Sales are homes located in the remainder of the Crossfield subdivision, not adjoining the solar farm.

- In both the Test Area Sales (ORANGE) and Control Area Sales (BLUE) plotted on the chart on the following page, new construction homes sold through 2011, prior to announcement of the solar farm.
- The dotted lines are polynomial trend lines plotted by Microsoft Excel in order to illustrate and approximate the "average" trend of each set of data.
- The economic climate improved in the period from 2013 to 2019 as shown by the red line representing the Federal Housing Finance Agency's House Price Index for the East North Central region that includes Indiana. After construction of the solar farm, in parallel with the improving economic climate, it appears that unit prices for both the Test Area Sales and the Control Area Sales appreciated at a similar rate over the period from 2013 to 2019.

A difference in appreciation rates does not appear to exist between Test Area Sale homes versus the Control Area Sale homes.

Sale prices of single-family homes after the construction of the solar farm exhibit a similar appreciation trend as sales prior to the solar farm announcement. Overall, our findings indicate that there *is not a consistent and measurable difference* in prices that exists in association with homes proximate to the Dominion Indy III solar farm.

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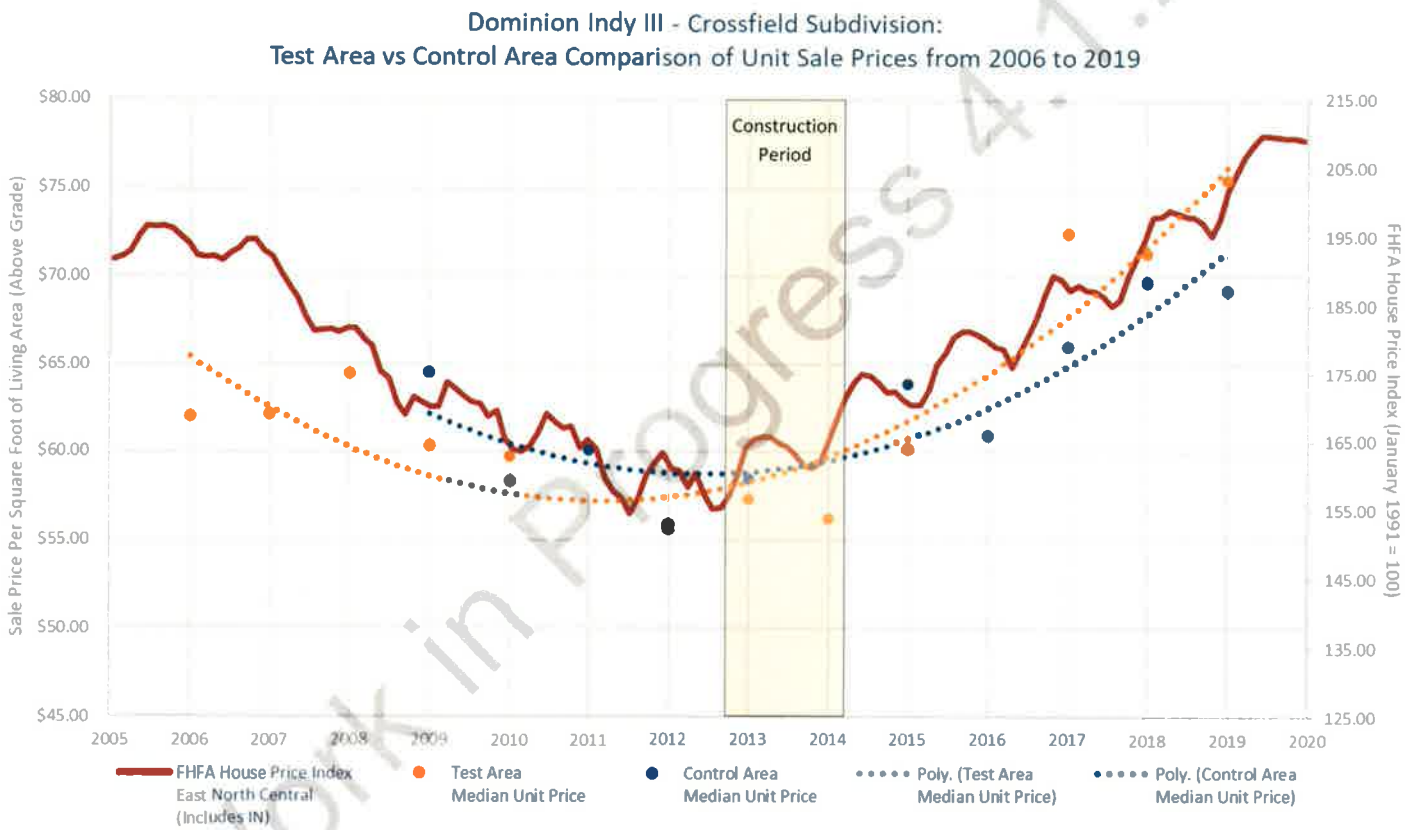
Before Announcement and After Construction of the Solar Farm Analysis:



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SOLAR FARM 3: DOUGHERTY SOLAR, DOUGHERTY COUNTY, GEORGIA

Coordinates: Latitude 31.305614, Longitude 84.022637

PIN: 00144/00001/03D, 00120/00001/007,00146/00001/01B

Population Density (2019) Dougherty County: 288 people per square mile (Largest City = Albany)

Total Land Size: ±1,280.93 Acres

Date Project Announced: August 2018

Date Project Completed: November 2019

Output: 120 MW AC

Aerial imagery retrieved from Google Earth

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The 120 MW AC capacity, Dougherty Solar project was developed by NextEra in 2019. This solar site is expected to generate $10 million in tax revenue over its lifetime. The project sits on a ±1,037.42-acre site which was a former agricultural land site. Georgia Power signed a 30-year Power Purchase Agreement with NextEra Energy to buy the solar generated power and NextEra Energy owns and maintains the installation. The solar facility consists of 5,232 rows of support beams for 440,535 solar panels.

The Surrounding Area: The Dougherty County Solar project is located in unincorporated Dougherty County, with a city of Albany mailing address, Georgia. Georgia Route 3 (Liberty Expressway) is approximately 4.5 mile west of the solar site, and connects the surrounding area to downtown Albany, which is approximately 8 miles northwest of the solar site. We note the nearest interstate, Interstate 75, is approximately 31 miles east of the solar site. The surrounding area is rural in nature with agricultural and low density residential uses surrounding the property.

The Immediate Area: Within a one-mile radius of the solar farm, surrounding uses mainly consist of agricultural land, with some single-family homes to the south and the northwest. Adjacent land parcels to the solar farm are mainly residential, with some agricultural uses. Additional surrounding land uses are an industrial use to the southeast of the southern-most panels. The majority of the residential housing is located to the south of the solar site, along Spring Flats Road, with some homes located along Gaissert Road to the northeast.

The solar site is built on a large, mostly flat agricultural site. The site is bounded by Spring Flats Road and Moultrie Road to the south with single family homes along these roads, agricultural land to the west, vacant land to the east, and agricultural land and more single family homes to the north. The adjoining homes sites are all buffered from the solar site by mature trees, bushes, and other shrubbery.

Prior Use: Agricultural use

Real Estate Tax Information: The assessed value in Dougherty County has not changed for the solar parcel since decreased slightly from 2018, prior to the development of the solar farm, to 2020, after the development of the solar farm. We note $61,000 of this decrease is due to the demolition of existing improvements (Parcel 00120/00001/007). Removing the improvements from the 2018 assessed value only accounts for a decrease of 0.32% from this parcel, although given the solar farm's recent construction it is possible the site would be reassessed during the next cycle. Historical real estate taxes are not available form Dougherty County public records.

PIN	Acres	2018 Taxes Paid	2020 Taxes Paid	Tax Increase	2018 Assessed Value	2020 Assessed Value	Value Increase
Dougherty County, GA							
00144/00001/03D	143.75	$ 9,435	$ 9,388	0%	$ 546,300	$ 546,300	0%
00120/00001/007	792.98	$ 38,909	$ 37,550	-3%	$ 2,253,000	$ 2,185,100	-3%
00146/00001/01B	100.69	$ 6,884	$ 6,850	0%	$ 398,600	$ 398,600	0%
00118/00001/07C (Post 2021 split)	125.47	Not Released	Not Released		Not Released	Not Released	
TOTAL	**1,280.93**	**$ 55,228**	**$ 53,787**	**-3%**	**$ 3,197,900**	**$ 3,130,000**	**-2%**

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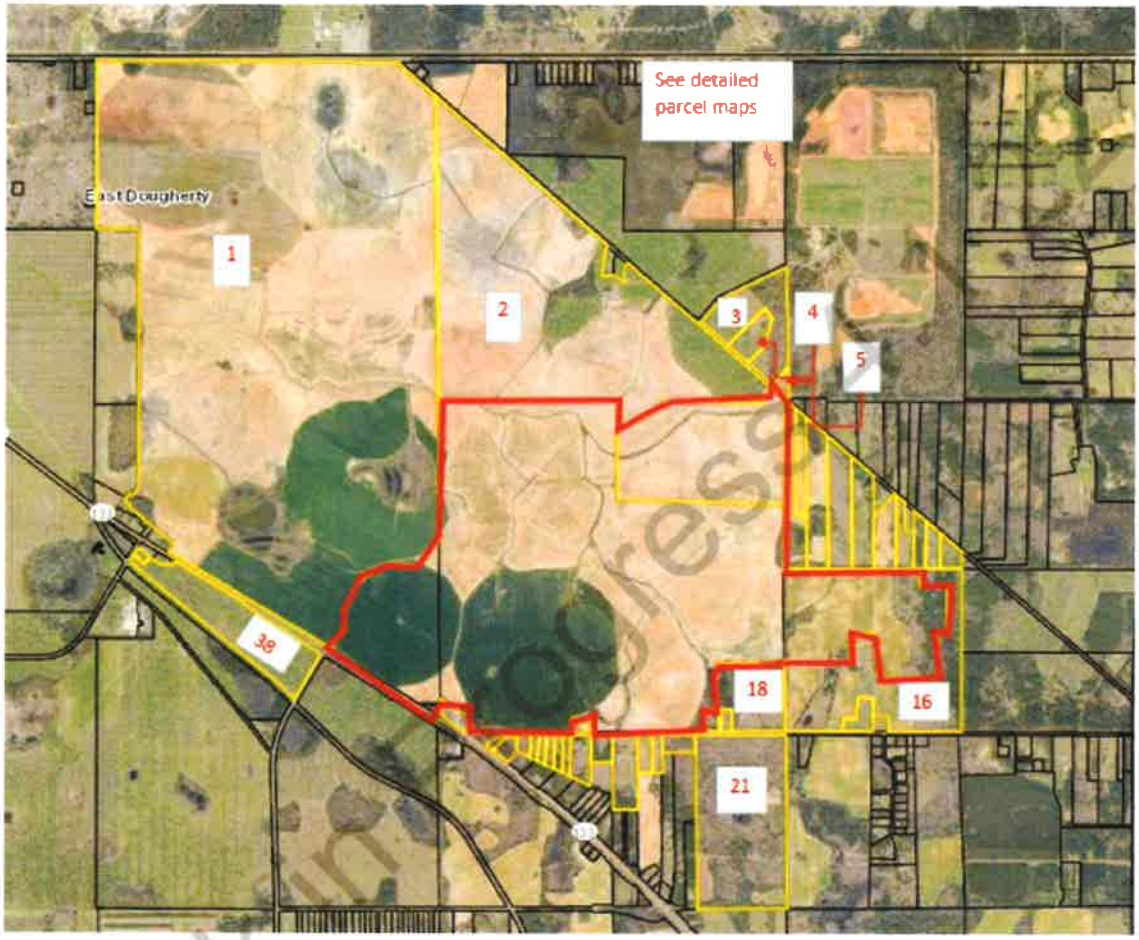
The maps below and following display the solar project (parcels outlined in red). Properties adjoining the solar site are outlined in yellow and numbered for subsequent analysis. We note the Dougherty County GIS has not updated its aerial imagery to include the solar panels on the solar site.



Dougherty Solar - Adjoining Properties

Working Progress

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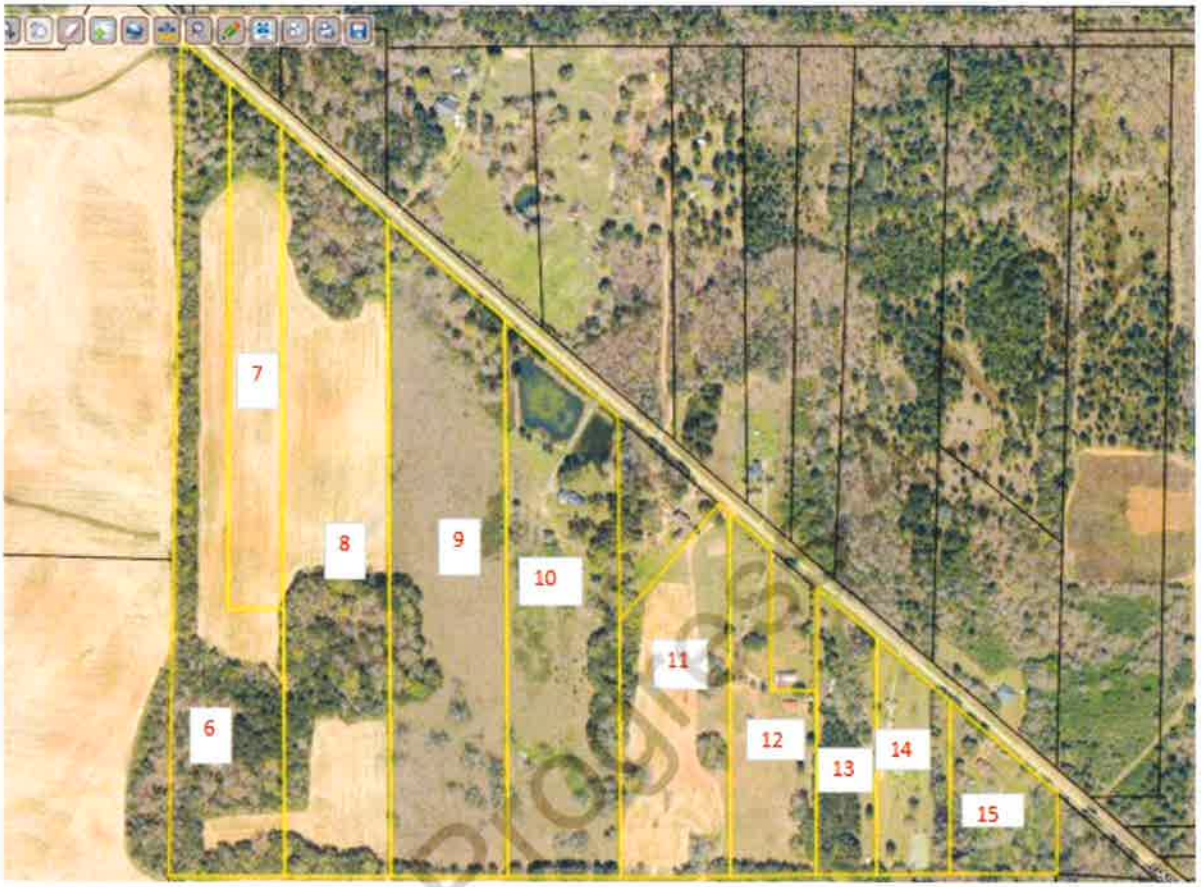

Dougherty Solar - Adjoining Properties

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Dougherty Solar - Adjoining Properties

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Dougherty Solar - Adjoining Properties

Adjoining Properties 1-18, 20, 21, 24-31, 33-38 all sold between August 1973 and September 2019, prior to the date of completion of the subject solar site. These properties have been excluded from further analysis.

We do note Adjoining Property 27 was sold in July 2019, during the construction period of the solar farm. Since it was sold during the construction period, we have excluded it from being considered as a Test Area Sale since we cannot extract the external influence of construction on the sale price. We spoke to the selling broker for this transaction, Christy Wingate, with Parker Real Estate Group. She noted the future presence of the solar farm did not impact the sales price at all. Additionally, she noted in her experience, the presence of a solar farm is neither an attraction nor a deterrant for nearby home buyers. She noted a similar case with a new solar farm in Leesburg, Georgia, which is much smaller than the solar farm under analylsis, within a predominately residential area.

Adjoining Property 32 sold in December 2019 and we analyzed it for potential inclusion as a Test Area Sale; however, since the sale was a gift sale with no allocated sales price, we have not analyzed it further since the transaction was not a market transaction.

Adjoining Property 19 was sold in February 2020, however this sale was also a gift sale between family members with no allocated sales price. Therefore we did not analyze it.

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Adjoining Property 22 sold in August 2020 for $19,500, although according to public records does not note this sale was a "Fair Market Sale." Additionally, the county GIS marked this sale as unqualified for a market transactions. Therefore, we did not analyze this sale further.

Paired Sales Analysis:

We have considered only one type of paired sales analysis, which compares sales of properties proximate to the solar farm (Control Area) to the sales of adjoining properties after the completion of the solar farm project (Test Area).

We found one adjoining property that qualified for a paired sales analysis. Adjoining Property 23 (Test Area Sale), circled in blue on the previous page, was considered for a paired sales analysis, and sold in June 2020, after the completion of the solar farm. This property was analyzed as single-family home use.

Adjoining Property 23 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a single-family home use, which is a 2,750 square foot home located on a 3.44- acre parcel that sold in June 2020. The property line of this parcel is approximately 202 feet from the closest solar panel, and the improvements are approximately 312 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 23.

Adjoining Property 23												
Status	Address	City	County	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Square Feet	Improvements	Sale Price/SF	Sale Date
Sold	2916 SPRING FLATS RD	Albany	Dougherty	$205,000	3.44	4	2.5	1980	2,750	1-Story SFR	$74.55	Jun-20

We note that Adjoining Property 23 has an in-ground pool. We have found Control Area Sale data through Zillow and verified these sales through county records, conversations with brokers, and the County Assessor's Office. We excluded sales that were not arm's length, such as REO sales or those transactions between related parties. We have included only sales with a similar number of bedrooms, bathrooms, and living area, as well as land area. Additionally, we only selected Control Area Sales of single-family homes also had an in-ground pool.

It is important to note that these Control Area Sales are not adjoining a solar farm, nor do they have a view of one from the property at the time of their sales. Therefore, the announcement nor the completion of the solar farm use could not have impacted the sales price of these properties. It is informative to note that the average and median marketing time (from list date to off market date) for Control Area Sales was 83 days and 119 days, respectively. The Test Area sale had a marketing time of 99 days. This is an indication that the marketability of the Test Area sale was not negatively influenced by proximity to the Dougherty Solar project. The Control Area Sales are comparable in most physical characteristics and bracket Adjoining Property 23 reasonably.

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Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The results of the paired sales analysis for the Dougherty Solar project are presented below.

CohnReznick Paired Sales Anaysis Dougherty County Solar Facility Adjoining Property 23		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Yes: Adjoining solar farm	$74.55
Control Area Sales (5)	No: Not adjoining solar farm	$76.23
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		-2.21%

The difference between the unit price of the Test Area Sale and the Adjusted Median Unit Price of the Control Area Sales is considered within the range for a typical market area. One of the Control Area Sales was 20 years newer than the Test Area Sale. A secondary analysis excluding this sale indicated an adjusted median unit sale price of $74.47 per square foot, which is in line with the Test Area Sale unit price of $74.55 per square foot.

Noting no significant price differential, it does not appear that the Dougherty Solar project impacted the sales price of the Test Sale, Adjoining Property 23.

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SOLAR FARM 4: MIAMI-DADE SOLAR ENERGY CENTER, MIAMI DADE COUNTY, FL

Coordinates: Latitude 25°38'34.5"N, 80°29'16.5"W

PIN: 30-5813-000-0020

Population Density (2019): 1,000 people per square mile (Largest City = Miami)

Recorded Owner: Florida Power & Light Company

Total Land Size: 465 acres

Date Project Announced: October 2017

Date Project Completed: January 2019

Output: 74.5 MW AC

2020 Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Miami Dade Solar Energy Center is situated in unincorporated Miami-Dade County, just west of Florida State Road 997. The site comprises approximately 300,000 solar panels on a fixed-tilt system, generating enough energy to power around 15,000 homes.

It is surrounded to the north, west, and south by rural residences and agricultural uses. The Kendall Tamiami Executive Airport is located due east, along the flight path for one of the airport's runways. A canal runs along the west side of the property, and beyond that is 306 acres of federal government land and four agricultural use lots. The predominant lot size in the surrounding area is approximately five acres and uses vary from palm tree farms, equestrian centers, citrus groves, to rural residences. These lots are zoned GU – Interim District, which categorizes land not otherwise specified in the unincorporated areas of Miami Dade County. This designation allows for uses consistent with the surrounding character, or a density of one residence for every 5 acres.[25] As such, development is limited to rural residences or agricultural uses

Prior Use: Agricultural use

Real Estate Tax Info: The chart below shows the increase from 2018 (before construction) to 2019 (after construction) in the assessed value of the parcels and the total real estate taxes.

PIN	Acres	2018 Taxes Paid	2019 Taxes Paid	Tax Increase	2018 Assessed Value	2019 Assessed Value	Value Increase
Miami-Dade County 30-5813-000-0020	465.61	$ 40,777	$ 179,761	341%	$ 2,460,316	$ 10,575,924	330%
TOTAL	**465.61**	**$ 40,777**	**$ 179,761**	**341%**	**$ 2,460,316**	**$ 10,575,924**	**330%**

[25] http://www.miamidade.gov/zoning/districts.asp

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Paired Sale Analysis – Residential Land:

The following map numbers the adjoining parcels for subsequent analysis. The 39 adjoining parcels are a mix of single-family residences, agricultural land, and government land. We have identified five parcels that have transferred since the solar farm was completed, adjoining parcels 3, 13, 31, 33, and 35. Adjoining properties 3 and 33 transferred as deed corrections between related parties and are not considered market sales. Adjoining Property 35 was bought by the owner of the adjoining parcel for assemblage purposes and was also removed from the study. The remaining three parcels, adjoining properties 13, 31, and 33 were considered for a paired sales analysis. These three parcels have an interim agricultural use with residential development allowed under the GU zoning.

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We identified six Control Area sales with similar location, square footages, lot sizes, and ages that sold from a reasonable sale time from the median sales date of the test sales. Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our study is presented below.

CohnReznick Paired Sales Analysis Miami-Dade Solar Energy Center		
No. Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per Acre**
Test Area Sales (3)	Yes: Adjoining solar farm	$82,491
Control Area Sales (6)	No: Not adjoining solar farm	$81,866
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**0.76%**

Noting no negative price differential, it does not appear that the Miami Dade Solar Energy Center impacted the sales price of adjoining properties 13, 31, and 33.

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SOLAR FARM 5: BAREFOOT BAY SOLAR ENERGY CENTER, BREVARD COUNTY, FL

Coordinates: Latitude 27°52'15.5"N, Longitude 80°31'38.3"W

PINs: Several

Population Density (2020): 597 people per square mile (Largest City = Palm Bay)

Recorded Owner: Florida Power & Light Company

Total Land Size: 505 acres

Date Project Announced: January 2017

Date Project Completed: May 2018

Output: 74.5 MW AC

2020 Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Barefoot Bay Solar Energy Center is located north of Sebastian, in the unincorporated community of Micco, in coastal Brevard County, Florida. The solar installation sits on a 462-acre site, on land that was formerly an orange grove. Florida Power & Light held an open house for the area residents in January of 2017. The construction started in June of 2017 and was completed in May of 2018. The solar energy center has a capacity of approximately 74.5 MW AC. The site comprises approximately 300,000 solar panels on a fixed-tilt system, generating enough energy to power around 15,000 homes.

The solar site is approximately 450 feet south of Micco Road, an east-west arterial, approximately 1.5 miles west of U.S. 1, which runs along the shores of the Indian River. The solar installation is surrounded by trees and vegetation and is adjoined by residential development to the north and east. Along Micco Road, to the northwest of the solar farm are several mixed-use lots, with agricultural, rural residential, and industrial uses.

The solar site is surrounded to the north and northeast primarily by the Barefoot Bay manufactured home community. Barefoot Bay is the largest manufactured home community in Florida where homes are permanently built, bought, and sold as real property. The community has three pools, a bar and restaurant, a golf course and other recreational and entertainment activities.

The population is estimated to be over 12,000 persons and approximately 80 percent of residents are over 55 years old, however, there is no age restriction in the community. The entire community sits on approximately 1,000 acres originally purchased and developed starting in 1968, with almost total absorption of lots by 1996. A total of 5,000 lots were platted and lot sizes currently range from 50 feet wide by 80 feet deep (4,000 square feet) to 75 feet wide by 100 feet deep (7,500 square feet). Homes are close together and with the standard setbacks homes can be 15 feet apart from one another.

A longtime local real estate agent and community resident at Barefoot Bay Realty said that the homes that border the solar site to the northeast, along Papaya Circle, are considered perimeter lots and are more desirable due to the lack of backyard neighbors. There is a swale (a broad and shallow ditch with water) that separates the lots from the solar site and the agent noted that many people in the community are unaware that the solar site is even there. The prices and marketing times of homes adjoining the solar farm on Papaya Circle in Barefoot Bay are not impacted by their proximity to the installation, and in fact may benefit from the increased privacy provided by the solar site.

The Barefoot Bay agent reported that small homes on small lots may sell for $70,000 and larger homes on larger and better located lots can sell for over $200,000. In the experience of Barefoot Bay Realty agents, there are typically 80 to 100 homes on the market at any one time and the average marketing time is considered to be 60 days.

To the east of the solar farm are rural residential lots with extended driveways. Several of these parcels are flag lots with secluded residences set back. At the southeast corner of the solar site, are approximately 441 acres of land zoned agricultural-residential by Brevard County owned by a cattle ranch operation.

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To the south of the solar site lies the Wheeler Stormwater Park which is a 300-acre stormwater management area. The site includes 163 acres of park land with dynamic walking and nature trails, which was opened to the public in 2017.

On the western boundary of the solar site is the Sottile Canal, a canal that flows into the north prong of the St. Sebastian River, a major tributary of the Indian River Lagoon. South of Micco Road west of the Canal is the new residential subdivision known as the Lakes at St. Sebastian Preserve, on land platted as Paladin Estates. The Lakes at St. Sebastian Preserve is located approximately 2.3 miles west of the Indian River. The single-family home community features new homes being built by two national homebuilders. The homes will have city water and septic, but the subdivision is outside the city limits of Sebastian in Brevard County. Several homes have been built in the community as of July 2020 but the street with lots that back onto the Sottile Canal (Lago Vista Drive) will be built in a later phase. Real estate salespeople for both builders noted that the view of the solar installation is primarily obstructed from the lots that will back to the Canal and there has been no impact on home sales or interest in the development due to its location proximate to the solar installation.

To the west of the solar site, south of Lakes at St. Sebastian Preserve, is state-owned land utilized for flood control.

Prior Use: Agricultural use

Real Estate Tax Info: The chart below shows the increase from 2016 (before construction) to 2018 (after construction) in the assessed value of the parcels and the total real estate taxes.

PIN	Acres	2016 Taxes Paid	2018 Taxes Paid	Tax Increase	2016 Assessed Value	2018 Assessed Value	Value Increase
Brevard County							
3006694	56.20	$ 1,038	$ 9,426	808%	$ 67,440	$ 618,200	817%
3007862	48.51	$ 896	$ 10,859	1112%	$ 58,210	$ 727,650	1150%
3008628	320.14	$ 6,077	$ 60,433	895%	$ 384,170	$ 4,001,750	942%
3008630	1.00	$ 23	$ 22	-4%	$ 600	$ 600	0%
3008632	9.00	$ 162	$ 1,888	1069%	$ 10,500	$ 126,000	1100%
3010467	69.90	$ 1,291	$ 13,685	960%	$ 83,880	$ 908,700	983%
TOTAL	**504.75**	**$ 9,485**	**$ 96,313**	**915%**	**$ 604,800**	**$ 6,382,900**	**955%**

Paired Sale Analysis:

The maps on the following pages number the adjacent parcels for subsequent analysis. We have identified thirteen sales that have transferred since the solar farm construction, adjacent parcels 6, 7, 13, 14, 18, 30, 37, 40, 47, 50, 51, 76, and 86. Adjoining property 14 was a liquidation sale and removed from consideration. Adjoining properties 37 and 50 transferred off the multiple listing service and are non-owner occupied. Adjoining property 30 has a large, converted patio and is atypical for Barefoot Bay: this sale was considered an outlier and removed from analysis. While adjoining properties 76 and 86 are technically adjacent, they are atypical flag lots with driveways that operate as de facto roads. The residence for property 76 is buffered from the solar farm by

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two other residences. Adjoining property 86 is atypically larger than other sales in the market area and is approximately forty percent wetland. Properties 76 and 86 were considered outliers and removed from the study.

The remaining seven parcels, adjoining properties 6, 7, 13, 18, 40, 47, and 51 were considered for a paired sales analysis. We have divided these properties into two groups as discussed further on the following pages.

Barefoot Bay Farm Adjoining Properties

Work Product

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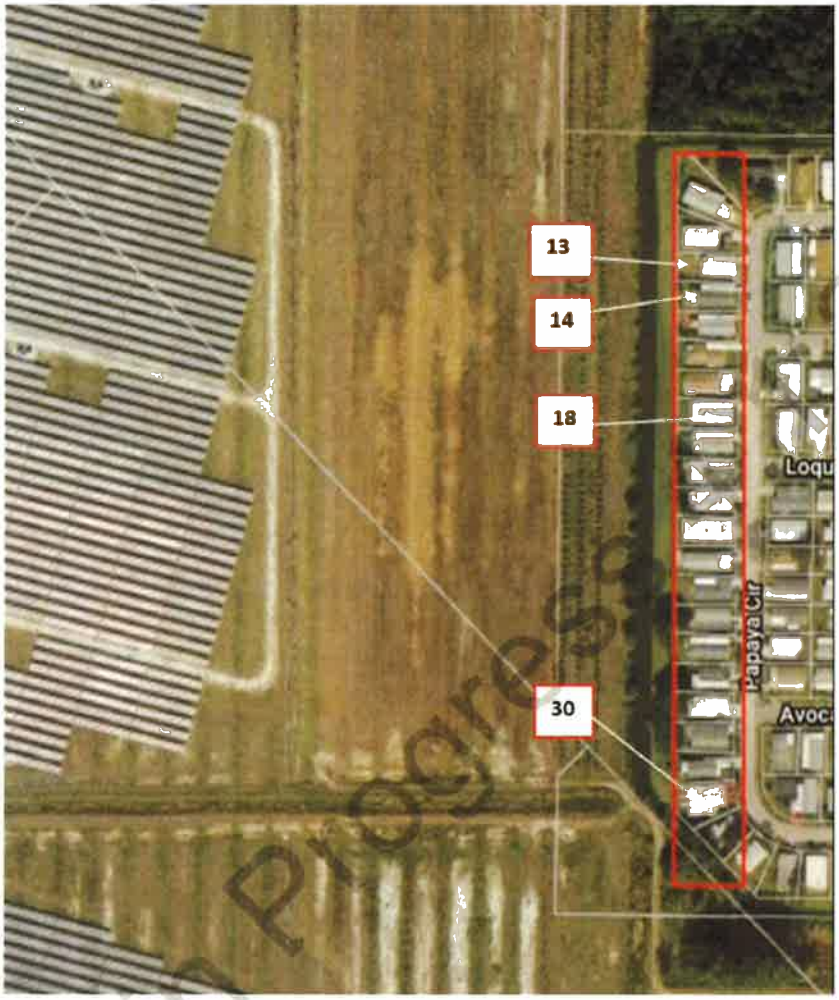

Barefoot Bay Farm Adjoining Properties - Insert A

Work in Progress 2022

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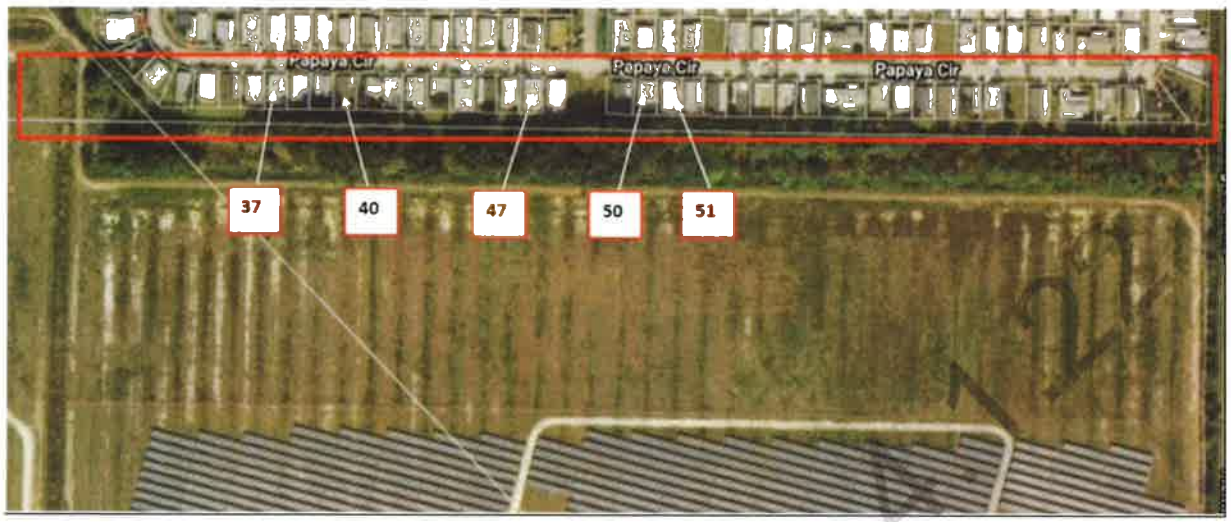

Barefoot Bay Farm Adjoining Properties - Insert B

Barefoot Bay Farm Adjoining Properties - Insert C

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Adjoining properties 6 and 7 are residential lots. They were purchased by the same buyer from two different sellers on different sale dates. We identified seven Control Area Sales with similar location and lot sizes that sold from a reasonable sale time from the median sales date of the test sales. The test sales had a median marketing time of two to three months, as did the control sales. Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our study is presented below.

CohnReznick Paired Sales Analysis Barefoot Bay Solar Energy Center GROUP 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price per Acre**
Test Area Sales (2)	Yes: Adjoining Solar Farm	$54,500
Control Area Sales (7)	No: Not Adjoining Solar Farm	$51,000
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**6.86%**

Adjoining properties 13, 18, 40, 47, and 51 are improved residential dwellings. Since Barefoot Bay is a homogenous subdivision with a large number of residences, we were able to identify 126 control sales located in the Barefoot Bay manufactured home community, all manufactured homes on residential lots, with gross living areas of 1,100 SF to 1,800 SF, that sold from a reasonable sale time from the median sales date of the test sales, excluding outliers and non-arm's length transactions. Barefoot Bay has typical marketing times of two months. The test sales had a median marketing time of approximately a month and a half. Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our study is presented on the following page.

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CohnReznick Paired Sales Analysis Barefoot Bay Solar Energy Center GROUP 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price per SF**
Test Area Sales (5)	Yes: Adjoining Solar Farm	$95.90
Control Area Sales (126)	No: Not Adjoining Solar Farm	$93.95
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**2.07%**

Noting the relatively low price differential, in which the Test Area Sales were higher than the median for the Control Areas Sales, it does not appear that the Barefoot Bay Solar Energy Center had any negative impact on adjoining property values or marketing times.

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Summary of Before and After Construction of the Solar Farm Analysis:

Due to the frequency of sales in the Barefoot Bay subdivision, we were able to conduct an analysis on the prices of manufactured homes before the solar farm announcement date in comparison to the prices of manufactured homes after the construction of the solar farm. We have provided our conclusions from the data below and the following page contains a chart with the data.

Nine Test Area sales and 903 Control Area Sales were identified from Q2 2015 to Q1 2020.

- The Test area sales (ORANGE) are located adjoining to the Barefoot Bay Solar Energy Center.
- The Control area sales (BLUE) are located in the remainder of the Barefoot Bay subdivision.

The dotted lines are polynomial trend lines plotted by Microsoft Excel in order to illustrate and approximate the "average" trend of each set of data. After construction of the solar farm, in parallel with the improving economic climate, it appears that unit prices for both the test and control areas appreciated at a similar rate over the period from Q2 2015 to Q1 2020. A difference in appreciation rates does not appear to exist between homes in the Test Area versus homes in the Control Area.

Sale prices of manufactured homes after the construction of the solar farm exhibit a similar appreciation trend as sales prior to the solar farm announcement. Overall, our findings indicate that there is not a consistent and measurable difference that exists in association with proximity to a solar farm.

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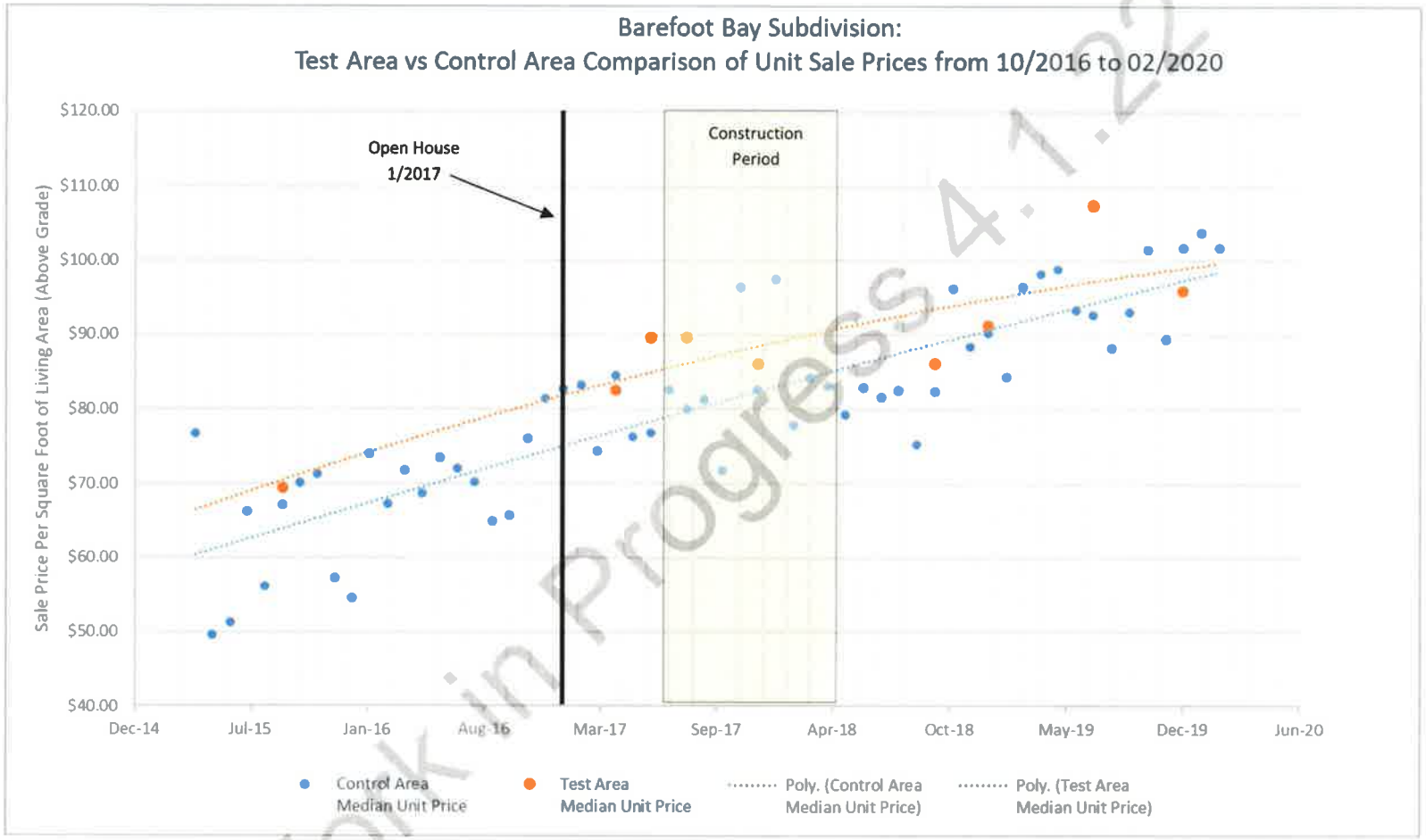

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SOLAR FARM 6: INNOVATIVE SOLAR 42, BLADEN AND CUMBERLAND COUNTIES, NC

Coordinates: Latitude 34.847627, Longitude -78.877360

Cumberland County PIN: 0339-67-3814

Bladen County PINs: 033900553698, 033900751483, 033900658763

Population Density (2019): 501 people per square mile (Largest City = Fayetteville, Cumberland Cty)
(2018): 40 people per square mile (Largest City = Elizabethtown, Bladen Cty)

Total Land Size: 414 acres

Date Project Announced: May 2014

Date Project Completed: September 2017

Output: 71 MW AC

Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

Innovative Solar Farm 42 was developed by Innovative Solar Systems and became operational in September 2017. There are over 271,000 solar arrays on the farm that can generate power for approximately 12,000 homes.

Innovative Solar Farm 42 is located in unincorporated Bladen and Cumberland Counties, in North Carolina, approximately 17 miles south of Fayette, North Carolina and 21 miles north of Elizabethtown, North Carolina. The county line bisects the solar farm, with Cumberland County on the north side and Bladen County on the south side. Innovative Solar Farm is located just south of County Line Road in Cumberland County and approximately one mile west of North Carolina Highway 87.

The Immediate Area: The solar farm is surrounded by residential land to the north, residential and forest land to the west, and agricultural and forest land to the south and east.

Landscaping: The solar farm is buffered from the residences along County Line Road with a chain link fence, and tree plantings. The solar farm is clearly visible.

Prior Use: Agricultural use

Real Estate Tax Info: The chart below shows the increase from 2017 (before construction) to 2018 (after construction) in the assessed value of the parcels and the total real estate taxes.

PIN	Acres	2017 Taxes Paid	2018 Taxes Paid	Tax Increase	2017 Assessed Value	2018 Assessed Value	Value Increase
Cumberland County, NC							
0339-67-3814	261.39	$ 5,263	$ 37,699	616%	$ 541,500	$ 3,920,850	624%
Bladen County, NC							
33900553698	82.48	$ 920	$ 947	2.96%	$ 108,870	$ 108,870	0.00%
33900751483	17.92	$ 234	$ 241	2.96%	$ 27,690	$ 27,690	0.00%
033900658763	52.20	$ 622	$ 640	2.96%	$ 73,600	$ 73,600	0.00%
TOTAL	**413.99**	**$ 7,039**	**$ 39,527**	**462%**	**$ 751,660**	**$ 4,131,010**	**450%**

Paired Sale Analysis:

We found two Adjoining Properties that qualified for a paired sales analysis: Adjoining Property 11 and Adjoining Property 2. Adjoining Property 2 was a speculative construction home built after the completion of the solar farm (see further discussion in the Solar Farm Factors in Harmony of Use section). The map on the following page displays the parcels adjoining to the solar farm panels (outlined in red), these parcels are numbered for subsequent analysis. Note, that the GIS map views do not have updated aerial imagery that display the solar panels in the image on the following page.

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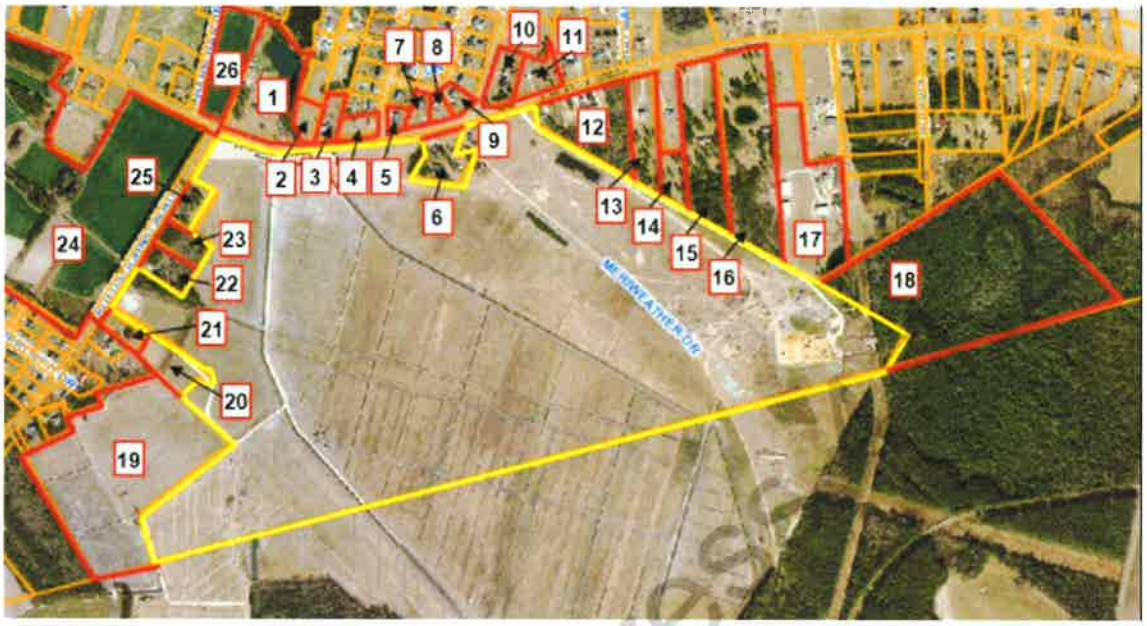
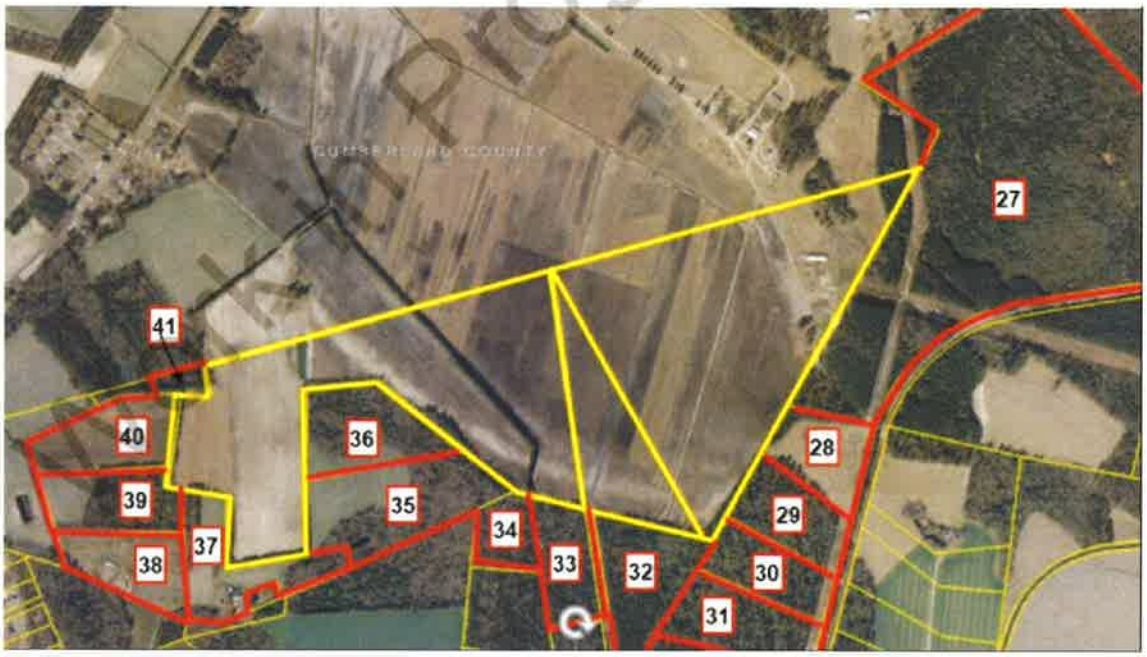
Cumberland County Map



Innovative Solar 42 - Adjoining Properties

Bladen County Map



Innovative Solar 42 - Adjoining Properties

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Group 1

Adjoining Property 11 was considered for a paired sales analysis, and sold during the construction period of the solar farm. The property was analyzed as a single-family home use.

The Control Area Sales were 1-story homes, with three bedrooms and two or three bathrooms with comparble sizes that sold within a reasonable time frame. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Innovative Solar 42 – Group 1e are presented below.

CohnReznick Paired Sale Analysis Innovative Solar 42 Group 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$107.09
Control Area Sales (7)	No: Not adjoining solar farm	$100.18
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**6.91%**

The Test Area Sale sold after 71 days on market (2-3 months), while the Control Area Sales ranged from 1 day on market to 175 days on market (0-6 months), with a median of 116 days on market. We note ***no negative marketing time differential.***

Noting no negative price differential, with the Test Area Sale having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales, it does not appear that the Innovative Solar 42 energy use had any negative impact on adjacent property values.

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Group 2

Adjoining Property 2 was considered for a paired sales analysis, and sold after completion of the solar farm. We discussed this sale with the listing broker, Kevin Grullon, who said the solar farm did not impact the sales price nor the marketing time.

The Control Area Sales were 2-story homes, with three and four bedrooms and two to four bathrooms with comparble sizes that sold within a reasonable time frame. We excluded sales that were bank-owned, and those between related parties. For Adjoining Property 2, we analyzed seven Control Area Sales.

Control Area Sales were adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Innovative Solar 42 – Group 2 are presented below.

CohnReznick Paired Sale Analysis Innovative Solar Group 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$111.77
Control Area Sales (7)	No: Not adjoining solar farm	$105.34
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**6.10%**

The Control Area Sales ranged from 13 days on market to 225 days on market (0-8 months), with a median of 46 days on market. The Test Area Sale sold after 153 days on market (3-4 months) and it was listed during construction, which explains the above average time on market since closing can only occur after the home had been completed.

Noting no negative price differential, with the Test Area Sale having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales, it does not appear that the Innovative Solar 42 energy use had any negative impact on adjacent property values.

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SOLAR FARM 7: RUTHERFORD FARM, RUTHERFORD COUNTY, NC

Coordinates: Latitude 35.257778, Longitude -81.830560

PIN: 1556-31-0185

Population Density (2018): 120 people per square mile (Largest City = Forest City)

Total Land Size: 489 acres

Date Project Announced: November 24, 2015

Date Project Completed: December 2016

Output: 61 MW AC

Aerial imagery retrieved from Google Earth

Overview and Surrounding Area:

The Rutherford Farm Solar use is located in unincorporated Rutherford County, North Carolina. The solar farm was developed by Cypress Creek Renewables and became operational in December 2016. Southern Power

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and Turner Renewable Energy purchased the solar facility on July 8, 2016. The solar farm has over 289,000 solar modules that can generate power for approximately 12,000 homes.

The Rutherford Farm solar use is approximately 7 miles southeast of Forest City, in Rutherford County, in southwestern North Carolina. The solar facility is situated approximately 3 miles northeast of the intersection of Chase High Road and US 221, a major thoroughfare that traverses the county.

The Immediate Area:

Surrounding land uses consists of residential and forest land to the north, forest and commercial to the east, vacant and forest land to the south. All of the adjacent land parcels to the solar farm are used for agricultural or residential purposes.

The solar farm has a hedge buffer along portions of the farms where the residential development is closest. Along all solar panels areas adjacent to residential, a row of trees buffers the view of the panels.

Prior Use: Wooded

Real Estate Tax Information:

Prior to development of the solar farm, the assessed value of the property was $466,200 and ownership paid $3,156 in taxes. In 2018, after the completion of the solar farm, the assessed value of the solar farm property increased to $1,075,800 and taxes increased to $7,391, a 131 percent increase in tax revenue.

PIN	Acres	2016 Taxes Paid	2018 Taxes Paid	Tax Increase	2016 Assessed Value	2018 Assessed Value	Value Increase
Rutherford County 1556-31-0185	488.84	$ 3,203	$ 7,391	131%	$ 466,200	$ 1,075,800	131%
TOTAL	**488.84**	**$ 3,203**	**$ 7,391**	**131%**	**$ 466,200**	**$ 1,075,800**	**131%**

Paired Sale Analysis:

In reviewing adjoining properties to study in a Paired Sale Analysis, seven properties and sales were considered in total but six were eliminated from further consideration as discussed below.

The map on the following page displays the Adjoining Properties (outlined in red) to the solar farm parcel (outlined in yellow). Properties adjoining this parcel are numbered for subsequent analysis.

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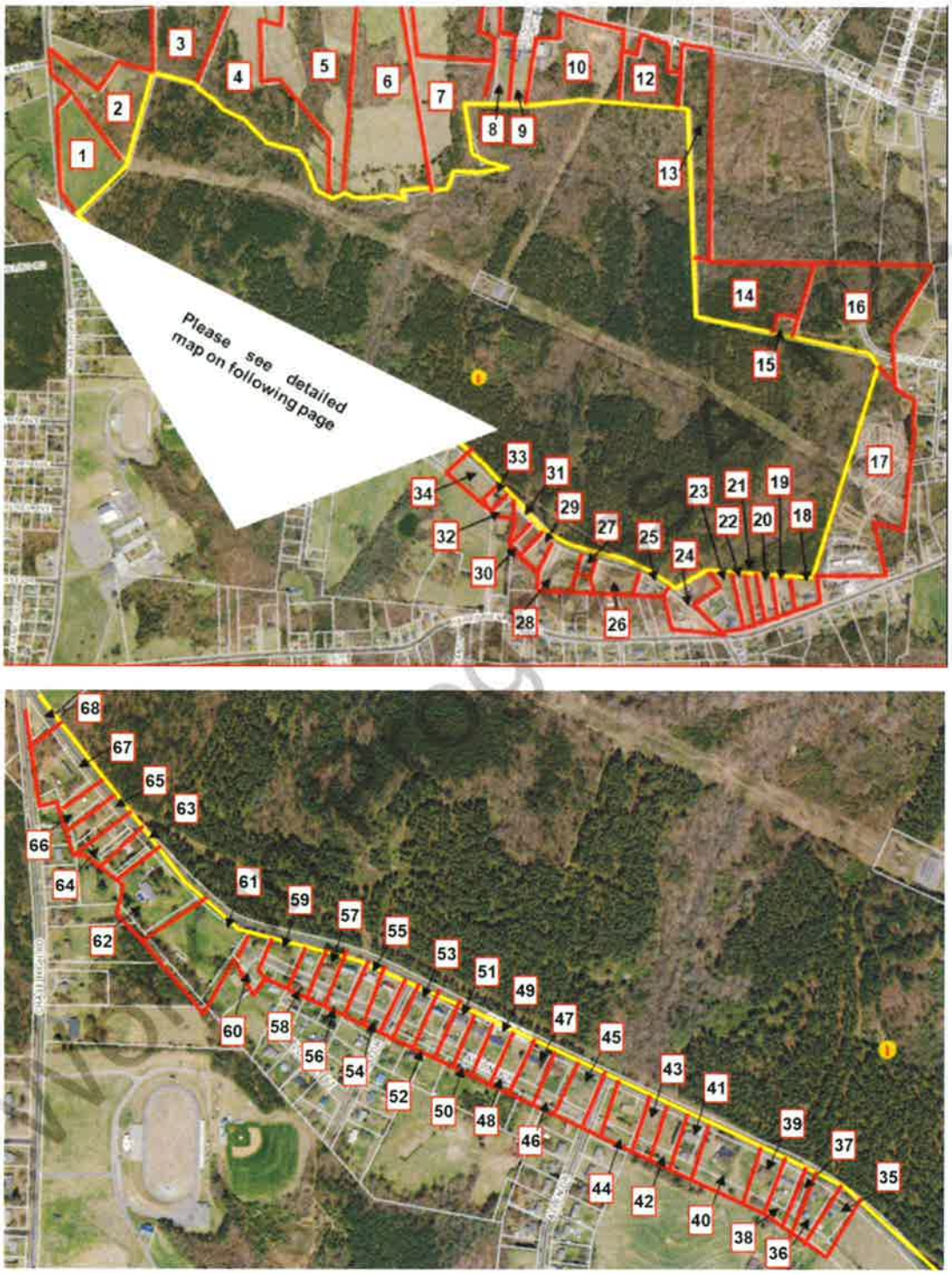

Rutherford Farm Solar - Adjoining Properties

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Five Adjoining Properties (21, 22, 36, 56, and 57) were eliminated from further consideration because they were sales with no recorded sales value or property transfers in off-market transactions. Adjoining Property 2 was a transfer between related parties. Adjoining Property 55 sold in October 2020; however, this property is a duplex with one two-bedroom unit rented. We were not able to locate sales of other duplex properties in the surrounding area that are comparable to the property. As additional duplex sales occur, we will monitor and generate a paired sale analysis for this property at a later date.

We found one Adjoining Property that qualified for a Paired Sale analysis. Adjoining Property 46, the Test Area Sale, was considered for a paired sales analysis. The property was analyzed as a single-family home use. It should be noted that this sale occurred after announcement but prior to construction of the solar farm. We spoke with the selling broker for this property, Brent Washburn, who confirmed that the solar farm had not been constructed at the time of sale, and *said the announcement had no impact on the sale.*

Adjoining Property 46 was considered for a paired sales analysis, and we analyzed this properties as single-family home use. The improvements on this property are located 139 feet to the nearest solar panel.

Test Area Sale Rutherford Farm Solar									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
46	434 Ferry Rd	$85,000	0.41	3	2.0	1977	1,590	Jan-16	$53.46

We analyzed six Control Area Sales, single family homes with similar location, construction, square footages, lot sizes, and ages, use that were not located in close proximity to the solar farm, that also sold within a reasonable time frame from the median sale date of the Test Area Sale. The Control Area Sales are one-story homes with 3 bedrooms and one to two bathrooms. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression to identify the appropriate monthly market conditions adjustment. The results of our analysis for the Rutherford Farm solar facility are presented on the next page.

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CohnReznick Paired Sale Analysis Rutherford Farm Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (1)	Adjoining solar farm	$53.46
Control Area Sales (6)	No: Not adjoining solar farm	$52.49
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		1.85%

Noting no significant price differential, with the Control Area Sales having a slightly lower median unit sale price than the unit sale price of the Test Area Sale, it does not appear that the Rutherford Farm Solar energy use had any negative impact on adjacent property values.

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SOLAR FARM 8: ELM CITY SOLAR FACILITY, WILSON COUNTY, NC

Coordinates: Latitude 35.781111, Longitude -77.846940

PINs: 3744-33-6758.01, 3744-11-9000.000

Population Density (2019): 221 people per square mile (Largest City = Wilson)

Total Land Size: 354 acres

Date Project Announced: September 2014

Date Project Completed: July 2012

Output: 40 MW AC

Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Elm City Solar use is located in Elm City, North Carolina. Duke Energy owns the solar facility and selected HelioSage Energy to develop it. The solar farm went into operation in March 2016 and can generate power for approximately 7,000 homes. Nearly a half million solar panels comprise the farm.

Wilson County is located in central North Carolina. The county is primary rural in nature, with the city of Wilson being the county seat. Elm City is actually a town with a population of less than 1,200. The Elm City Solar Farm is located to the southeast of Elm City, approximately a third of a mile to the east of State Highway 301. Surrounding land uses consist of residential and forest land to the north; forest and agricultural land to the east; vacant, forest, and residential land to the south; and residential, industrial, vacant, and forest land to the west.

The Immediate Area:

All of the adjacent land parcels to the solar farm are used for agricultural, residential, and/or industrial purposes.

Landscaping: The Elm City Solar Farm is buffered from the adjoining residential lots with a fence and tree plantings.

Prior Use: Agricultural use

Real Estate Tax Info: In 2016, prior to the property being assessed as a solar farm, the assessed value of the property was $206,220 and ownership paid $2,805 in real estate taxes. In 2017, the assessed value increased to $1,779,830 and the real estate tax increased to $24,206.

PIN	Acres	2016 Taxes Paid	2017 Taxes Paid	Tax Increase	2016 Assessed Value	2017 Assessed Value	Value Increase
Wilson County							
3744119000.000	249.00	$ 2,805	$ 14,624	421%	$ 206,220	$ 1,075,330	421%
3744336758.01*	105.00	$ 1,494	$ 9,581	541%	$ 117,881	$ 704,500	498%
TOTAL	**354.00**	**$ 4,298**	**$ 24,206**	**463%**	**$ 324,101**	**$ 1,779,830**	**449%**

** This parcel was split from it's parent prior to construction. The 2016 Assessed Value is based on the pro-rata amount for the entire 471.53 acre parent parcel.*

Paired Sale Analysis:

The map on the following page displays the parcels adjoining the solar farm (outlined in red). Properties adjoining the solar parcels are numbered for subsequent analysis.

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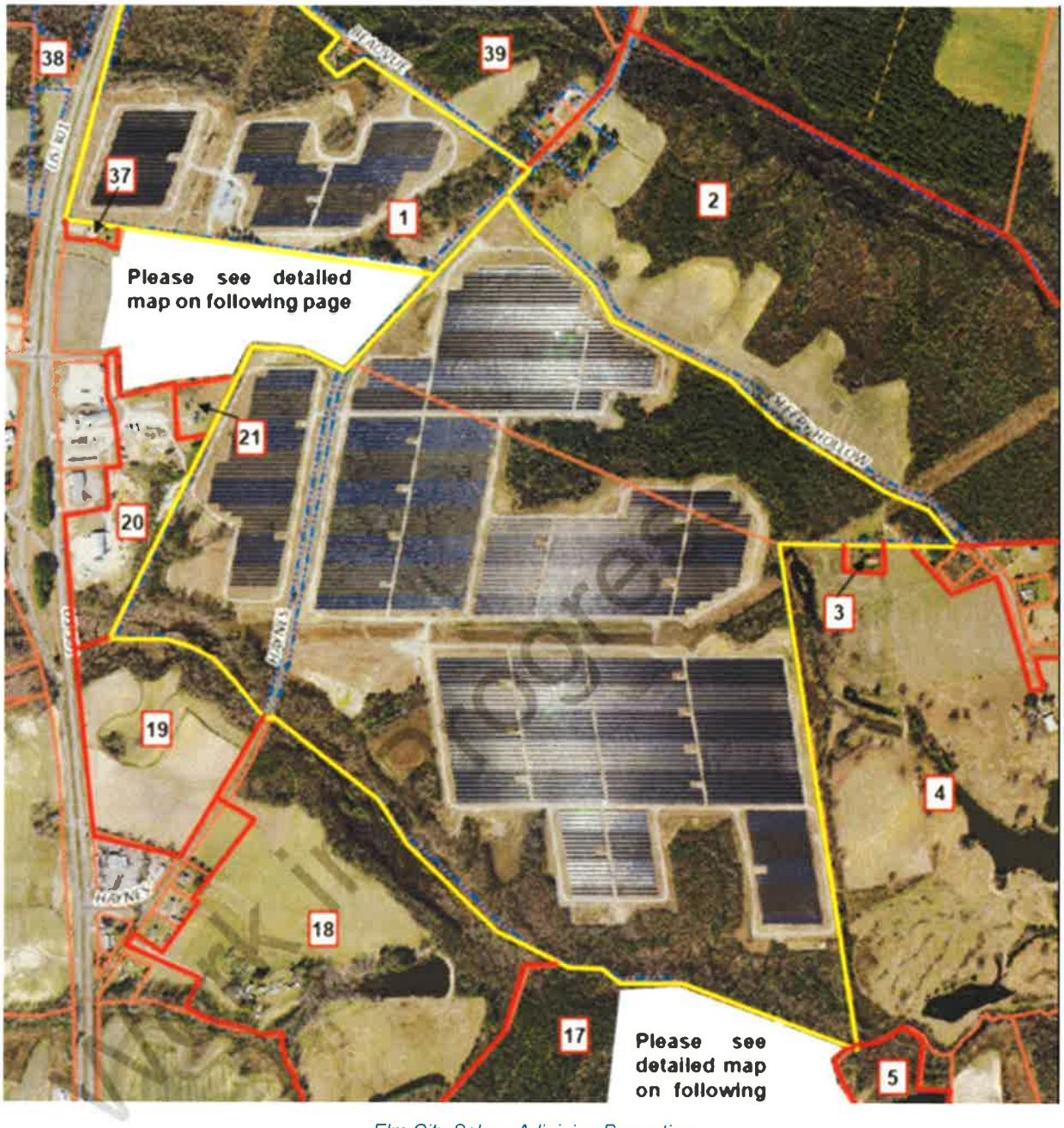

Elm City Solar - Adjoining Properties

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Elm City Solar - Adjoining Properties

Elm City Solar - Adjoining Properties

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Adjoining Property 23 (Test Area Sale) was considered for a paired sales analysis, which sold after development of the solar farm. The property was analyzed as a single-family home use. We discussed this sale with Selby Brewer with First Wilson Properties, Inc who sold the property. He said the buyers "did not even mention" the solar farm, and he saw ***no market difference.***

For Adjoining Property 23, we analyzed eight Control Area Sales that sold within a reasonable time frame from the sale date of Adjoining Property 23. The Control Area Sales are ranch homes with three bedrooms and one and two bathrooms. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Elm City Solar is presented below.

CohnReznick Paired Sale Analysis Elm City Solar		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$56.60
Control Area Sales (8)	No: Not adjoining solar farm	$55.57
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**1.85%**

Noting no negative marketing time differential, the days on market for the Test Area Sale was 38 days (0-1 month), while the Control Area Sales ranged from five to 204 days on market (0-8 months).

Noting no negative price differential, it does not appear that the Elm City Solar impacted the sales price of the Test Sale, Adjoining Property 23. This was confirmed by the real estate agent who marketed and sold this home.

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SOLAR FARM 9: WOODLAND SOLAR FARM, ISLE OF WIGHT COUNTY, VA

Coordinates: Latitude 36.890000, Longitude -76.611000

PINs: 41-02-004, 41-02-001, 41-02-001A, 41-02-005

Population Density (2018): 97 people per square mile (Largest City = Smithfield)

Total Land Size: 211.12 acres

Date Project Announced: August 4, 2015

Date Project Completed: December 2016

Output: 19.0 MW AC

Aerial imagery retrieved from Google Earth

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Overview and Surrounding Area:

The Woodland Solar Farm is located in unincorporated Isle of Wight County, Virginia, and was developed by Dominion Virginia Power in 2016. This solar farm has a capacity of 19.0 Megawatts (MW) AC of power, which is enough to power 4,700 homes. The solar farm sits on 204 acres, part of Oliver Farms, a 1,000-acre site that was chosen for its flat land and proximity to power lines. The land under the solar arrays was previously farmed and used to grow broccoli, collards, peas, strawberries and butter beans. The solar installation includes 79,648 solar panels and was one of the largest of its kind at the time of construction.

Isle of Wight County is in the southeast part of Virginia and has shoreline along the James River on its eastern border. The county is predominantly rural and has two incorporated towns, Smithfield and Windsor. The Woodland Solar facility is approximately 27 miles northwest of Norfolk, Virginia, across the Elizabeth River and the Nansemond River. The solar site is also approximately 21 miles southwest of Newport News, Virginia. The town of Smithfield is approximately nine miles northeast of the solar facility and the town of Windsor is approximately 12 miles southwest. The solar facility is near the intersection of State Route 600 (Oliver Drive) and State Route 602 (Longview Drive).

The Immediate Area:

Land uses surrounding the Woodland Solar facility include forests and agricultural land to the north, west, and south, and residential and farmland to the east.

Landscaping around the solar site consists of the naturally occurring vegetation and forests. It should be noted that the landowner that leases the land to the developer has agricultural buildings and other structures along Longview Drive and the nearest solar panels are approximately 220 feet from the property line.

Prior Use: Agricultural use

Real Estate Tax Info: In 2015, prior to the property being assessed as a solar farm, the assessed value of the property was approximately $542,200 and ownership paid $4,609 in real estate taxes (see below). In 2016, the assessed value increased to $3,021,600 and the real estate tax increased to $27,844.

PIN	Acres	2015 Taxes Paid	2016 Taxes Paid	Tax Increase	2015 Assessed Value	2016 Assessed Value	Value Increase
Isle of Wight County, VA							
41-02-004	107.32	$ 2,250	$ 15,985	610%	$ 264,700	$ 1,728,100	553%
41-02-001	62.66	$ 1,369	$ 8,601	529%	$ 161,000	$ 939,900	484%
41-02-001A	8.08	$ 230	$ 1,193	420%	$ 27,000	$ 110,700	310%
41-02-005	33.06	$ 761	$ 2,065	171%	$ 89,500	$ 242,900	171%
TOTAL	**211.12**	**$ 4,609**	**$ 27,844**	**504%**	**$ 542,200**	**$ 3,021,600**	**457%**

Paired Sale Analysis:

The map below displays the Adjoining Properties to the solar farm (outlined in red). Properties adjoining the solar farm parcels are numbered for subsequent analysis.

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Woodland Solar - Adjoining Properties

In reviewing Adjoining Properties to study in a Paired Sale Analysis, several properties and sales were considered but eliminated from further consideration as discussed below.

We identified three Adjoining Properties that sold since the solar farm started operations in December 2016: Adjoining Property 3, and two parcels included in Adjoining Property 5. The two properties that were considered part of Adjoining Property 5, sold between related parties, and were sales between family members of the land lessor for the solar site. These two sales were excluded from further analysis.

Adjoining Property 3 was considered for a paired sales analysis, and we analyzed this property as single-family home use. The improvements on this property is located approximately 600 feet to the nearest solar panel.

Test Area Sale - Adjoining Property 3									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median GLA (SF)	Median Sale Date	Median Price PSF
3	18146 Longview Drive	$175,000	1.00	3	1	1978	1,210	Jun-16	$144.63

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We analyzed five Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the median sale date of the Test Area Sale. The Control Area Sales one-story homes with three bedrooms and one and two bathrooms. We excluded sales that were bank-owned, and those between related parties.

The Control Area Sales were adjusted for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment. The result of our analysis for Woodland Solar Farm is presented below.

CohnReznick Paired Sales Anaysis Woodland Solar Farm Adjoining Property 3		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Yes: Adjoining solar farm	$144.63
Control Area Sales (5)	No: Not adjoining solar farm	$137.76
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		4.99%

The difference between the unit price of the Test Area Sale and the Adjusted Median Unit Price of the Control Area Sales is considered within the range for a typical market area.

Noting no negative marketing time differential, the Test Area Sale sold in 33 days (1-2 months), while the Control Area Sales sold between 17 and 37 days (0-2 months), with a median time on market of 28 days.

Noting no negative price differential, with the Test Area Sale having a higher unit sale price than the Control Area sales, it does not appear that the Woodland Solar Farm had any negative impact on adjacent property values.

Working Progress Draft

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SOLAR FARM 10: DTE'S LAPEER SOLAR PROJECT, LAPEER, MICHIGAN

Coordinates: Latitude 43.0368219316, Longitude -83.3369986251

PINs: L20-95-705-050-00, L20-98-008-003-00

Population Density (2020): 137 people per square mile (Largest City = Lapeer)

Owner of Record: DTE Electric Company & City of Lapeer

Total Land Size: ±365 Acres

Date Project Announced: 2016

Date Project Completed: May 2017

Output: 48.28 MW AC

In Progress 4.1.22

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Overview and Surrounding Area:

The DTE Lapeer solar farm is located just south of the City of Lapeer, in Lapeer County, Michigan and is a joint project between the City of Lapeer and DTE Electric Company. The solar farm was developed with Inovateus Solar MI, LLC to meet Michigan renewable energy standards. The solar farm features over 200,000 panels, a power output of 48.28 MW AC, and produces enough energy to power 14,000 homes. The Lapeer solar project was developed in two phases: the Demille Solar installation and the Turrill Solar installation. For purposes of our study, taken together, both installations are considered one solar farm.

DTE's Lapeer Solar Projects Demille and Turrill Solar installations

Lapeer is considered to be in the Tri-Cities area of central Michigan and is approximately 21 miles east of the City of Flint. Interstate-69 serves Lapeer and runs east-west just south of the solar farm. The two phases of the solar installation are on the east and west sides of Michigan State Route 24 from each other.

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The Immediate Area:

Land uses surrounding the Demille installation include a correctional facility and industrial uses to the west, buffered by a mature stand of trees, a retail center to the northeast, other commercial uses to the east along MI-24/South Lapeer Road, and residential homes to the southeast. Interstate-69 runs south of the Demille solar installation.

The Turrill installation is surrounded to the north by a residential subdivision, to the north and east by industrial uses, to the south by vacant land and residential homes, and to the west by light commercial and professional uses along MI-24/South Lapeer Road. Hunter's Creek divides two sets of solar arrays in the Turrill installation.

The Demille installation adjoins Interstate-69 to the South; while a residential subdivision adjoins the solar farm to the east. To the northeast corner of the solar panels is a senior living facility, Stonegate Health Campus, developed before the solar facility.

Prior Use: Agricultural use

Real Estate Tax Information:

Prior to the development of the solar farm, the land under the Demille and Turrill solar installations were municipal-owned and were not subject to property tax. After development, in 2017, the land became taxable and taxes were $82,889 total, as shown below.

PIN	Acres	2016 Taxes Paid	2017 Taxes Paid	Tax Increase	2016 Assessed Value	2017 Assessed Value	Value Increase
Lapeer County, MI							
L20-98-008-003-00*	110.84	$ -	$ 34,294	N/A	$ -	$ 726,700	N/A
L20-95-705-050-00*	254.84	$ -	$ 48,595	N/A	$ -	$ 1,029,750	N/A
TOTAL	**365.68**	**$ -**	**$ 82,889**	**N/A**	**$ -**	**$ 1,756,450**	**N/A**

* Prior to development as a solar farm, the parcels were municpal property without a taxable value.

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Paired Sale Analysis:

The maps, below, and on the following pages display properties adjoining the solar sites that are numbered in red for subsequent analysis.

Demille Solar Farm

DTE's Lapeer Solar Projects - Demille Adjoining Properties

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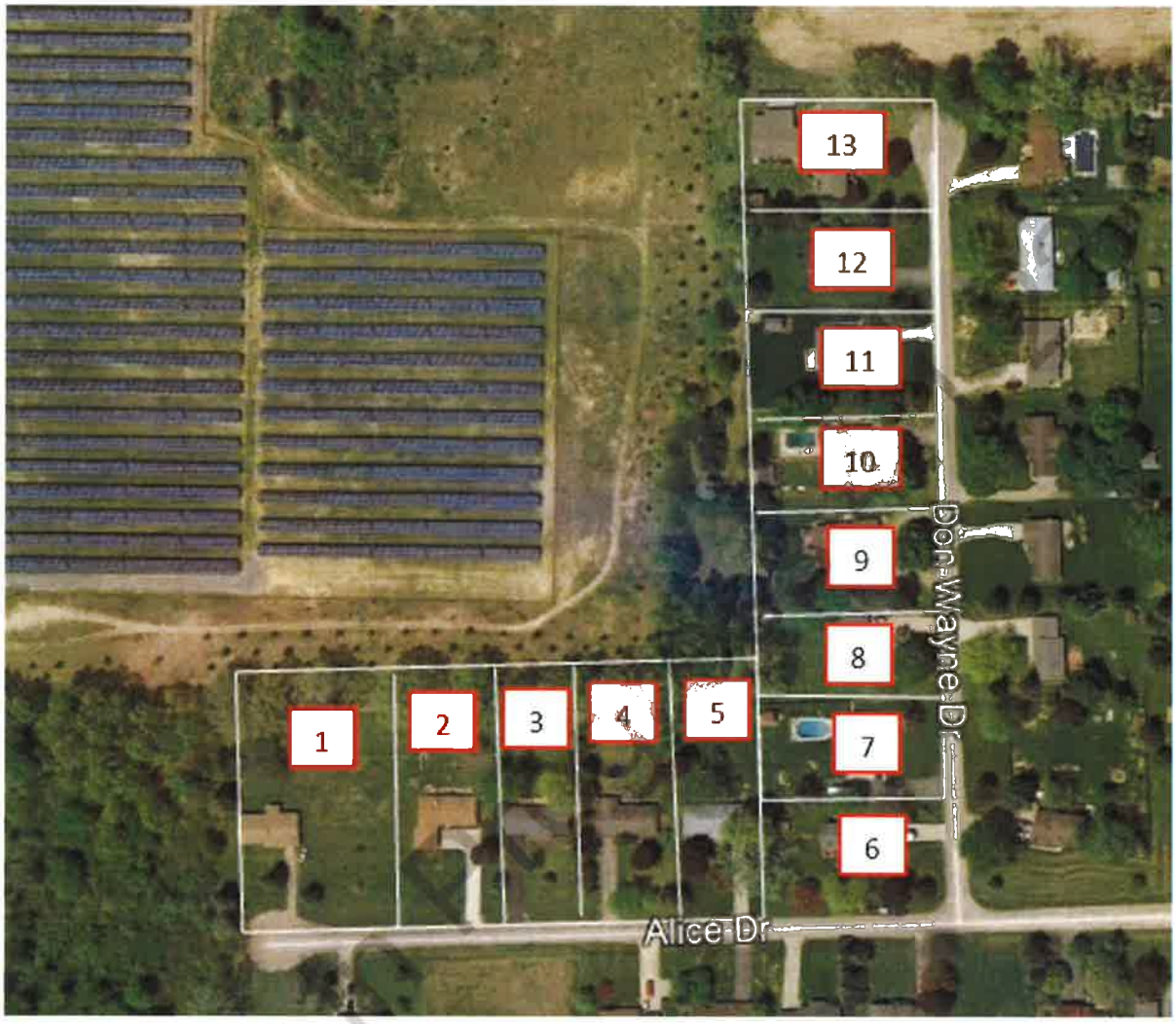

DTE's Lapeer Solar Projects - Demille Adjoining Properties

Work

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Turrill Solar Farm

DTE's Lapeer Solar Projects - Turrill Adjoining Properties

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DTE's Lapeer Solar Projects - Turrill Adjoining Properties

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In reviewing Adjoining Properties to study in a Paired Sale Analysis, several properties and sales were considered but eliminated from further consideration as discussed below.

We identified eight Adjoining Properties that sold since the solar farm started operations in May of 2017: Adjoining Properties 3, 4, 7, 9, 10, and 16 for the Demille Solar Farm, and Adjoining Properties 3 and 4 for the Turrill Solar Farm. Of these properties, three were considered atypical for the area.

Adjoining Property 7 adjacent to the Demille Solar farm is a split-level home with a finished walk out basement with a pool. The typical home in the area has a traditional basement and pools are atypical. The unusual nature of this sale was confirmed with the selling broker, Renee Voss (see comments below). We note that this home sold twice after the construction of the solar farm, once in September 2018 and again in August 2019. The appreciate rate between the two sale dates are analyzed further later in this section.

Adjoining Property 16 just south of the Demille Solar Farm is a 10.1-acre lot that is buffered by trees. The home is atypical for the area, as most homes are situated on lots between 1-acre and 1.5-acres in size and were built before 1980; this home was built in 2008. We interviewed the broker Josh Holbrook (see comments below) who confirmed the atypical nature of this property.

Adjoining Property 3, just west of the Turrill Solar Farm, was a ranch home with 1,348 square feet on a lot that was just over one acre. Comparables for homes of this size, type, and lot size were not available in the immediate market area. It should be noted that the price per square foot for this home ($108.01) is significantly higher than median price per square foot of either data set we studied.

As a part of our research, we interviewed three local real estate brokers that sold homes adjacent to the Lapeer Solar farm. According to the brokers, there was no impact on the home prices or marketability due to the homes' proximity to the solar arrays.

Renee Voss of Coldwell Banker, selling broker of the raised ranch at 1138 Don Wayne Drive (Adjoining Property 7), which is adjacent to the Demille solar farm at the southeast corner, noted that there was no impact on this sale from the solar farm located to the rear. The home, which has a pool in the backyard, sold quickly with multiple offers, Voss stated.

Josh Holbrook, the selling broker of 1408 Turrill Road (known as Adjoining Property 16), located just south of the Demille Solar Farm, said the solar farm had no impact on the sale and that the community takes pride in the solar farm.

Anne Pence of National Realty Centers, the selling broker for 1126 Don Wayne Drive, a single-family home adjacent to the Demille solar farm (known as Test Area Sale 9), reported that "the solar farm did not have any effect on the sale of this home. The buyers did not care one bit about the solar field in the back yard. The fact is that you know no one is going to be behind you when they develop a solar farm in your back yard. And [sometimes the developer] put up trees to block the view. My in-laws also actually live at end of that street, even though they haven't sold or put their house on market, they don't mind the solar panels either. It's not an eyesore. And another house sold on that block, a raised ranch home, and it sold with no problems."

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Group 1 – Demille:

Adjoining Properties 3, 4, and 9 to the Demille Solar Farm were considered for a paired sales analysis, and we analyzed these properties as single-family home uses in Group 1. The improvements on these properties are located between 275 to 305 feet to the nearest solar panel.

Test Area Sales Group 1 - Demille Solar									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
3, 4, 9	1174 Alice Dr, 1168 Alice Dr, 1126 Don Wayne Drive	$165,000	0.50	3	2.0	1973	1,672	Jan-19	$105.26

We analyzed six Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the median sale date of the Test Area Sales in Group 1. The Control Area Sales for Group 1 are ranch homes with three bedrooms and one and a half to two bathrooms. We excluded sales that were bank-owned, and those between related parties.

Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our analysis for DTE's Lapeer Solar Project - Group 1 is presented below.

CohnReznick Paired Sale Analysis DTE Lapeer Solar Group 1 - Demille Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (3)	Adjoining solar farm	$105.26
Control Area Sales (6)	No: Not adjoining solar farm	$99.64
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		5.65%

The days on market for the three Test Area Sales had a median of 29 days on market (ranging from 5 to 48 days), while the median days on market for the Control Area sales was 21 days (ranging from 5 to 224 days), ***and we note no significant marketing time differential.***

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Group 2 – Demille:

Adjoining Property 10 to the Demille Solar Farm was considered for a paired sales analysis, and we analyzed this property as a single-family home use in Group 2. The improvements on this property is located approximately 315 to the nearest solar panel.

Test Area Sale Group 2 - Demille Solar										
Adj. Property #	Address	Sale Price	Median Site Size (AC)	Bedrooms	Bathrooms	Year Built/Renovated	Square Feet	Other Features	Sale Date	Price PSF
10	1120 Don Wayne Drive	$194,000	0.47	3	2.5	1976/2006	1,700	Above Ground Pool, Two Car Garage	Nov-19	$114.12

We analyzed five Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the median sale date of the Test Area Sales in Group 2. The Control Area Sales for Group 2 are similarly sized homes in Lapeer County with three to four bedrooms and two to three bathrooms, with a pool and an attached garage. We excluded sales that were bank-owned, and those between related parties.

Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our analysis for DTE's Lapeer Solar Project - Group 2 is presented below.

CohnReznick Paired Sale Analysis DTE Lapeer Solar Group 2 - Demille Solar		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$114.12
Control Area Sales (5)	No: Not adjoining solar farm	$113.01
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**0.98%**

The days on market for the Test Area Sales was 90 days on market, while the median days on market for the Control Area sales was 34 days (ranging from 3 to 73 days). We note the Test Area sale was initially listed above its market value, as there was a listing price decline after a month of marketing. We note since the final drop of the list price, there was only 51 days on market, which is within the range exhibited by the Control Area sales.

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Group 3 – Turrill:

Adjoining Property 4 to the Turrill Solar Farm was analyzed separately since it is a two-story home on a larger lot as Group 2. The home on Adjoining Property 4 is 290 feet from the property line to the nearest solar panel.

Test Area Sale Group 3 - Turrill Solar									
Adj. Property #	Address	Median Sale Price	Median Site Size (AC)	Median Beds	Median Baths	Median Year Built	Median Square Feet	Median Sale Date	Median Price PSF
4	1060 Cliff Drive	$200,500	1.30	4	2.5	1970	2,114	Sep-18	$94.84

We analyzed four Control Area single-family homes sales with similar construction that were not located in close proximity to the solar farm, which sold within a reasonable time frame from the sale date of Adjoining Property 4.

The Control Area Sales for Group 3 are 2-story homes with between two and four bedrooms and 2.5 to 3.0 bathrooms. We excluded sales that were bank-owned, and those between related parties.

Control Area sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeat-sales index measuring average price changes in repeat sales or refinancing of the same properties. The result of our analysis for DTE's Lapeer Solar Project – Group 3 is presented below.

CohnReznick Paired Sale Analysis DTE Lapeer Solar Group 3 - Turrill Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	$94.84
Control Area Sales (4)	No: Not adjoining solar farm	$96.32
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**-1.53%**

The days on market for the Test Area Sale was 2 days, while the median days on market for the Control Area sales was 35 days (ranging from 11 to 177 days), ***and we note no negative marketing time differential.***

Noting no significant price differential, it does not appear that the DTE's Lapeer Solar had any negative impact on adjacent property values.

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Before & After Analysis – Demille Solar Project:

We note two of the Test Area Sales in Group 1 of the Demille Solar project (Adjoining Properties 4 and 9), one sale in Group 2 of the Demille Solar Farm (Adjoining Property 10), as well as Adjoining Property 7 have sold at least twice over the past 15 years. To determine if any of the rates of appreciation for these identified home sales were affected by the proximity to the Demille Solar farm, we prepared a Repeat-Sales Analysis on each identified adjoining property. First, we calculated the total appreciation between each sale of the same property, the number of months that elapsed between each sale, and determined the monthly appreciation rate. Then, we compared extracted appreciation rates reflected in the Federal Housing Finance Agency (FHFA) Home Price Index for Michigan's 48446 zip code (where the identified homes are located) over the same period. The index for zip codes is measured on a yearly basis and is presented below.

48446 Zip Code - Housing Price Index Change (Year over Year) Not Seasonally Adjusted					
Five-Digit ZIP Code	Year	Annual Change (%)	HPI	HPI with 1990 base	HPI with 2000 base
48446	2004	2.02	438.38	206.29	111.35
48446	2005	3.68	454.53	213.89	115.45
48446	2006	-1.76	446.53	210.12	113.42
48446	2007	-6.35	418.17	196.78	106.22
48446	2008	-8.37	383.17	180.31	97.33
48446	2009	-10.62	342.49	161.16	86.99
48446	2010	-8.94	311.86	146.75	79.21
48446	2011	-6.89	290.37	136.64	73.75
48446	2012	0.29	291.22	137.04	73.97
48446	2013	7.27	312.39	147.00	79.35
48446	2014	7.10	334.56	157.43	84.98
48446	2015	5.10	351.63	165.47	89.32
48446	2016	6.10	373.08	175.56	94.76
48446	2017	6.74	398.23	187.39	101.15
48446	2018	5.96	421.96	198.56	107.18
48446	2019	5.74	446.17	209.95	113.33
48446	2020	4.99	468.43	220.43	118.98

We have presented the full repeat sales analysis on the following page.

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Repeat Sales Analysis											48446 Zip Code - FHFA House Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Year of Most Recent Sale	Prior Sale Year Index Level	Total Appreciation	Monthly Appreciation Rate
4	1168 Alice Drive	0.46	1,672	10/9/2019	$176,000	12/8/2017	$144,000	22.22%	22	0.92%	446.17	398.23	12.04%	0.52%
4	1168 Alice Drive	0.46	1,672	12/8/2017	$144,000	10/1/1993	$100,000	44.00%	290	0.13%	398.23	238.05	67.29%	0.18%
9	1126 Don Wayne Drive	0.50	1,900	5/21/2018	$160,000	12/21/2007	$119,000	34.45%	125	0.24%	446.17	418.17	6.70%	0.05%
10	1120 Don Wayne Drive	0.47	1,700	11/8/2019	$194,000	10/15/2014	$173,200	12.01%	61	0.19%	446.17	334.56	33.36%	0.47%
7	1138 Don Wayne Drive	0.47	2,128	9/7/2018	$179,900	8/22/2014	$148,500	21.14%	49	0.40%	446.17	334.56	33.36%	0.60%
7	1138 Don Wayne Drive	0.47	2,128	8/28/2019	$191,000	9/7/2018	$179,900	6.17%	12	0.51%	446.17	446.17	0.00%	0.00%
	Median - Test Area Sales	*0.47*	*1,800*							*0.32%*				*0.33%*
	Median - Before/After	*0.49*	*2,019*							*0.21%*				*0.11%*

Conclusion

When compared to the FHFA home price index for the local zip code, the median monthly appreciation rate of the sales of properties adjoining the Demille Solar Farm that sold before construction of the solar farm and again after construction of the solar farm outperformed the median for the zip code, as depicted in the far-right column in the table above (and highlighted in orange). Additionally, the extract appreciation rate for the resales of Adjoining Properties 4 and 7 that sold twice after the solar farm was constructed exhibited higher rates of appreciation than the Home Price Index for the zip code (highlighted in white). As such, we have concluded that there does not appear to be a consistent detrimental impact on properties adjacent to the Demille Solar Farm.

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NEW ROAD SOLAR, MIDDLESEX COUNTY, NEW JERSEY

Coordinates: Latitude 40.403238, Longitude -74.56779

PINs: 1221_96_39.03, 1221_96_39.01, 1221_96_43.01, 1221_96_36

Population Density (2021): 1,112 people per square mile (Largest City = New Brunswick)

Total Land Size: approximately 68 acres

Date Project Completed: June 2018

Output: 10 MW AC

The New Road Solar project is located in the southwest portion of Middlesex County, New Jersey, in South Brunswick Township. The 10 MW AC solar facility became operational in June 2018 and sits on approximately 68 acres. The site was a landfill from 1959 to 1979. From 1982 to 1985, it underwent remediation to rid the area of any hazardous materials. The Superfund site had remained unused until it was redeveloped with the solar facility. Given the length of time between closure of the previous use and the development of the solar facility,

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we believe enough time passed that the market regards the site as a passive, open space use; thus, no original negative influence was perceived to persist that might otherwise taint the study.

The 40,000 solar panels are owned, operated, and maintained by CEV, the renewable energy subsidiary of New Jersey Resources and the project was redeveloped in partnership with CEP Renewables, a firm specializing in remediated sites.

The Surrounding Area: The New Road solar installation is in Kendall Park, a census designated place, in South Brunswick Township. Much of the town of South Brunswick's 42 square miles remain undeveloped and there are still significant amounts of wetlands, woodlands, and open space within the community.

The solar site is approximately nine miles southwest of New Brunswick, nine miles northeast of Princeton and 17 miles from Trenton, the state capital. New Jersey Transit's northeast corridor trains stop in Princeton and a new station is being built in North Brunswick that will take commuters directly into New York City's Penn Station.

The Immediate Area: The immediate area is primarily residential with supporting commercial uses, and there are some industrial warehouse uses to the southeast of the site in Dayton. In neighboring Franklin Township, there is an active quarry approximately four miles southwest of the solar site.

The solar site is on the west side of New Road that runs roughly north-south between NJ-27 and US Route 1. Along New Road is the Kendall Park First Aid and Rescue Squad facility, a preschool, and across the New Road from the solar site is the municipal Woodlot Park with baseball fields, tennis courts and a recreation center.

The solar site is buffered from neighboring residential developments by thick groves of woodlands, as seen in the image on the following page.

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New Road Solar – Overview Map of Surrounding Subdivisions

Kendall Park is a planned residential community of 1,500 houses built between 1956 and 1961, adjacent to the north and northeast of the solar site. The development was built in three stages: the initial development in 1956-67 (between New Road and Sand Hill Road-the middle section), the Constable development in 1959 (south of New Road-the south section), followed by the Greenbrook development (north of Sand Hill Road-the north section) in 1961. The initial development offered two styles of three-bedroom, one and a half bath ranch-style homes, mostly built on one third-acre lots. The subsequent sections offered a wider selection of styles, including four-bedroom ranches and four-bedroom colonial-style homes. The development of Kendall Park doubled the population of South Brunswick Township and marked the beginning of its transformation from a rural farming area to a suburban bedroom community. Several other nearby tracts developed after Kendall's original development are also part of the Census Designated Place known as Kendall Park.

National homebuilders, Toll Brothers, developed the luxury active adult age restricted community (55+) of single family homes to the west of the solar site, called Princeton Manor. Sales of the 349-home community started in 2006 and the last homes, closest to the solar site, were built circa 2015-2017. Home models range from 1,814

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to 2,821 square feet, and some homes had an additional basement option. The community includes an 11,000 square foot clubhouse with spa facilities, bocce and tennis courts, billiards, an outdoor swimming pool and spa, and jogging and bicycle trails. The homeowner's association handles exterior maintenance of homes and mows lawns and handles snow removal for all homes. Monthly homeowner's fees are in the $300s.

Point of Woods is a luxury home subdivision of 72 single family homes built in the last several years by the Kaplan Companies that is adjacent to the solar site to the south. The community has homes with four different floorplans. The houses feature four or five bedrooms, three or four bathrooms, two- or three-car garages and full basements, as well as custom options. Floorplans range from 3,638 to 4,291 square feet of above grade living space and prices ranged from $900,000 to recent home sales of over $1.3 million.

The homes in the Point of Woods subdivision that are the closest to the solar site there are approximately 150 to 250 feet between the homes and the panels.

The detailed descriptive data on the homes backing to the solar site that details square footage and bedrooms and bathrooms is not publicly available and was not able to be obtained from the developer. The homes were not listed on the Multiple Listing Service (MLS) at the time of sale; therefore, we could not reliably conduct a paired sale analysis on them. However, in public recording documents the sale prices for the five homes sold adjacent to the solar site, since development of the solar facility, range from $998,778 to $1,336,613. Given the difficulty in obtaining the official home and lot sizes of the recent sales within the Point of Woods subdivision, we have not performed a paired sales analysis of these homes. However, we do note the relatively large sale prices of the homes in this subdivision are approximately 150 to 250 away from solar panels.

Real Estate Tax Information: The solar farm is located on municipal government owned land and is not subject to real estate taxation.

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The map below displays the properties adjoining the solar arrays and are numbered for subsequent analysis in red boxes.

New Road Solar –Map of Adjoining Properties

Paired Sales Analysis

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the solar farm (Control Area Sales) to the sales of adjoining properties after the completion of the solar farm project (Test Area Sales). We identified two groups of Test Area Sales based on primarily on location and home type. We have analyzed sales of homes that occurred after the completion of the solar farm, starting in June 2018. The first group comprises the one sale in the Princeton Manor subdivision that occurred after the completion of the solar farm. The second group consists of homes in the Kendall Park subdivision.

We have excluded one home sale that was initially considered for a Test Area Sale, the home located at 12 Wheeler Road in the Kendall Park subdivision, Adjoining Property 27. After speaking with the listing broker, we determined that the condition of this home at sale was far inferior to all others in the marketplace. The broker commented that the home needed at least $30,000 of repairs to cure deferred maintenance, (for example, the roof needed replacement, the foundation had shifted, and the kitchen floor was slanted), and the interior finishes had never been updated since construction in 1958. Additionally, the garage had been illegally converted to living space with poor construction, so the property did not have covered parking unlike virtually every other home in the Kendall Park market. The seller made a $10,000 concession at closing to cover more issues

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discovered at inspection as well. Due to the inferior condition of the home, we considered it to be an outlier and could not find comparable properties to use as Control Area Sales.

We have found Control Area Sale data through the RealQuest database which aggregates real estate sales from public records and verified marketing information through online sources such as Zillow.com, Redfin.com and Realtor.com. We have verified these sales through county records, and conversations with brokers and sellers. We excluded sales that were not arm's length, such as REO sales or bank-owned properties, or those between related parties.

It is important to note that these Control Area Sales are not adjoining to any solar farm, nor do they have a view of one from the property. Therefore, the announcement nor the completion of the solar farm use could not have impacted the sales price of these properties.

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Group 1

Adjoining Property 13 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a single-family home use, a two-story, four bedroom and three bathroom, 2,884 square foot home located on a 0.15- acre parcel that sold in July 2020. This home is in the Princeton Manor subdivision. The property line is approximately 1,492 feet from the closest solar panel, and the improvements are approximately 1,520 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 13.

New Road Solar Test Area Sales - Group 1									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	GLA (SF)	Sale Date	Price PSF
13	54 Inverness Drive	$630,000	0.15	4	3	2016	2,884	Jul-20	$218.45

We have utilized two-story single-family home sales for Control Area Sales also located exclusively in the Princeton Manor subdivision as those are each similar in square footage and layout, as well as quality of construction as the Test Area Sale.

We analyzed nine Control Area Sales and adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from January 2019 to the end of December 2020, the most recent data available, (24 months).

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When adjusting sales prices for market conditions (time between date of Test Area Sale and Control Area Sale date) throughout this analysis we have used regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Middlesex County for the average monthly rate of appreciation. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[26]

The results of the paired sales analysis for Group 1 - Adjoining Property 13 are presented below.

CohnReznick Paired Sale Analysis New Road Solar Group 1		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining solar farm	$218.45
Control Area Sales (9)	No: Not adjoining solar farm	$201.78
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**8.26%**

The difference between the unit price of the Test Area Sale and the Adjusted Median Unit Price of the Control Area Sales is considered reasonable, especially given the age of the home, which was built in 2016. Out of nine Control Area Sales only two were built after 2013 (2015 and 2016, respectively), and the median year built was 2012.

Noting no negative price differential, it does not appear that the New Road Solar installation impacted the sale price of the Test Area Sale, Adjoining Property 13. We note that the distance from the panels to the Test Area Sale is over 1,500 linear feet and that heavy woods interrupts any views from the house to the solar panels. Given these characteristics, we have excluded this paired sales analysis from our reconciliation at the end of this report but have retained the analysis for information purposes.

[26] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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Group 2

We have grouped four home sales in the Kendall Park subdivision that sold after the completion of the solar farm and studied them together. The single-story ranch homes had either three or four bedrooms and either two or three bathrooms, and ranged in size from 1,572 to 2,464 square feet. Because these homes were built over a four year period (1958 to 1961) and are similar in style, we considered them on the whole comparable to 20 Control Area Sales in the same subdivision that share the range of physical characteristics. The solar panels range from 905 feet from panel to property line of the Test Area Sales to 1,370 feet, and 945 feet to 1,483 feet from solar panel to home improvement. The homes are separated from solar panels by dense woodlands.

The table below outlines the other important characteristics of the homes in Group 2.

New Road Solar Test Area Sales - Group 2									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built/ Renovated	GLA (SF)	Sale Date	Price PSF
16	6 Quentin Road	$485,000	0.42	4	3.0	1958/2018	2,464	Jul-18	$196.83
22	22 Wheeler Road	$380,500	0.31	4	3.0	1958	1,959	Aug-20	$194.23
29	8 Wheeler Road	$358,000	0.31	4	2.0	1958	2,220	Nov-19	$161.26
31	2 Wheeler Road	$365,000	0.51	3	2.0	1958	1,572	Jun-18	$232.19
Median		$372,750	0.37	4	2.5	1958	2,090	Mar-19	$195.53

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We have utilized single-family home sales for Control Area Sales also located exclusively in the Kendall Park subdivision as those were built during the same time-frame and are each similar in square footage and layout, as well as quality of construction as the Test Area Sales. In Group 2, we have excluded homes that had an in-ground pool.

We analyzed 18 Control Area Sales and adjusted the Control Area Sales for market conditions using the compounded monthly growth rate exhibited in the FHFA House Price Index, for the period from January 2018 to the end of December 2020, the latest data available (36 months).

The results of the paired sales analysis for Group 2 are presented below.

CohnReznick Paired Sale Analysis New Road Solar Group 2		
No. of Sales	**Potentially Impacted by Solar Farm**	**Adjusted Median Price Per SF**
Test Area Sales (4)	Adjoining solar farm	$195.53
Control Area Sales (18)	No: Not adjoining solar farm	$199.89
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**-2.18%**

The small differential between the Test Area Sales and the Control Area Sales is within the range of normal market variance, and therefore it does not appear that the New Road Solar installation impacted the sale price of the Test Area Sales in the Kendall Park subdivision. We note that the control data had a smaller median home size, which likely explains the relative difference in adjusted median price per square foot. Again, we note that the linear distance from the Test Area Sales to the adjacent panels is over 900 feet and that there is heavy wooded screening between the Test Area Sales and the solar facility. Given these physical characteristics, we have included this paired sales analysis as an additional consideration in our analysis but have excluded it from the reconciliation at the end of this report.

Working Progress Draft 22

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TECHNIQUE 3: MARKET COMMENTARY

Additionally, we have contacted market participants such as appraisers, brokers, and developers familiar with property values around solar farms. Commentary from our conversations with these market participants is recorded below.

Cheryl Bundek, the Supervisor of Assessments of Kent County, Delaware, reported that when she worked in the city of Dover's tax assessor's office, they had never received a complaint or appeal request about assessed values from home owners in nearby manufactured home communities regarding the Dover Sun Park solar farm.

Nancy Cook in the South Brunswick Township tax assessor's office, in Middlesex County, New Jersey, said that to her recollection there had been no complaints or appeals filed about the presence of the New Road Solar facility in the township from nearby subdivision homeowners.

The Interim Assessor for the town of Whitestown in Oneida County, New York, Frank Donato, stated that he *has seen no impact on property values of properties nearby solar farms.*

Steve Lehr at the Department of Assessment for Tompkins County, New York, mentioned that the appraisal staff *has made no adjustments regarding assessed values of properties surrounding solar farms. Marketing times for properties have also stayed consistent.* Lehr noted that a few of the solar farms in Thompkins County are on land owned by colleges and universities and a few are in rural areas.

At this point in time, Al Fiorille, Senior Valuation Specialist in the Tompkins County Assessment department in New York, reported that he *cannot measure any negativity from the solar farms and arrays that have been installed within the county.*

Mason Hass, the Riverhead Assessor in Suffolk County, on Long Island, New York stated that the solar farms in his town are in industrial zoned areas, and he *has not seen any impact on adjacent properties.*

The Assessor for the town of Smithtown in Suffolk County, New York, Irene Rice, *has not seen any impact on property values as a result of their location near the newly built solar farms in her town.*

In the Assessor's office in the town of Seneca, Ontario County, New York, Shana Jo Hamilton stated that she *has seen no impact on property values of properties adjacent to solar farms*.

Michael Zazzara, Assessor of the City of Rochester in Monroe County, New York commented that the City has a couple of solar farms, and they *have seen no impact on nearby property values and have received no complaints from property owners.*

While there are one or two homes nearby to existing solar farms in the town of Lisbon in St. Lawrence County, New York, Assessor Stephen Teele *has not seen any impact on property values in his town.* The solar farms in the area are in rural or agricultural areas in and around Lisbon.

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The Assessor for the Village of Whitehall in Washington County, New York, Bruce Caza, noted that there are solar farms located in both rural and residential areas in the village and *he has seen no impact on adjacent properties, including any concerns related to glare form solar panels.*

Laurie Lambertson, the Town Assessor for Bethlehem, in Albany County, New York noted that the solar farms in her area are tucked away in rural or industrial areas. *Lambertson has seen no impact on property values in properties adjacent to solar farms.*

A Miami Dade County, Florida Assessor stated that they *do not reduce assessed property values for adjacency to solar farms*.

A Putnam County, Florida Assessor stated that they *have not seen a reduction in assessed value for adjacency to solar farms.*

Renee Davis, Tax Administrator for Bladen County, North Carolina, stated that she *has not seen any effect on property values due to proximity to a solar farm.*

We spoke with Jim Brown, an appraiser for Scotland County, North Carolina, who stated that he *has seen no effect on property values due to proximity to a solar farm.*

We spoke with Gary Rose, a tax assessor for Duplin County, North Carolina, who stated that *he has seen no effect on property values with regard to proximity to a solar farm.*

Kathy Renn, a property Valuation Manager for Vance County, North Carolina, stated that she has *not noticed any effect on property values due to proximity to a solar farm.*

Larry Newton, a Tax Assessor for Anson County, North Carolina, stated that there are six solar farms in the county ranging from 20 to 40 acres and he *has not seen any evidence that solar farms have had any effect on property values due to proximity to a solar farm.*

We spoke with Patrice Stewart, a Tax Administrator for Pasquotank County, North Carolina, and she has seen *no effect on land or residential property values due to proximity to the solar farms in Pasquotank County.*

We spoke with the selling broker of the Adjoining Property for Elm City Solar, in North Carolina, Selby Brewer, who said the solar farm *did not impact the buyer's motivation.*

We spoke with Amy Carr, Commissioner of Revenue in Southampton County, Virginia, who stated that most of the solar farms are in rural areas, but she *has not seen any effect or made any adjustments on property values.* They have evaluated the solar farmland considering a more intense use, which increased the assessed value.

Lisa Ruhlen, Real Estate Clerk in the Hardin County, Ohio Auditor's office reported that as of first quarter 2022, *there have been no complaints or petitions to lower assessed values on homes near the Hardin Solar farm*. Primarily because the solar facility went into operation in 2021 and there has not been a tri-annual reassessment

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of the county yet. However, in the northern part of the county, where solar facilities have been in operation longer, there have still been no complaints about property value impacts.

Bill Nichols, Chief Appraiser with the Trumbull County Auditor in Ohio, stated that he has seen *no effect on property values in properties near a solar farm* and no one has come in to complain to the Auditor's office about an impact on their property value.

Beth Fritz, the Valuation Specialist in the Wood County, Ohio Auditor's office *has seen no effect or impact on residential, commercial, or agricultural property values on any properties with proximity to a solar farm*.

Jarra Underwood, Wayne County Auditor in Ohio reported that she *has seen no impact on property values due to their location near a solar farm*. There is one solar fam in the county near residential properties and while it is not a highly sought after location, Underwood has still not seen an effect on those property values due to the nearby solar farm.

We spoke with Ken Surface, a Senior Vice President of Nexus Group. Nexus Group is a large valuation group in Indiana and has been hired by 20 counties in Indiana regarding property assessments. Mr. Surface is familiar with the solar farm sites in Harrison County (Lanesville Solar Farm) and Monroe County (Ellettsville Solar Farm) and stated he has noticed *no impact on property values from proximity to these sites*.

We interviewed Missy Tetrick, a Commercial Valuation Analyst for the Marion County Indiana Assessor. She mentioned the Indy Solar III sites and stated that she saw *no impact on land or property prices from proximity to this solar farm*.

We spoke with Dorene Greiwe, Decatur County Indiana Assessor, and she stated that solar farms have only been in the county a couple of years, but she has seen *no impact on land or property prices due to proximity to this solar farm*.

Connie Gardner, First Deputy Assessor for Madison County Indiana, stated that there are three solar farms in her county, and she has seen *no impact on land or property prices due to proximity to these solar farms*.

We spoke with Tara Shaver, Director of Administration for Marion County, Indiana Assessor/Certified Assessor, and she stated that she has seen *no impact on land or property prices due to proximity to solar farms*.

Candace Rindahl of ReMax Results, a real estate broker with 16 years of experience in the North Branch, Minnesota area, said that she has been in most of the homes surrounding the North Star Solar Farm and personally sold two of them. She reported that the neighboring homes sold at market rates comparable to other homes in the area not influenced by the solar farm, and they sold within 45 days of offering, at the end of 2017, *which was in line with the market.*

Dan Squires, Chisago County Tax Assessor, confirmed that the Chisago County Assessor's Office completed their own study on property values adjacent to and in close vicinity to the solar farm from January 2016 to October

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2017. From the study, the assessor determined the residential homes adjacent to the North Star Solar Farm *were in-line with the market and were appreciating at the same rate as the market.*[27]

A Clark County, Kentucky Property Valuation Administrator, Jason Neely, noted there have been no complaints regarding East Kentucky Power Cooperative, Inc.'s Cooperative Solar One project installed in November 2017 located in the county, which has a capacity to generate 8.5 MW of electricity. Additionally, Neely stated he has not seen any evidence of lowered property values in the area and *no reduction in assessed property values has been made due to proximity to the solar farm.*

A Grant County, Kentucky Assessor stated that *they have not seen a reduction in assessed property values or market values for adjacency to solar farms.*

A McNairy County, Tennessee Assessor stated that they *have not applied reductions to assessed value for adjacency to solar farms.*

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[27] Chisago County Press: County Board Real Estate Update Shows No "Solar Effects" (11/03/2017)

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SOLAR FARM FACTORS ON HARMONY OF USE

Zoning changes and conditional use permits often require that the proposed use is compatible with surrounding uses.

The following section analyzes specific physical characteristics of solar farms and is based on research and CohnReznick's personal solar farm site visits and indicate that solar farms are generally harmonious with surrounding property and compliant with most zoning standards.

Appearance: Most solar panels have a similar appearance to a greenhouse or single-story residence can range from 8 to 20 feet but are usually not more than 15 feet high. As previously mentioned, developers generally surround a solar farm with a fence and often leave existing perimeter foliage, which minimizes the visibility of the solar farm. The physical characteristics of solar farms are compatible with adjoining agricultural and residential uses.

Sound: Solar panels in general are effectively silent and sound levels are minimal, like ambient sound. There are limited sound-emitting pieces of equipment on-site, which only produce a quiet hum (e.g., substation). However, these sources are not typically heard outside the solar farm perimeter fence.

Odor: Solar panels do not produce any byproduct or odor.

Greenhouse Gas (GHG) Emissions: Much of the GHG produced in the United States is linked to the combustion of fossil fuels, such as coal, natural gas, and petroleum, for energy use. Generating renewable energy from operating solar panels for energy use does not have significant GHG emissions, promoting cleaner air and reducing carbon dioxide (CO_2) emissions to fight climate change.

Traffic: The solar farm requires minimal daily onsite monitoring by operational employees and thus minimal operational traffic.

Hazardous Material: Modern solar panel arrays are constructed to U.S. government standards. Testing shows that modern solar modules are both safe to dispose of in landfills and are also safe in worst case conditions of abandonment or damage in a disaster.[28] Reuse or recycling of materials would be prioritized over disposal. Recycling is an area of significant focus in the solar industry, and programs for both batteries and solar panels are advancing every year. While the exact method of recycling may not be known yet as it is dependent on specific design and manufacturer protocol, the equipment is designed with recyclability of its components in mind, and it is likely that solar panel and battery energy storage recycling and reuse programs will only improve in 25 years' time.

Examples of homes built adjoining to solar farms are presented on the following pages.

[28] Virginia Solar Initiative - Weldon Cooper Center for Public Service – University of Virginia (https://solar.coopercenter.org/taxonomy/term/5311)

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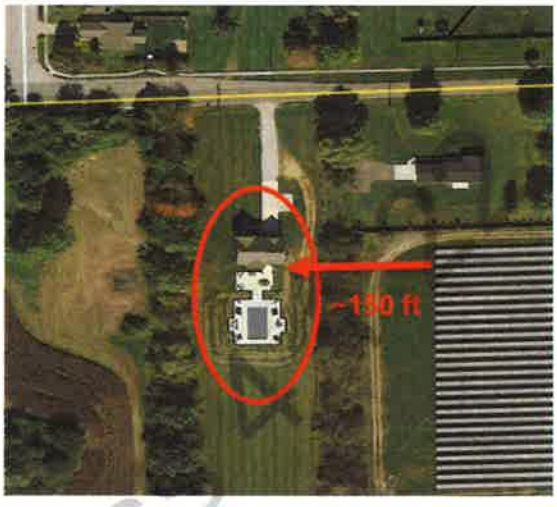
For the Dominion Indy III solar farm, the adjacent land to the west was acquired and subsequently developed with a large estate home – after the solar panels had been in operation for years.

Dominion Indy III Solar Farm
September 2014



Dominion Indy III Solar Farm
October 2016

Estate home adjacent to Dominion Indy III Solar Farm

In ground pool and attached garage (home cost estimated at $450,000 - October 2015)

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Innovative Solar 42 (2017)
Cumberland County, NC

Single Family Home Development (1)
- End-user built
- 2,933 SF
- Completed on 3/1/2019
- Cost estimate: $170,300

Single Family Home Development (2)
- Developer built
- 4 Bedroom
- 3 Bathroom
- 2,401 SF
- Sold 6/18/19 for $265,900 ($110.75/sf)

Innovative Solar 42 (2019)
Cumberland County, NC

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Developer Built Home
Sold 6/18/19 for $265,900 ($110.75/sf)
Cumberland County, NC (adjacent to Innovative 42 solar farm)

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Portage Solar Farm, IN
October 2015

Portage Solar Farm, IN
October 2016

4,255 square foot estate home under construction, adjacent to Portage Solar Farm located in Indiana

On-site pond and attached garage (cost estimated at $465,000) April 2018

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The Brighton PV Solar farm became operational in December 2012. Located in Adams County, north of Denver, CO, this solar farm has a capacity of 1.8 MW AC and is located on a triangular parcel of land east of an area of existing custom-built estate homes. A photo of one home (15880 Jackson Street) located directly north of the circled area below is presented to the right.

In December 2012, the 2.55-acre lot encircled in red below (15840 Jackson Street) was purchased for future development of a single-family home. This home was built in 2017, and per the county assessor, the two-story home is 3,725 square feet above ground with 4 bedrooms and 3.5 bathrooms. According to the building permit issued in August 2016, the construction cost was budgeted at $410,000.

Brighton PV Solar, Adams County, CO
June 2016

Brighton PV Solar, Adams County, CO
June 2017

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SUMMARY OF ADJOINING USES

The table below summarizes each Existing Solar Farm's adjoining uses.

		Composition of Surrounding Uses (% of Surrounding Acreage)					
Solar Farm #	Solar Farm	Acreage % of Surrounding Agricultural Uses	Acreage % of Surrounding Residential Uses	Acreage % of Surrounding Industrial Uses	Acreage % of Surrounding Office Uses	Acreage % of Surrounding Other Uses	Avg. Distance from Panels to Improvements (Feet)
1	North Star	75.00%	15.00%	0.00%	0.00%	10.00%	325
2	Dominion Indy Solar III	97.70%	2.30%	0.00%	0.00%	0.00%	474
3	Dougherty Solar	76.42%	22.46%	1.12%	0.00%	0.00%	350
4	Miami-Dade Solar Energy Center	56.10%	10.00%	0.00%	0.00%	34.00%	915
5	Barefoot Bay Solar Energy Center	0.00%	9.71%	88.08%	0.00%	2.20%	734
6	Innovative Solar 42	20.00%	25.00%	0.00%	0.00%	55.00%	405
7	Woodland Solar	25.00%	5.00%	0.00%	0.00%	60.00%	615
8	Rutherford Farm	10.00%	40.00%	10.00%	0.00%	40.00%	180
9	Elm City Solar	20.00%	15.00%	10.00%	0.00%	50.00%	295
10	Lapeer Solar	60.00%	35.00%	0.00%	0.00%	5.00%	260

Overall, the vast majority of the surrounding acreage for each comparable solar farm is made up of agricultural land, some of which have homesteads. There are also smaller single-family home sites that adjoin the solar farms analyzed in this report. Generally, these solar farms are sound comparables to Brookfield Renewable, U.S.'s proposed solar project in terms of adjoining uses, location, and size.

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SUMMARY AND FINAL CONCLUSIONS

The purpose of this property value impact report is to determine whether the presence of a solar farm has caused a measurable and consistent impact on adjacent property values. Under the identified methodology and scope of work, CohnReznick reviewed published methodology for measuring impact on property values as well as published reports that analyzed the impact of solar farms on property values. These studies found little to no measurable and consistent difference between Test Area Sales and Control Area Sales attributed to the solar farms.

A summary of the chosen CohnReznick impact studies prepared is presented below.

CohnReznick Solar Analysis Conclusions

#	Solar Farm	Number of Test Area Sales	Number of Control Area Sales	Median Adjoining Property Sale (Test Area) Price per Unit	Control Area Sales Median Price per Unit	Difference (%)	Avg. Feet from Panel to Lot	Avg. Feet from Panel to House	Impact Found?
Single-Family Residential									
1	North Star Solar Group 1	3	11	$151.93	$139.50	+8.91%	123	358	No Impact
	North Star Solar Group 2	1	10	$119.82	$116.33	+3.00%	152	225	No Impact
	North Star Solar Group 3*	1	10						
	North Star Solar Group 4	1	7	$172.41	$170.86	+0.91%	90	180	No Impact
	North Star Solar Group 5	1	8	$205.09	$170.88	+20.02%	90	280	No Impact
	North Star Solar Group 6	1	4	$114.48	$120.49	-4.99%	130	730	No Impact
	North Star Solar Group 7	1	11	$156.84	$135.63	+15.64%	200	330	No Impact
	North Star Solar Group 8	1	5	$139.70	$132.68	+5.29%	295	800	No Impact
	North Star Solar Group 9	1	8	$101.63	$103.95	-2.22%	115	285	No Impact
2	Indy Solar III Group 2	4	8	$59.10	$57.84	+2.18%	240	350	No Impact
	Indy Solar III Group 3	7	11	$72.15	$71.69	+0.65%	165	300	No Impact
3	Dougherty Solar	1	5	$74.55	$76.23	-2.21%	202	312	No Impact
5	Barefoot Bay Solar Energy Center Group 2	5	126	$95.90	$93.95	+2.07%	675	750	No Impact
6	Innovative Solar 42 Group 1	1	7	$107.09	$100.18	+6.91%	215	405	No Impact
	Innovative Solar 42 Group 2	1	7	$111.77	$105.34	+6.10%	240	300	No Impact
7	Rutherford Farm	1	6	$53.46	$52.49	+1.85%	135	180	No Impact
8	Elm City Solar	1	8	$56.60	$55.57	+1.85%	255	295	No Impact
9	Woodland Solar	1	5	$144.63	$137.76	+4.99%	420	615	No Impact
10	DTE Lapeer Solar Group 1	3	6	$105.26	$99.64	+5.65%	205	285	No Impact
	DTE Lapeer Solar Group 2	1	5	$114.12	$113.01	+0.98%	225	315	No Impact
	DTE Lapeer Solar Group 3	1	4	$94.84	$96.32	-1.53%	160	290	
Median Variance in Sale Prices for Test to Control Areas						**+2.13%**			

38 Adjoining Test Sales studied and compared to 272 Control Sales

** Note, the paired sale analysis for this group is an outlier as determined earlier in this report and was excluded from this summary table.*

Land (Agricultural/Single Family Lots)									
2	Indy Solar III Group 1	1	4	$8,210	$8,091	+1.47%	280	-	No Impact
4	Miami-Dade Solar Energy Center	3	6	$82,491	$81,866	+0.76%	766	-	No Impact
5	Barefoot Bay Solar Energy Center Group 1	2	7	$54,500	$51,000	+6.86%	475	-	No Impact
Median Variance in Sale Prices for Test to Control Areas						**+1.47%**			

6 Adjoining Test Sales studied and compared to 17 Control Sales

As summarized above, we evaluated 44 property sales adjoining existing solar facilities (Test Area Sales) and 289 Control Area Sales. In addition, we studied a total of 62 Test Area Sales and 1,035 Control Area Sales in four Before and After analyses. In total, we have studied over 1,430 sale transactions.

The solar farms analyzed reflected sales of property adjoining an existing solar farm (Test Area Sales) in which the unit sale prices were effectively the same or higher than the comparable Control Area Sales that were not near a solar farm. The conclusions support that there is no negative impact for improved residential homes adjacent to solar, nor agricultural acreage. This was confirmed with market participants interviews, which

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provided additional insight as to how the market evaluates farmland and single-family homes with views of the solar farm.

It can be concluded that since the Adjoining Property Sales (Test Area Sales) were not adversely affected by their proximity to the solar farm, that properties surrounding other proposed solar farms operating in compliance with all regulatory standards will similarly not be adversely affected, in either the short or long term periods.

Based upon the examination, research, and analyses of the existing solar farm uses, the surrounding areas, and an extensive market database, we have concluded that ***no consistent negative impact has occurred to adjacent property values that could be attributed to proximity to the adjacent solar farm***, with regard to unit sale prices or other influential market indicators. Additionally, in our workfile we have retained analyses of additional existing solar farms, each with their own set of matched control sales, which had consistent results, indicating no consistent and measurable impact on adjacent property values. This conclusion has been confirmed by numerous county assessors who have also investigated this use's potential impact on property values.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

CohnReznick LLP

Andrew R. Lines, MAI
Principal - Valuation Advisory Services
Certified General Real Estate Appraiser

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Expires 7/28/2022
Florida License No. RZ3899
Expires 11/30/2022
Indiana License No. CG41500037
Expires 6/30/2022
Kentucky License 5663
Expires 6/30/2022
Georgia License No. 360939
Expires 10/31/2023

Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services
Certified General Real Estate Appraiser

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North Carolina License No. A8131
Expires 6/30/2022
Virginia License No. 4001016998
Expires 3/31/2024
Michigan License No. 1201072979
Expires 7/31/2022

Sonia K. Singh, MAI
Director – Valuation Advisory Services
Certified General Real Estate Appraiser

Virginia License No. 4001017615
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CERTIFICATION

We certify that, to the best of our knowledge and belief:

1. The statements of fact and data reported are true and correct.
2. The reported analyses, findings, and conclusions in this consulting report are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, findings, and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. We have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.
5. We have no bias with respect to the property that is the subject of this report, or the parties involved with this assignment.
6. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value finding, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
8. Our analyses, findings, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which includes the Uniform Standards of Professional Appraisal Practice (USPAP).
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.
11. We have not relied on unsupported conclusions relating to characteristics such as race, color, religion, national origin, gender, marital status, familial status, age, and receipt of public assistance income, handicap, or an unsupported conclusion that homogeneity of such characteristics is necessary to maximize value.
12. Michael F. Antypas, TJ Schemmel, and Amanda G. Edwards provided significant appraisal consulting assistance to the persons signing this certification, including data verification, research, and administrative work all under the appropriate supervision.
13. We have experience in reviewing properties similar to the subject and are in compliance with the Competency Rule of USPAP.
14. As of the date of this report, Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Sonia K. Singh, MAI have completed the continuing education program for Designated Members of the Appraisal Institute.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

CohnReznick LLP

Andrew R. Lines, MAI
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ASSUMPTIONS AND LIMITING CONDITIONS

The fact witness services will be subject to the following assumptions and limiting conditions:

1. No responsibility is assumed for the legal description provided or for matter pertaining to legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated. The legal description used in this report is assumed to be correct.
2. The property is evaluated free and clear of any or all liens or encumbrances unless otherwise stated.
3. Responsible ownership and competent management are assumed.
4. Information furnished by others is believed to be true, correct, and reliable, but no warranty is given for its accuracy.
5. All engineering studies are assumed to be correct. The plot plans and illustrative material in this report are included only to help the reader visualize the property.
6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for obtaining the engineering studies that may be required to discover them.
7. It is assumed that the property is in full compliance with all applicable federal, state, and local and environmental regulations and laws unless the lack of compliance is stated, described, and considered in the evaluation report.
8. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in the evaluation report.
9. It is assumed that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
10. It is assumed that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
11. The date of value to which the findings are expressed in this report apply is set forth in the letter of transmittal. The appraisers assume no responsibility for economic or physical factors occurring at some later date which may affect the opinions herein stated.
12. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the property, was not observed by the appraisers. The appraisers have no knowledge of the existence of such substances on or in the property. The appraisers, however, are not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, radon gas, lead or lead-based products, toxic waste contaminants, and other potentially hazardous materials may affect the value of the property. The value estimate is predicated on the

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assumption that there is no such material on or in the property that would cause a loss in value. No responsibility is assumed for such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

13. The forecasts, projections, or operating estimates included in this report were utilized to assist in the evaluation process and are based on reasonable estimates of market conditions, anticipated supply and demand, and the state of the economy. Therefore, the projections are subject to changes in future conditions that cannot be accurately predicted by the appraisers, and which could affect the future income or value projections.

14. Fundamental to the appraisal analysis is the assumption that no change in zoning is either proposed or imminent, unless otherwise stipulated. Should a change in zoning status occur from the property's present classification, the appraisers reserve the right to alter or amend the value accordingly.

15. It is assumed that the property does not contain within its confined any unmarked burial grounds which would prevent or hamper the development process.

16. The Americans with Disabilities Act (ADA) became effective on January 26, 1992. We have not made a specific compliance survey and analysis of the property to determine if it is in conformance with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect on the value of the property. Unless otherwise noted in this report, we have not been provided with a compliance survey of the property. Any information regarding compliance surveys or estimates of costs to conform to the requirements of the ADA are provided for information purposes. No responsibility is assumed for the accuracy or completeness of the compliance survey cited in this report, or for the eventual cost to comply with the requirements of the ADA.

17. Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in this report.

18. Any proposed improvements are assumed to have been completed unless otherwise stipulated; any construction is assumed to conform with the building plans referenced in this report.

19. Unless otherwise noted in the body of this report, this evaluation assumes that the subject does not fall within the areas where mandatory flood insurance is effective.

20. Unless otherwise noted in the body of this report, we have not completed nor are we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property.

21. This report should not be used as a basis to determine the structural adequacy/inadequacy of the property described herein, but for evaluation purposes only.

22. It is assumed that the subject structure meets the applicable building codes for its respective jurisdiction. We assume no responsibility/liability for the inclusion/exclusion of any structural

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component item which may have an impact on value. It is further assumed that the subject property will meet code requirements as they relate to proper soil compaction, grading, and drainage.

23. The appraisers are not engineers, and any references to physical property characteristics in terms of quality, condition, cost, suitability, soil conditions, flood risk, obsolescence, etc., are strictly related to their economic impact on the property. No liability is assumed for any engineering-related issues.

The evaluation services will be subject to the following limiting conditions:

1. The findings reported herein are only applicable to the properties studied in conjunction with the Purpose of the Evaluation and the Function of the Evaluation as herein set forth; the evaluation is not to be used for any other purposes or functions.
2. Any allocation of the total value estimated in this report between the land and the improvements applies only to the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are not valid if so used.
3. No opinion is expressed as to the value of subsurface oil, gas or mineral rights, if any, and we have assumed that the property is not subject to surface entry for the exploration or removal of such materials, unless otherwise noted in the evaluation.
4. This report has been prepared by CohnReznick under the terms and conditions outlined by the enclosed engagement letter. Therefore, the contents of this report and the use of this report are governed by the client confidentiality rules of the Appraisal Institute. Specifically, this report is not for use by a third party and CohnReznick is not responsible or liable, legally or otherwise, to other parties using this report unless agreed to in writing, in advance, by both CohnReznick and/or the client or third party.
5. Disclosure of the contents of this evaluation report is governed by the by-laws and Regulations of the Appraisal Institute has been prepared to conform with the reporting standards of any concerned government agencies.
6. The forecasts, projections, and/or operating estimates contained herein are based on current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to changes with future conditions. This evaluation is based on the condition of local and national economies, purchasing power of money, and financing rates prevailing at the effective date of value.
7. This evaluation shall be considered only in its entirety, and no part of this evaluation shall be utilized separately or out of context. Any separation of the signature pages from the balance of the evaluation report invalidates the conclusions established herein.
8. **Possession of this report, or a copy thereof, does not carry with it the right of publication, nor may it be used for any purposes by anyone other than the client without the prior written consent of the appraisers, and in any event, only with property qualification.**

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9. The appraisers, by reason of this study, are not required to give further consultation or testimony or to be in attendance in court with reference to the property in question unless arrangements have been previously made.

10. Neither all nor any part of the contents of this report shall be conveyed to any person or entity, other than the appraiser's client, through advertising, solicitation materials, public relations, news, sales or other media, without the written consent and approval of the authors, particularly as to evaluation conclusions, the identity of the appraisers or CohnReznick, LLC, or any reference to the Appraisal Institute, or the MAI designation. Further, the appraisers and CohnReznick, LLC assume no obligation, liability, or accountability to any third party. If this report is placed in the hands of anyone but the client, client shall make such party aware of all the assumptions and limiting conditions of the assignment.

11. This evaluation is not intended to be used, and may not be used, on behalf of or in connection with a real estate syndicate or syndicates. A real estate syndicate means a general or limited partnership, joint venture, unincorporated association or similar organization formed for the purpose of, and engaged in, an investment or gain from an interest in real property, including, but not limited to a sale or exchange, trade or development of such real property, on behalf of others, or which is required to be registered with the United States Securities and Exchange commissions or any state regulatory agency which regulates investments made as a public offering. It is agreed that any user of this evaluation who uses it contrary to the prohibitions in this section indemnifies the appraisers and the appraisers' firm and holds them harmless from all claims, including attorney fees, arising from said use.

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ADDENDUM A:
APPRAISER QUALIFICATIONS

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Patricia L. McGarr, MAI, CRE, FRICS, CRA

Principal and CohnReznick Group – Valuation Advisory National Director

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-508-5802
patricia.mcgarr@cohnreznick.com

Patricia L. McGarr, MAI, CRE, FRICS, CRA, is a principal and National Director of CohnReznick Advisory Group's Valuation Advisory Services practice. Pat's experience includes market value appraisals of varied property types for acquisition, condemnation, mortgage, estate, ad valorem tax, litigation, zoning, and other purposes. Pat has been involved in the real estate business since 1980. From June 1980 to January 1984, she was involved with the sales and brokerage of residential and commercial properties. Her responsibilities during this time included the formation, management, and training of sales staff in addition to her sales, marketing, and analytical functions. Of special note was her development of a commercial division for a major Chicago-area brokerage firm.

Since January 1984, Pat has been exclusively involved in the valuation of real estate. Her experience includes the valuation of a wide variety of property types including residential (SF/MF/LIHTC), commercial, industrial, and special purpose properties including such diverse subjects as quarries, marinas, riverboat gaming sites, shopping centers, manufacturing plants, and office buildings. She is also experienced in the valuation of leasehold and leased fee interests. Pat has performed appraisal assignments throughout the country, including the Chicago Metropolitan area as well as New York, New Jersey, California, Nevada, Florida, Utah, Texas, Wisconsin, Indiana, Michigan, and Ohio. Pat has gained substantial experience in the study and analysis of the establishment and expansion of sanitary landfills in various metropolitan areas including the preparation of real estate impact studies to address criteria required by Senate Bill 172. She has also developed an accepted format for allocating value of a landfill operation between real property, landfill improvements, and franchise (permits) value.

Over the past several years, Pat has developed a valuation group that specializes in the establishment of new utility corridors for electric power transmission and pipelines. This includes determining acquisition budgets, easement acquisitions, corridor valuations, and litigation support. Pat has considerable experience in performing valuation impact studies on potential detrimental conditions and has studied properties adjoining solar farms, wind farms, landfills, waste transfer stations, stone quarries, cellular towers, schools, electrical power transmission lines, "Big Box" retail facilities, levies, properties with restrictive covenants, landmark districts, environmental contamination, airports, material defects in construction, stigma, and loss of view amenity for residential high rises. Most recently, the firm has studied property values adjacent to Solar Farms to address criteria required for special use permits across the Midwest.

Pat has qualified as an expert valuation witness in numerous local, state, and federal courts.

Pat has participated in specialized real estate appraisal education and has completed more than 50 courses and seminars offered by the Appraisal Institute totaling more than 600 classroom hours, including real estate transaction courses as a prerequisite to obtaining a State of Illinois Real Estate Salesman License.

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Pat has earned the professional designations of Counselors of Real Estate (CRE), Member of the Appraisal Institute (MAI), Fellow of Royal Institution of Chartered Surveyors (FRICS) and Certified Review Appraiser (CRA). She has also been a certified general real estate appraiser in 21 states (see below).

Education

- North Park University: Bachelor of Science, General Studies

Professional Affiliations

- National Association of Realtors
- CREW Commercial Real Estate Executive Women
- IRWA International Right of Way Association

Licenses and Accreditations

- Member of the Appraisal Institute (MAI)
- Counselors of Real Estate, designated CRE
- Fellow of Royal Institution of Chartered Surveyors (FRICS)
- Certified Review Appraiser (CRA)
- Alabama State Certified General Real Estate Appraiser
- California State Certified General Real Estate Appraiser
- Connecticut State Certified General Real Estate Appraiser
- Colorado State Certified General Real Estate Appraiser
- District of Columbia Certified General Real Estate Appraiser
- Illinois State Certified General Real Estate Appraiser
- Indiana State Certified General Real Estate Appraiser
- Louisiana State Certified General Real Estate Appraiser
- Maryland State Certified General Real Estate Appraiser
- Massachusetts Certified General Real Estate Appraiser
- Michigan State Certified General Real Estate Appraiser
- North Carolina State Certified General Real Estate Appraiser
- New Jersey State Certified General Real Estate Appraiser
- Nevada State Certified General Real Estate Appraiser
- New York State Certified General Real Estate Appraiser
- Pennsylvania State Certified General Real Estate Appraiser
- South Carolina State Certified General Real Estate Appraiser
- Tennessee State Certified General Real Estate Appraiser
- Texas State Certified General Real Estate Appraiser
- Virginia State Certified General Real Estate Appraiser
- Wisconsin State Certified General Real Estate Appraiser

Appointments

- Appointed by two Governors of Illinois to the State Real Estate Appraisal Board (2017 & 2021)
- Chairwoman of the State of Illinois Real Estate Appraisal Board (2021)

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Andrew R. Lines, MAI

Principal, CohnReznick Advisory

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-508-5892
andrew.lines@cohnreznick.com

Andrew R. Lines is a principal in CohnReznick's Valuation Advisory Services group where he specializes in Real Estate, Affordable Housing, Cannabis and Renewable Energy. Andrew leads a group of appraisers across the country performing valuations on a wide variety of real estate property types including residential, commercial, industrial, hospitality and special purpose properties: landfills, waste transfer stations, marinas, hospitals, universities, self-storage facilities, racetracks, CCRCs, and railroad corridors. Affordable Housing experience includes Market Studies, Rent Compatibility Studies and Feasibility Analysis for LIHTC and mixed-income developments. Cannabis assignments have covered cultivation, processing, and dispensaries in over 10 states, including due diligence for mergers and acquisitions of multi-state operational and early stage companies. Renewable Energy assignments have included preparation of impact studies and testimony at local zoning hearings in eight states.

He is experienced in the valuation of leasehold, leased fee, and partial interests and performs appraisals for all purposes including financial reporting, litigation, and gift/estate planning. Andrew is a State Certified General Real Estate Appraiser in the states of Illinois, Indiana, Maryland, Georgia, Florida, Ohio, New York, New Jersey, Arizona, Kentucky, and the District of Columbia.

Before joining CohnReznick, Andrew was with Integra Realty Resources, starting as analyst support in 2002 and leaving the firm as a director in late 2011 (including two years with the Phoenix chapter). His real estate experience also includes one year as administrator for the residential multifamily REIT Equity Residential Properties Trust (ERP), in the transactions department, where he performed due diligence associated with the sale and acquisition of REIT properties and manufactured home communities.

Education

- Syracuse University: Bachelor of Fine Arts
- MAI Designation (Member of the Appraisal Institute)

Professional Affiliations

- Chicago Chapter of the Appraisal Institute
  - Alternate Regional Representative (2016 - 2018)
  - MAI Candidate Advisor (2014 - Present)
- International Real Estate Management (IREM)
- National Council of Real Estate Investment Fiduciaries (NCREIF)

Work in Progress 1.22

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CohnReznick

Community Involvement

- Syracuse University Regional Council – Active Member
- Syracuse University Alumni Association of Chicago, Past Board member
- Chicago Friends School – Treasurer & Board Member

Work in Progress 4.1.22

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Sonia K. Singh, MAI

Director – Valuation Advisory Services

7501 Wisconsin Avenue, Suite 400E
Bethesda, Maryland 20814
301-280-5193
sonia.singh@cohnreznick.com

Sonia K. Singh, MAI is a director in CohnReznick Advisory Group's Valuation Advisory practice and based in the Bethesda office. For the past ten years, she has engaged in real estate valuation and other real estate consulting services and valued over $5 billion in real property.

Sonia is adept at valuing a variety of commercial real estate across the United States, including the following complex property types: athletic clubs; full-service hotels and beach resorts; marinas; historic redevelopment projects; recycling facilities; single-family rental home portfolios; master planned communities; and for-sale residential units or subdivisions. She has also performed real estate appraisals involving leasehold interests, air rights ownership, and right-of-way fee simple and easement acquisitions for utility corridors. She has performed these and other appraisals others for purposes including financial reporting, estate planning, gift and estate tax, bond and conventional financing, litigation (eminent domain), and asset management, with the ability to handle appraisals of large portfolios in expedited timeframes. With significant experience in the appraisal of senior living facilities including continuing care retirement communities, skilled nursing facilities, assisted living and memory care facilities, as well as age-restricted housing, Ms. Singh has elevated the firm's modelling of complex healthcare property ownership structures to help illuminate debt/income and lease coverage ratios for federal courts, resulting in millions of dollars in recovered credits for clients.

Additionally, Sonia is experienced in purchase price allocations (GAAP, IFRS, and IRC 1060) for financial reporting, including the early adoption of ASU 2017-01. She has also provided valuation services related to highest and best use analysis, market feasibility studies, and useful life analysis. She has prepared impact studies measuring the possible detrimental impact of economic and environmental influences on property values, including those related to high-voltage transmission lines, distribution warehouses, wind farms, and solar farms. She has provided expert witness testimony at local county zoning hearings for proposed solar energy uses and their potential detrimental impacts on adjacent property values.

Education

- University of Illinois: Bachelor of Science, Actuarial Science

Professional Affiliation, Licenses, and Exams

- MAI - Appraisal Institute, Designated Member
- Urban Land Institute, Associate Member
- Certified General Real Estate Appraiser with Active Licenses in DC and the States of MD, MO, and VA
- Successful completion of the following actuarial exams: Probability (1/P), Financial Mathematics (2/FM), and Models for Financial Economics (3/MFE)

Work in Progress 4.1.22

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Awards and Recognitions

- 2019 National Association of Certified Valuators and Analysts (NACVA) and the Consultants Training Institute (CTI) 40 Under Forty Honoree

Work in Progress 4.1.22

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Michael F. Antypas

Manager, Valuation Advisory Services

7501 Wisconsin Ave, Suite 400E
Bethesda, Maryland 20814
301-280-2741
Michael.Antypas@cohnreznick.com

Michael Antypas is a manager in CohnReznick's Valuation Advisory Services practice group and is based in the Bethesda office. He has assisted other associates and appraisers in the valuation of a variety of retail shopping centers, hotels, market rate and restricted rental apartment properties, industrial properties, Class A office complexes with GSA tenants, mixed-use properties, developable land, master planned communities, subdivisions, and single-family rental home portfolios owned by REITs. He has also completed solar farm impact studies, appraisals for eminent domain disputes, above/below market lease analyses, as well as purchase price allocations on various senior living facilities, medical office buildings, industrial buildings, retail centers, and cannabis facilities. In addition, Michael is certified in working with Argus Enterprise valuation software. He is a practicing affiliate in the Appraisal Institute and is working towards becoming a Certified General Real Estate Appraiser.

He graduated from the Villanova School of Business in May of 2016. Some of his other experience working in Real Estate originated through interning with commercial brokers. Throughout his senior year in college, Michael interned with Newmark Grubb Knight Frank as a Capital Markets intern. There he helped create and revise many marketing packages for the firm's senior managing directors. He also assisted in developing underwriting models and projections for offering memorandums. He also worked with a boutique restaurant broker in Washington D.C, Papadopoulos Properties where he compiled market research for his client's use and surveyed prospective restaurants to gauge their interest in expanding to the Washington D.C. market.

Education

- Villanova University Bachelor of Business Administration, Finance and Real Estate, Minor in Business Analytics

Certifications

- Argus Enterprise Certified

Professional Affiliations

- Appraisal Institute, Practicing Affiliate

Work in Progress 8.4.22

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TJ Schemmel

Manager, Valuation Advisory Services

200 S. Wacker Drive, Suite 2600
Chicago, IL 60606
312-788-6057
TJ.Schemmell@cohnreznick.com
www.cohnreznick.com

TJ Schemmel is a manager in CohnReznick Advisory Group's Valuation Advisory Services practice and is based in the Chicago office. For the past two years, he has completed real estate valuation and other real estate consulting services valued at over $2 billion in real property.

TJ has acquired competency in valuing a variety of commercial real estate across the United States, including the following complex property types: full-service hotels, single family rental home portfolios, cannabis cultivation facilities, hospitals, utility corridors, and for-sale residential units or subdivisions. He has also performed real estate appraisals involving leasehold interests, air rights ownership, and right-of-way fee simple and easement acquisitions for utility corridors. He has performed these and other appraisals for purposes including financial reporting, estate planning, bond and conventional financing, litigation (eminent domain and LaSalle factors), and asset management, with the ability to handle complex appraisals in expedited timeframes. TJ has also participated in assignments to determine the highest and best use of subject properties, which included determining the value of the properties under potential zoning designations and determining the likelihood of potential rezoning.

Education

- University of Cincinnati: Bachelor of Business Administration

Professional Affiliations

- Thomas Schemmel, Practicing Affiliate, Appraisal Institute
- Routes to Success, Incorporated (HOBY Ohio West) - Board President
- Chicago Tutoring - Associate Board Member

Work in Progress 4.1.22

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Amanda G. Edwards

Valuation Research Specialist, Valuation Advisory Services

200 S. Wacker Drive, Suite 2600
Chicago, Illinois 60606
312-508-5453
amanda.edwards@cohnreznick.com

Amanda Edwards is a valuation research specialist in CohnReznick's Valuation Advisory Services practice group and is based in Chicago. Amanda has assisted other appraisers in the valuation of a variety of industrial properties, medical offices, hotels, multifamily properties, condominium developments, retail and mixed-use properties, developable and open space land, and single family subdivisions. She has also assisted with appraisals and continuing consulting for eminent domain litigation. Additionally, Amanda has provided audit support for Assurance clients of the firm.

Before joining CohnReznick, Amanda worked at the Inland Group of companies valuing properties and underwriting, as well as assisting in the closing of commercial mortgage loans, nationwide. Property types included industrial, office, multi-family, retail, and hotel, with an emphasis on value-add properties and new construction projects. Amanda has also worked as a commercial lender for builder-developer housing at Fifth Third Bank, specializing in the Chicago metro area. She has also worked valuing senior housing properties and associated business models for acquisition purposes at a senior housing developer/operator.

Amanda has spent considerable time in the consulting environment, developing and conducting in-depth interviews for primary research in a variety of industries such as technology, financial institutions, and industrial manufacturing for private equity clients.

Education

- Bryn Mawr College, Bachelor of Arts

Professional Affiliations

- Appraisal Institute - Practicing Affiliate
- Chicago Real Estate Council - Member

Work in Progress 1.22

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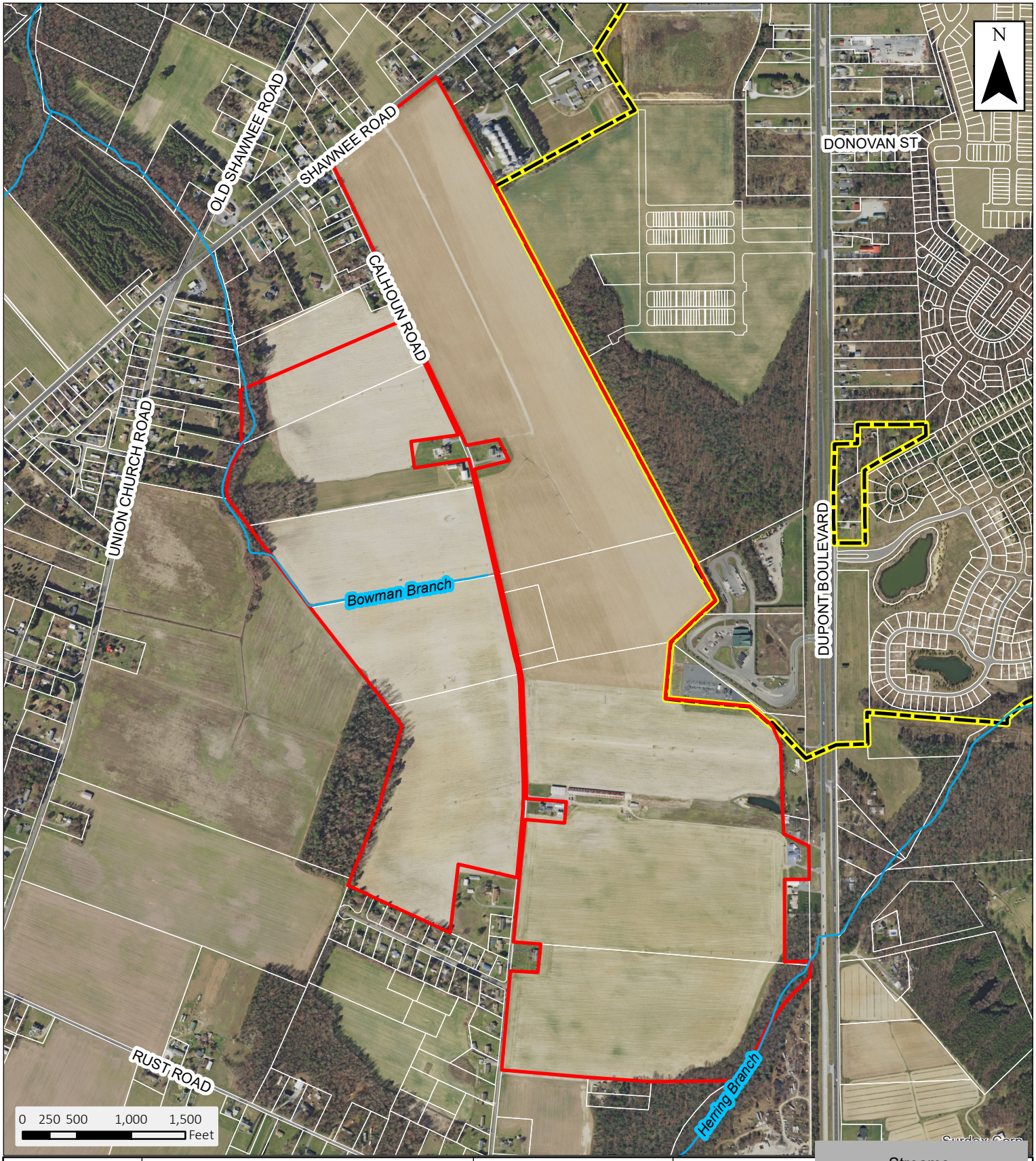
TAB 6

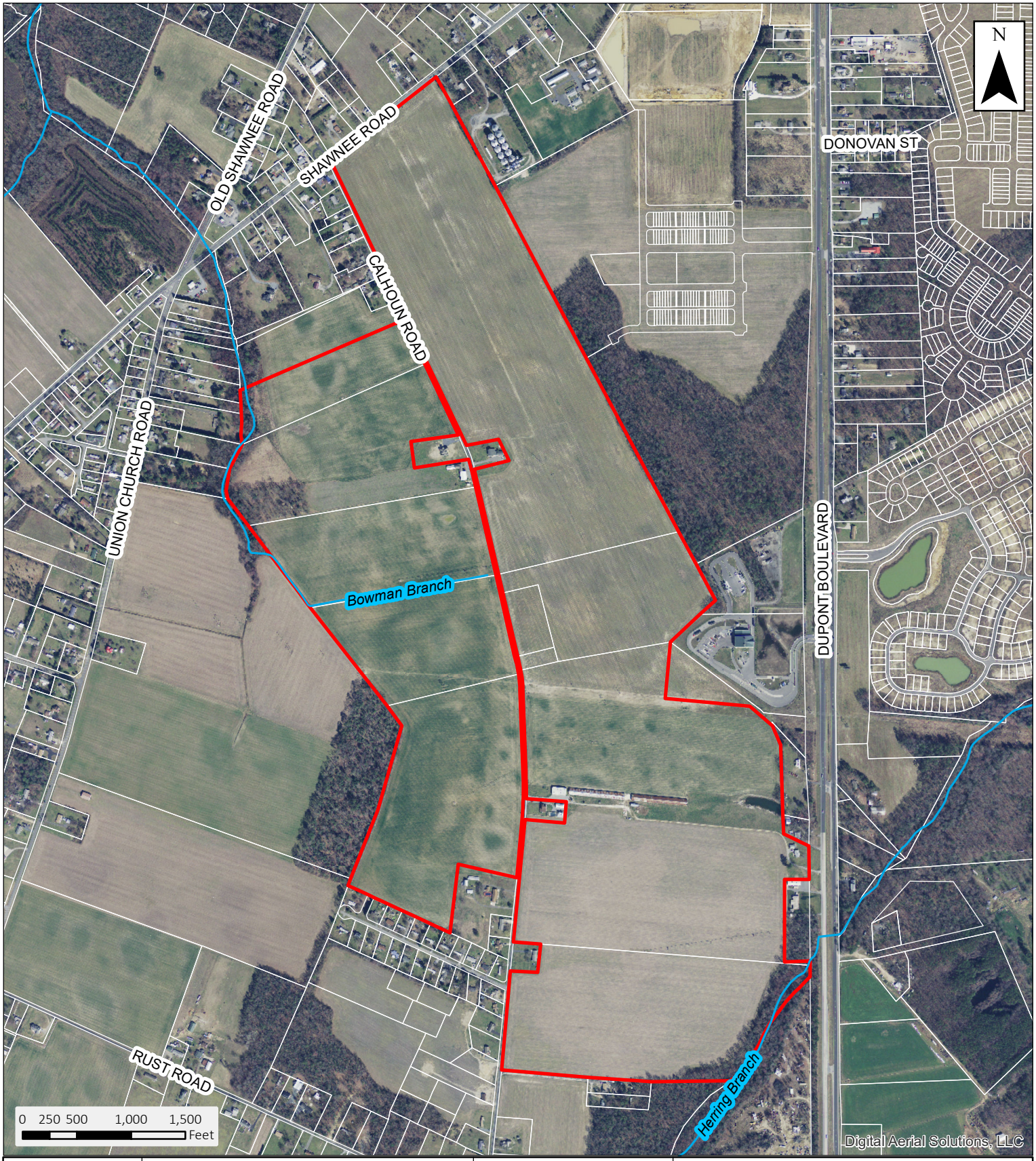
MAPS



1	2017 Orthophoto	Pennoni	
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/22/2022

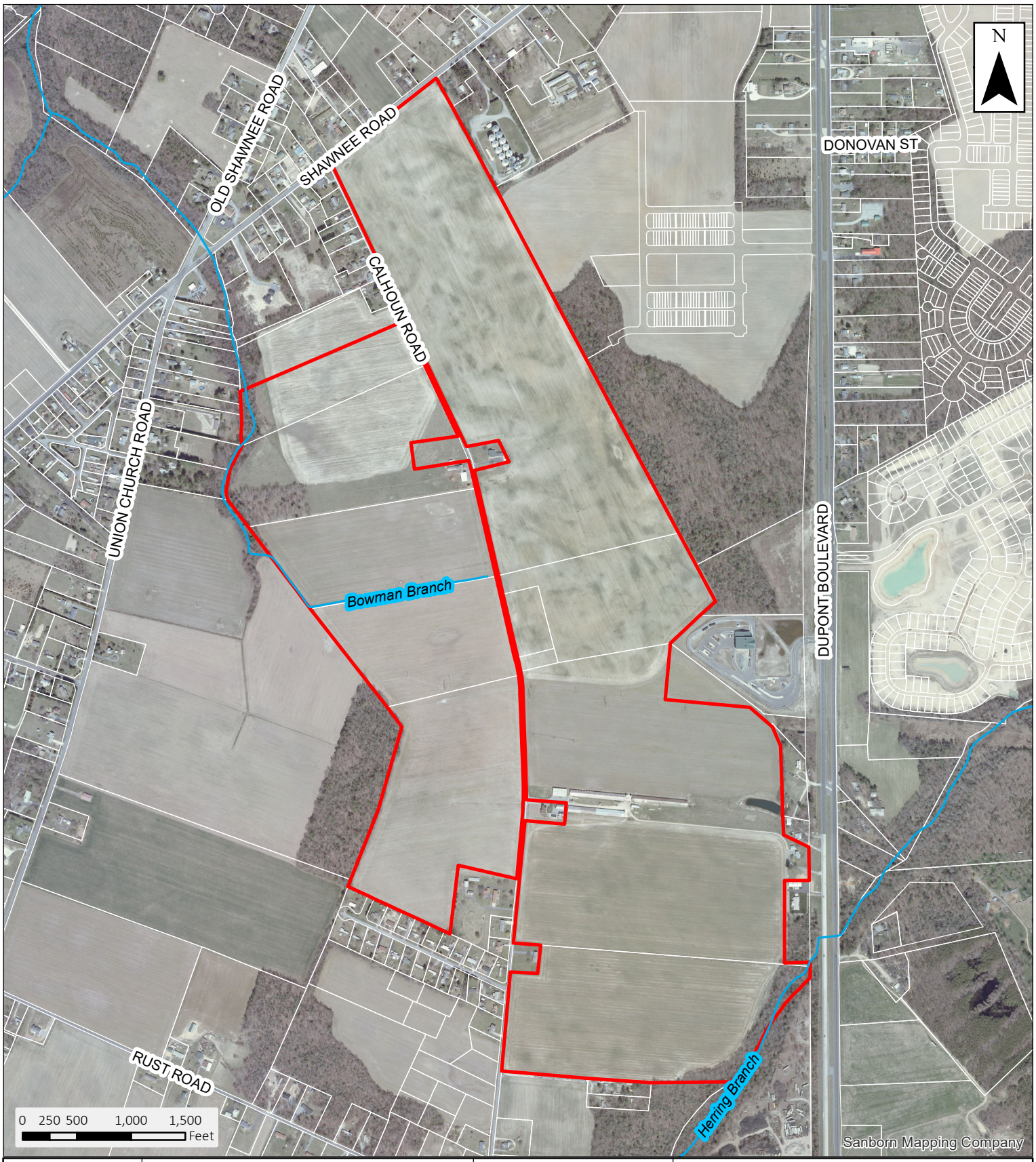
Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\01 2017 Orthophoto.mxd



2	2012 Orthophoto	Pennoni	Streams Subject Parcels Other Tax Parcels
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/22/2022

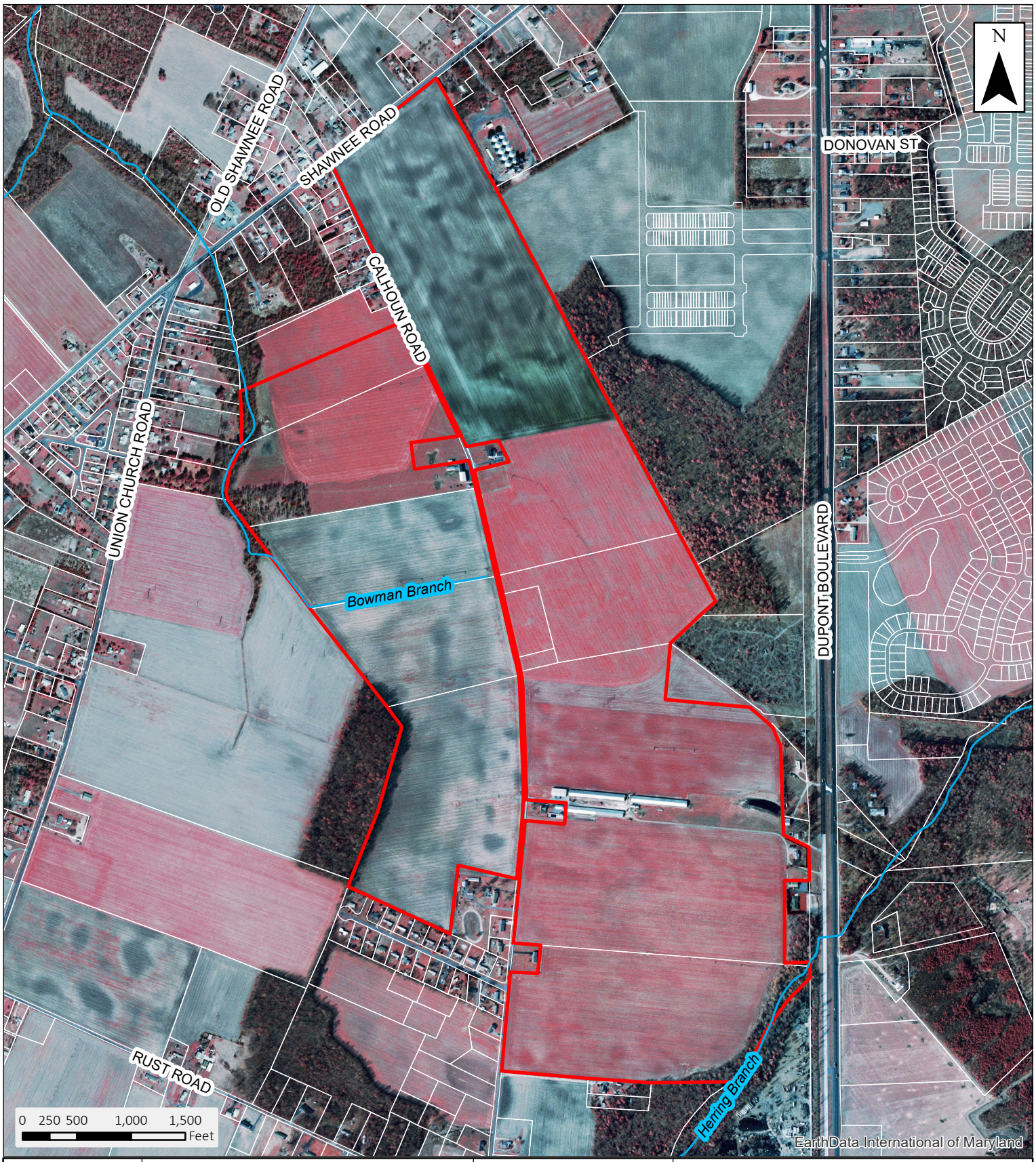
Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\02 2012 Orthophoto.mxd



3	2007 Orthophoto	Pennoni	Streams Subject Parcels Other Tax Parcels
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/22/2022

Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\03 2007 Orthophoto.mxd



4	2002 Orthophoto Freeman Solar Farm BRKRE21001	Pennoni	Streams Subject Parcels Other Tax Parcels

Date: 4/22/2022

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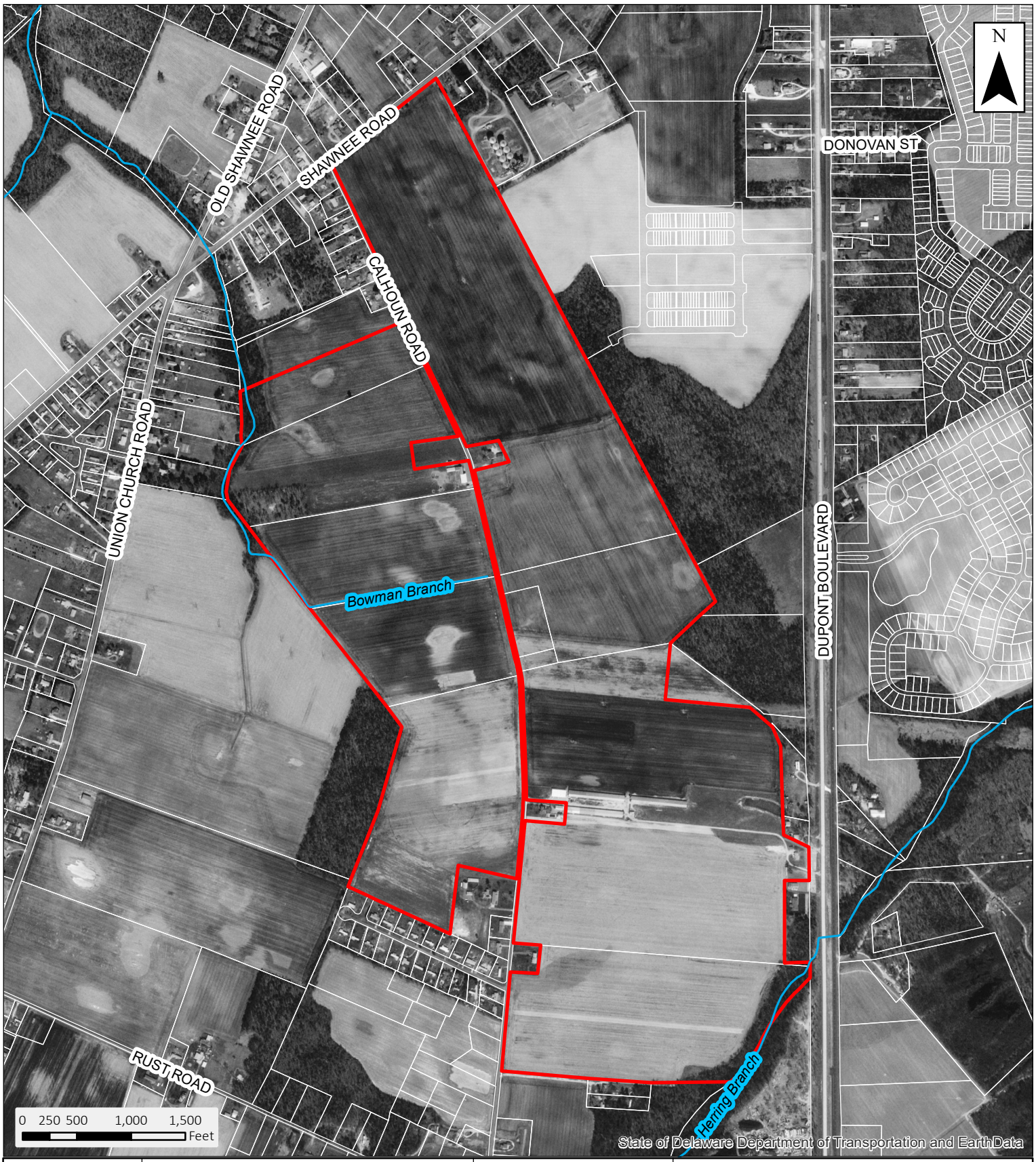

5	1997 Orthophoto	Pennoni	Streams Subject Parcels Other Tax Parcels
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	BRKRE21001		

Date: 4/22/2022

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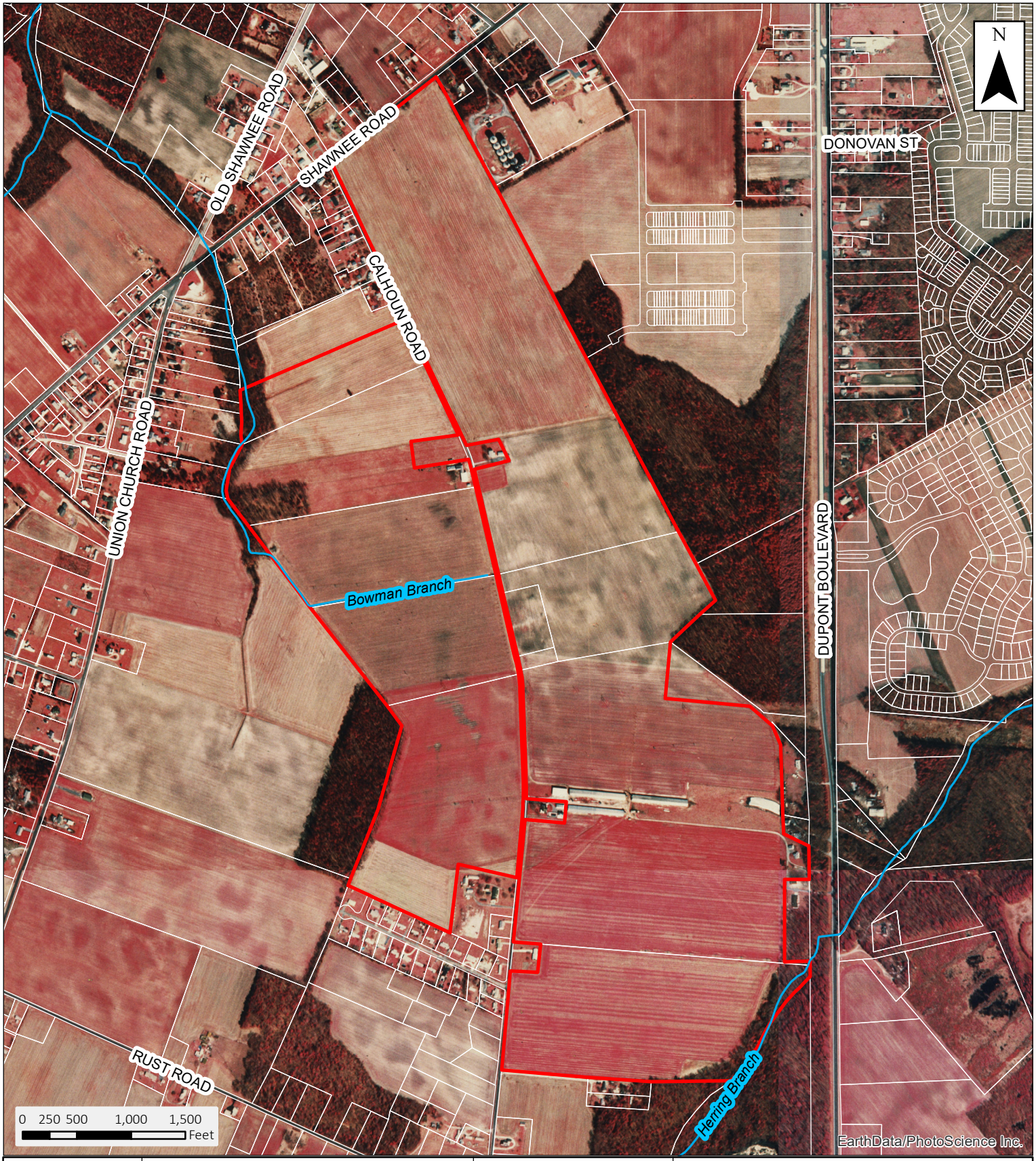

6	1992 Orthophoto	Pennoni	Streams Subject Parcels Other Tax Parcels
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Date: 4/22/2022

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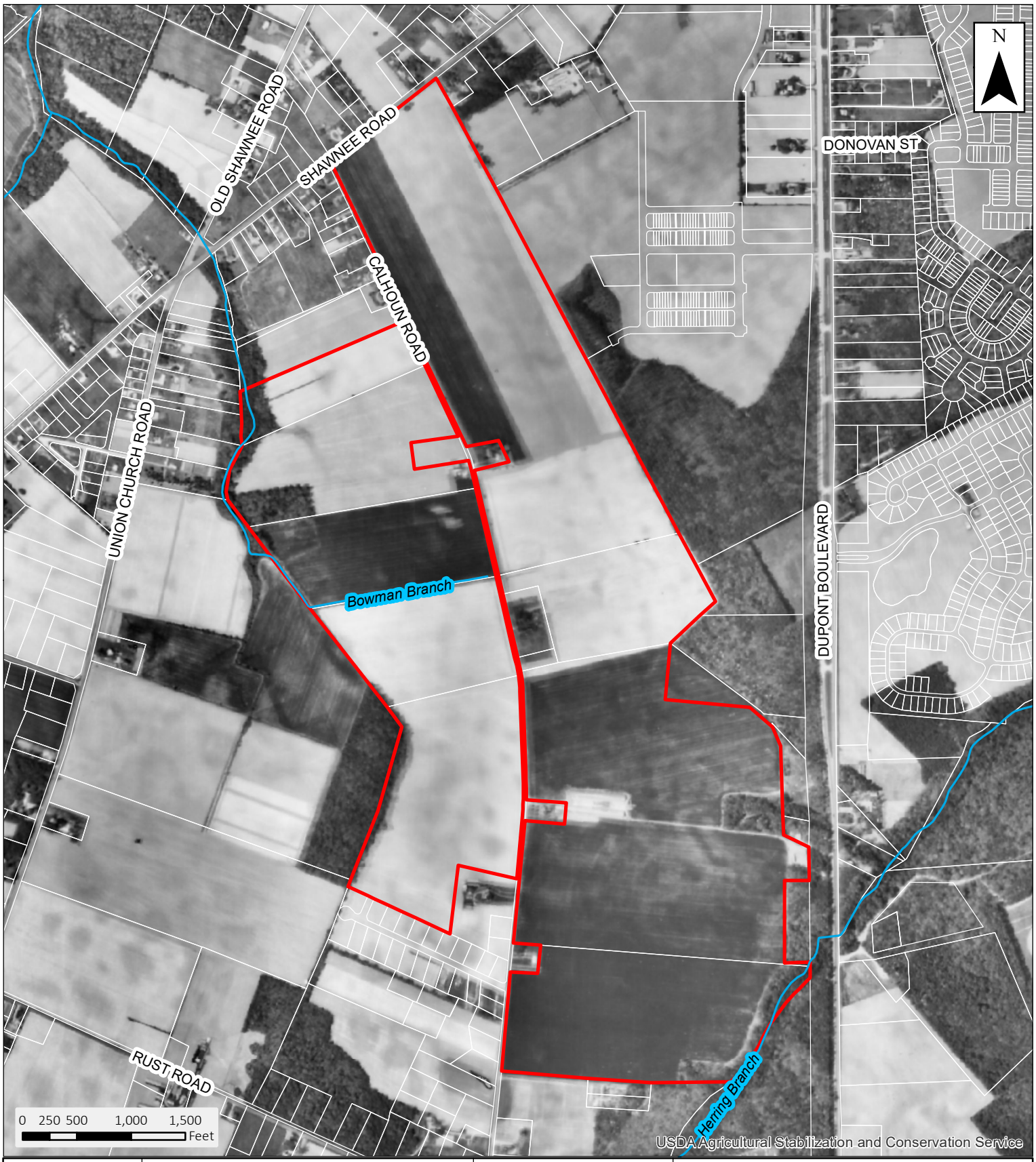

7	1968 Orthophoto	Pennoni	Streams Subject Parcels Other Tax Parcels
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Date: 4/22/2022

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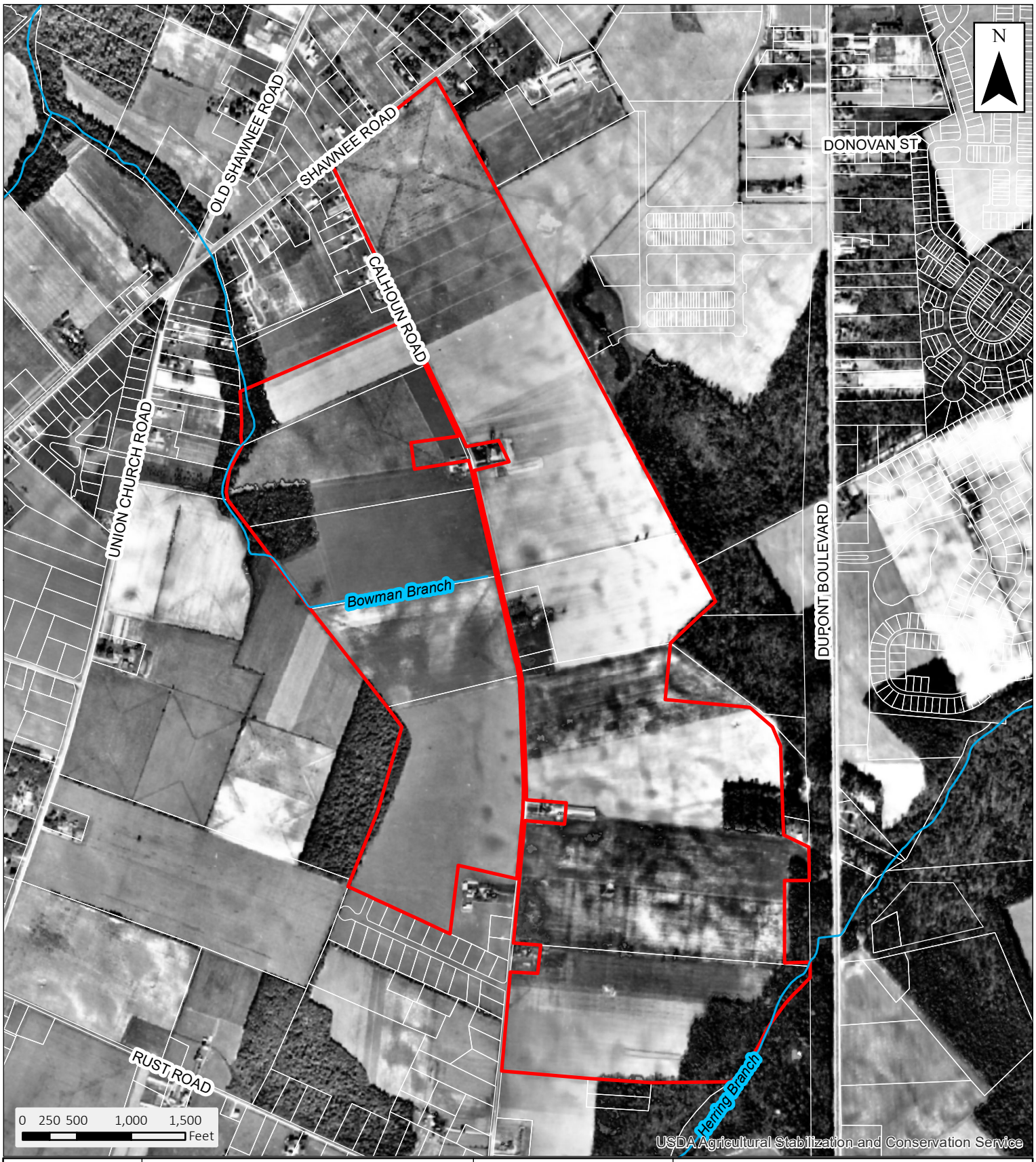

8	1961 Orthophoto	Pennoni	Streams Subject Parcels Other Tax Parcels
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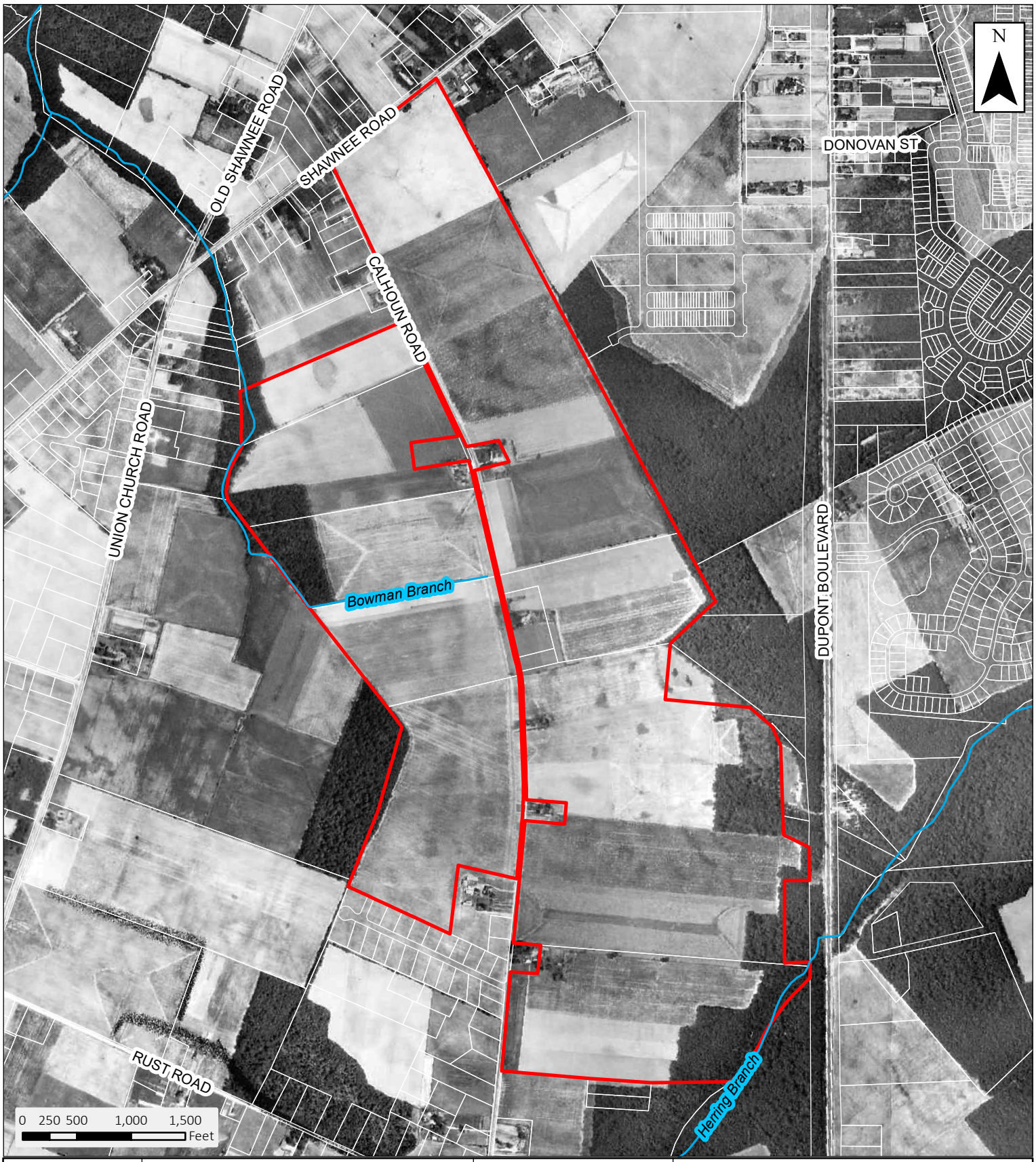
Date: 4/22/2022

Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\08 1961 Orthophoto.mxd



9	1954 Orthophoto Freeman Solar Farm BRKRE21001	Pennoni	Streams Subject Parcels Other Tax Parcels

Date: 4/22/2022

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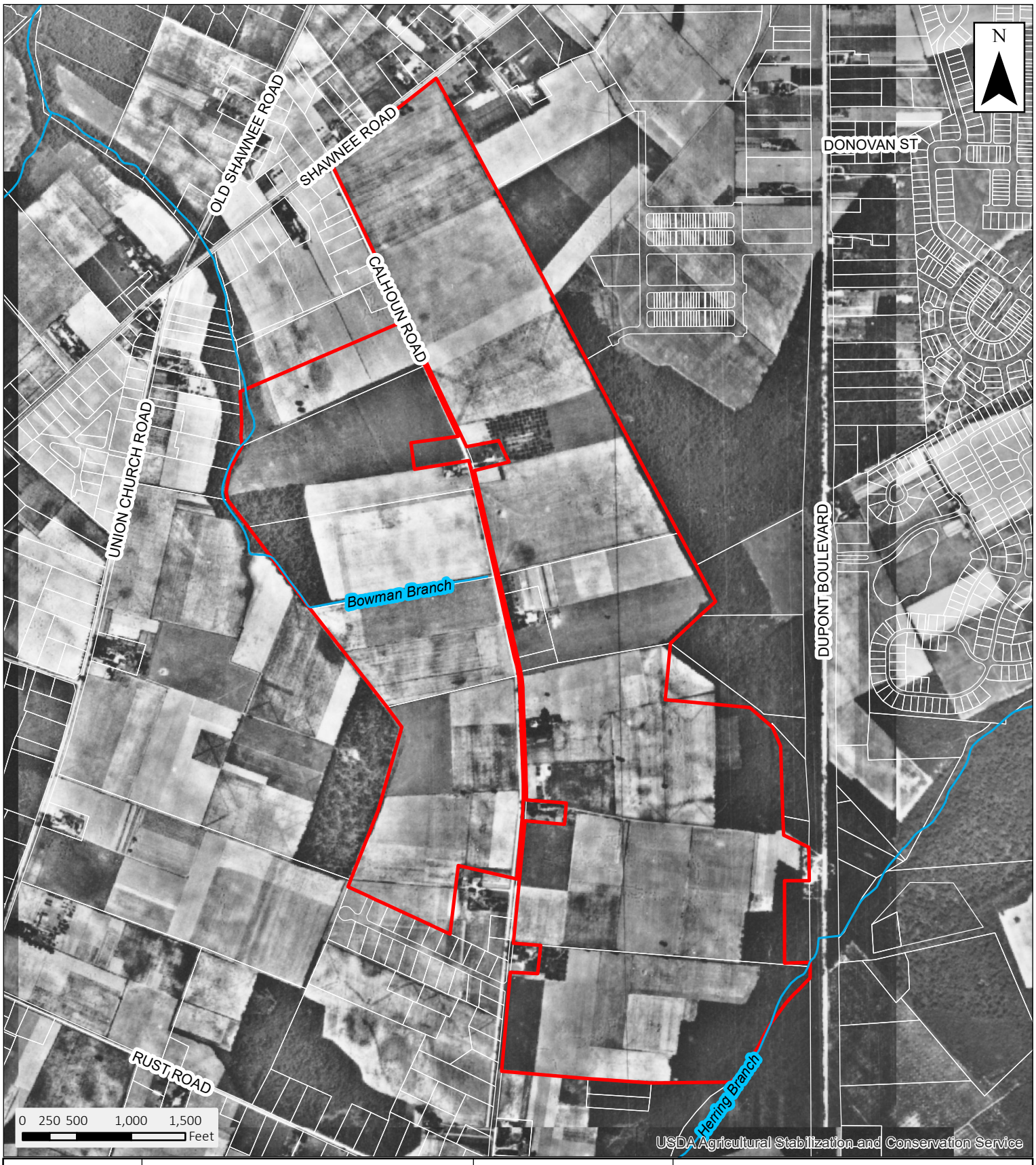

10	1937 Orthophoto Freeman Solar Farm BRKRE21001	Pennoni	Streams Subject Parcels Other Tax Parcels

Date: 4/22/2022

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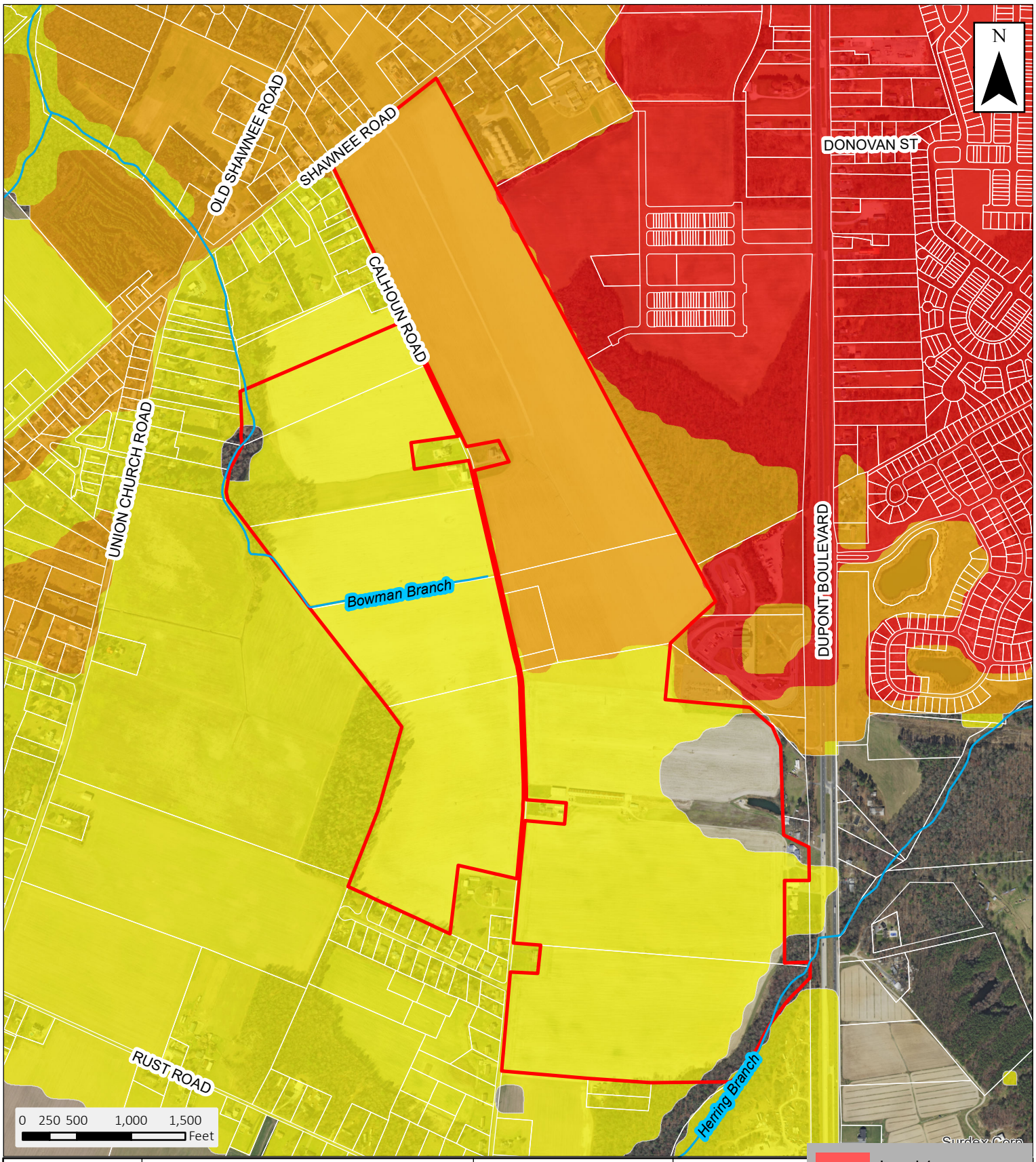
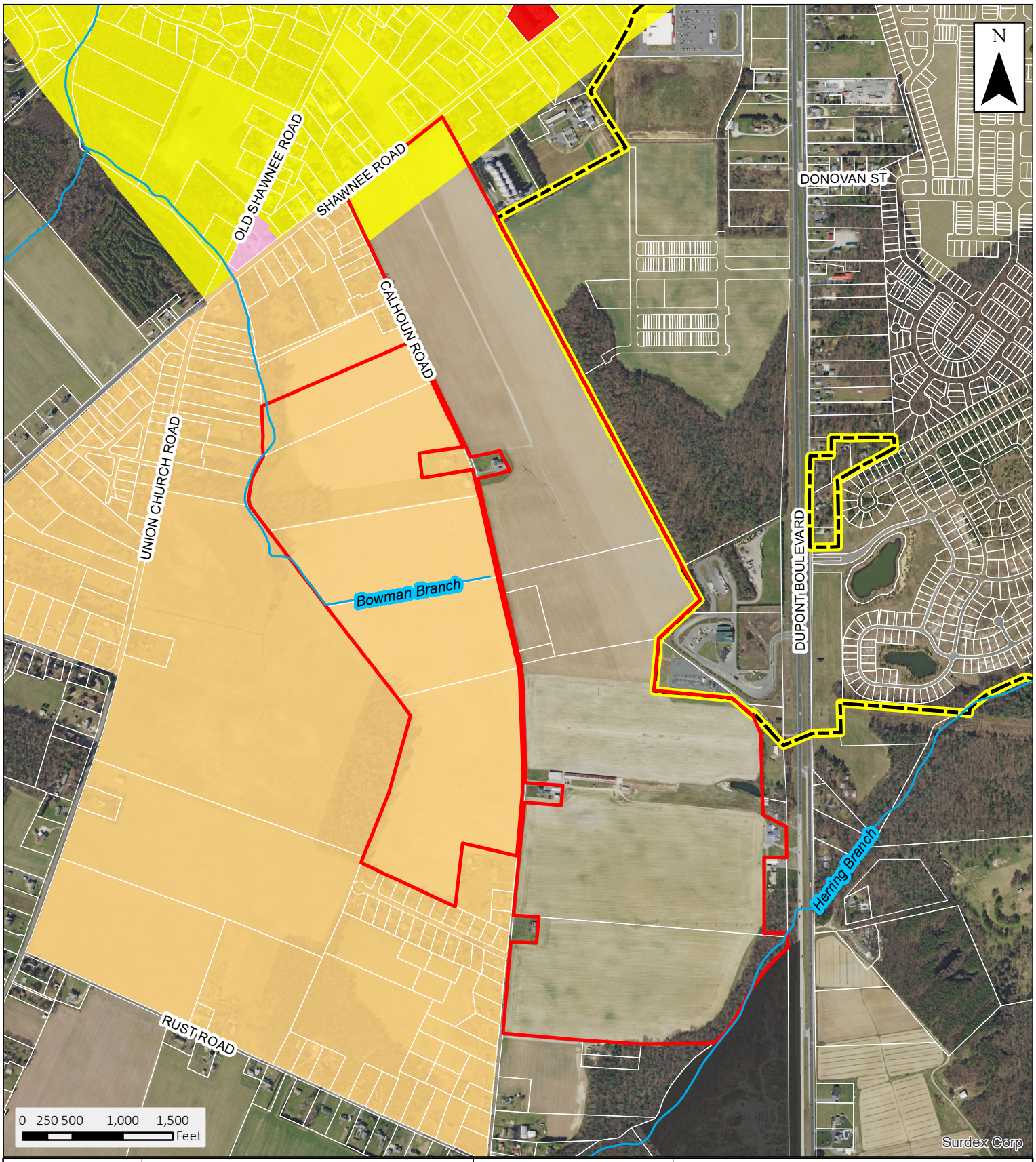


11	2020 Delaware State Strategies & Investment Levels	Pennoni	
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/22/2022

Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\11 2020 State Strategies.mxd

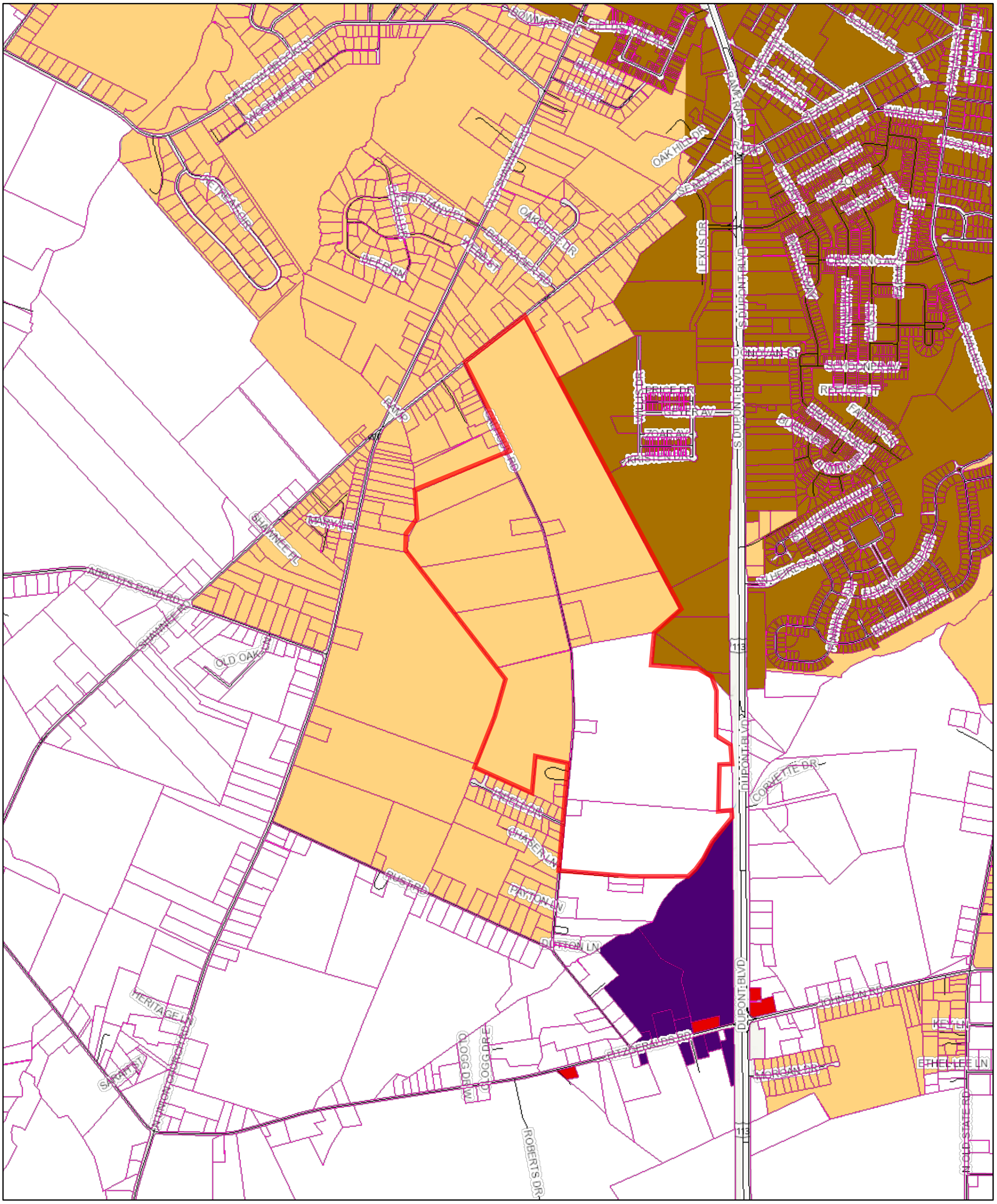


12	County Zoning	Pennoni	AR-1 (Unshaded) HI-1 GC MR GR B-1
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/22/2022

Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\12 County Zoning.mxd

Sussex County



April 28, 2022

- Tax Parcels
- Streets
- County Boundaries

2019 Future Land Use

- Low Density
- Coastal Area
- Commercial
- Developing Area
- Existing Development Area
- Industrial
- Municipalities
- Town Center

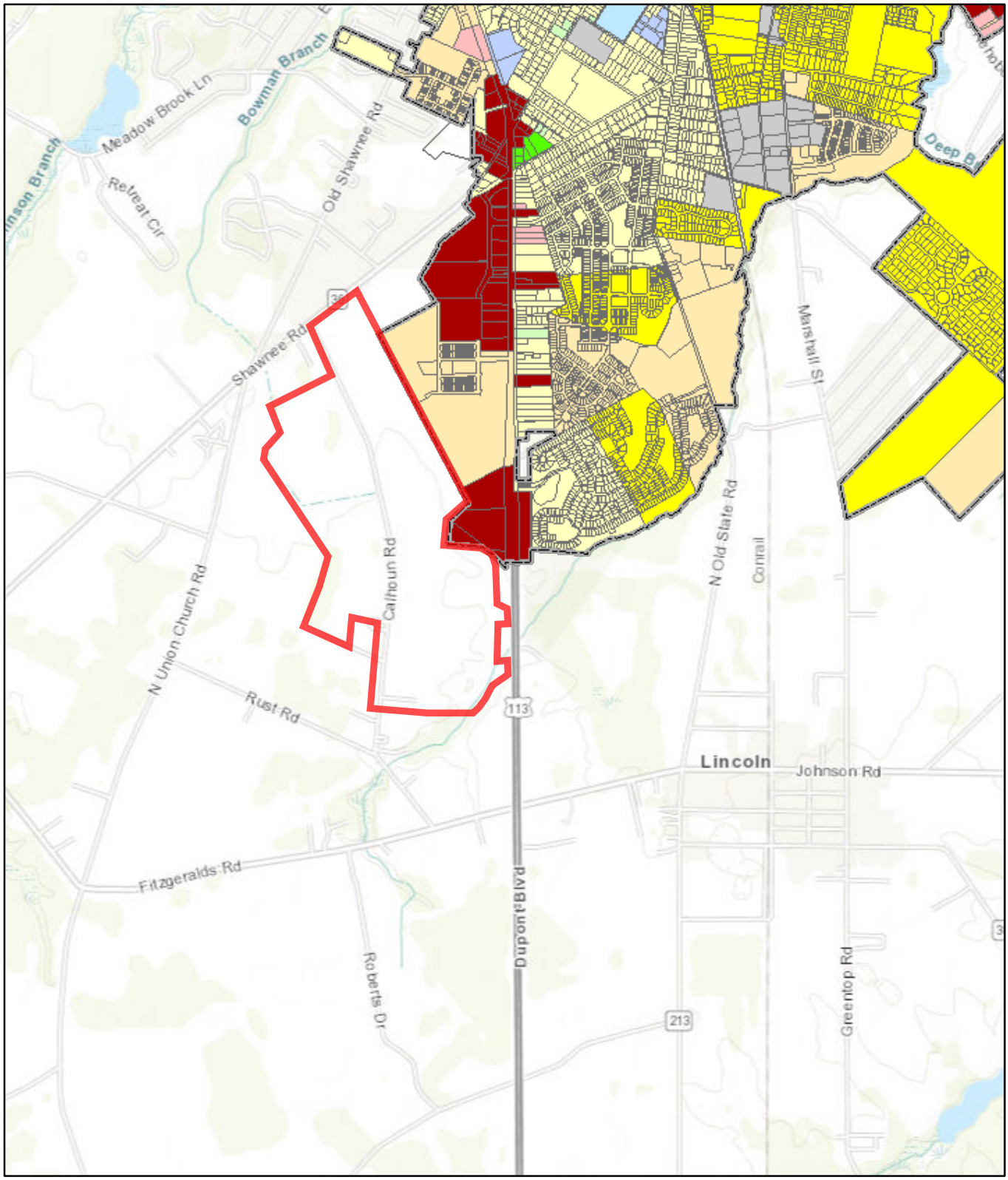
1:18,056

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

County of Sussex, DE, Delaware FirstMap, State of New Jersey, VITA, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/ NASA, EPA, USDA, Sussex County Government, Esri Community Maps Contributors, County of Sussex, DE, Delaware FirstMap, VGIN, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc,

ArcGIS Web Map



4/28/2022, 9:07:39 AM

1:36,112

0 0.23 0.45 0.9 mi

0 0.38 0.75 1.5 km

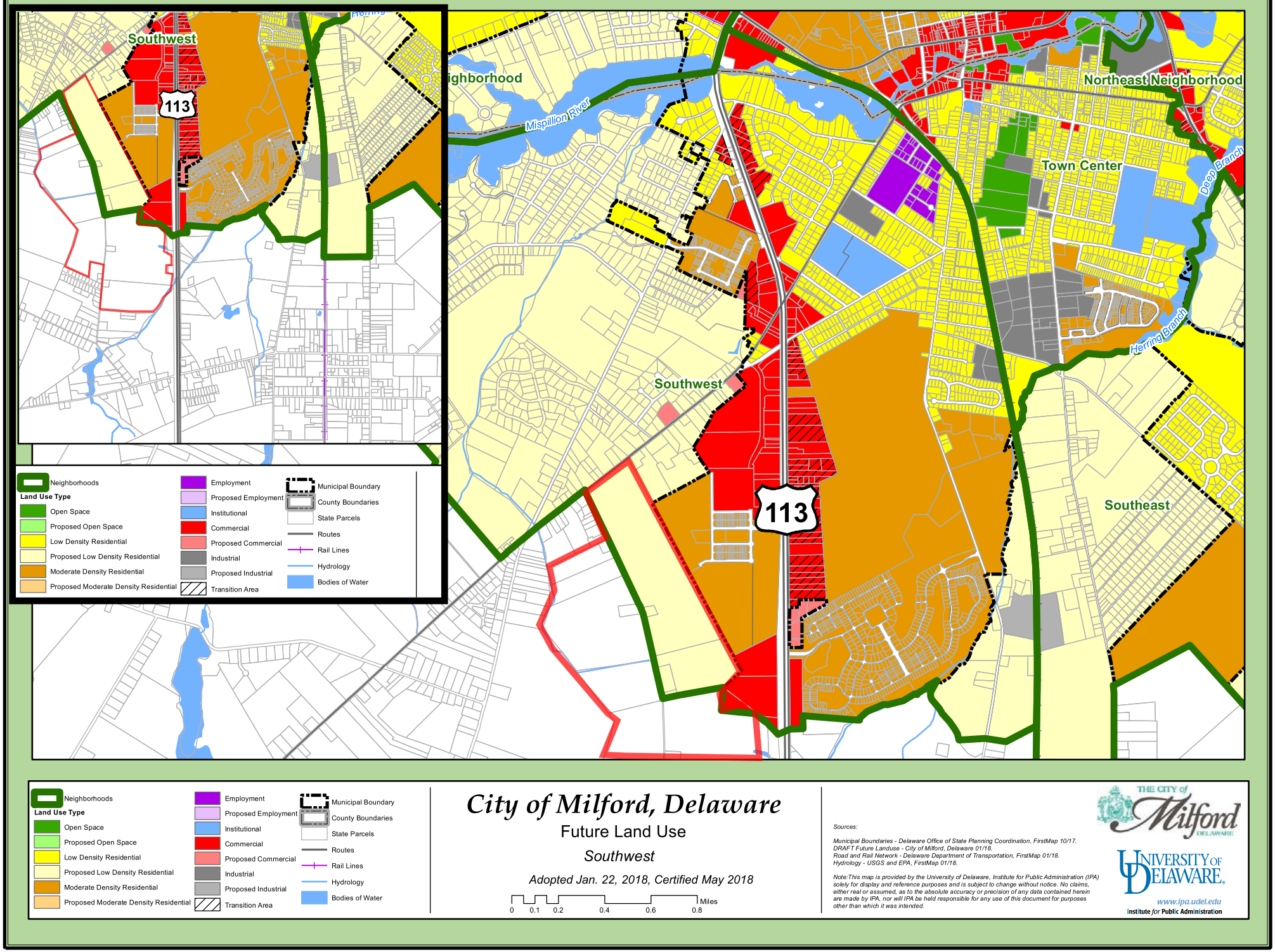
Zoning District

- BP
- C-1
- C-2
- C-2A
- C-3
- H-1
- I-1
- I-2
- IM
- IS
- OB-1
- OC-1
- R-1
- R-2
- R-3
- R-8
- Tax Parcels
- DDD Boundary
- Municipal Boundary

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Web AppBuilder for ArcGIS

County of Sussex, DE, Delaware FirstMap, State of New Jersey, VITA, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, EPA, USDA |



City of Milford, Delaware

Future Land Use

Southwest

Adopted Jan. 22, 2018, Certified May 2018

0 0.1 0.2 0.4 0.6 0.8 Miles

Sources:

Municipal Boundaries - Delaware Office of State Planning Coordination, FirstMap 10/17.
DRAFT Future Landuse - City of Milford, Delaware 01/18.
Road and Rail Network - Delaware Department of Transportation, FirstMap 01/18.
Hydrology - USGS and EPA, FirstMap 01/18.

Note:This map is provided by the University of Delaware, Institute for Public Administration (IPA) solely for display and reference purposes and is subject to change without notice. No claims, either real or assumed, as to the absolute accuracy or precision of any data contained herein are made by IPA, nor will IPA be held responsible for any use of this document for purposes other than which it was intended.

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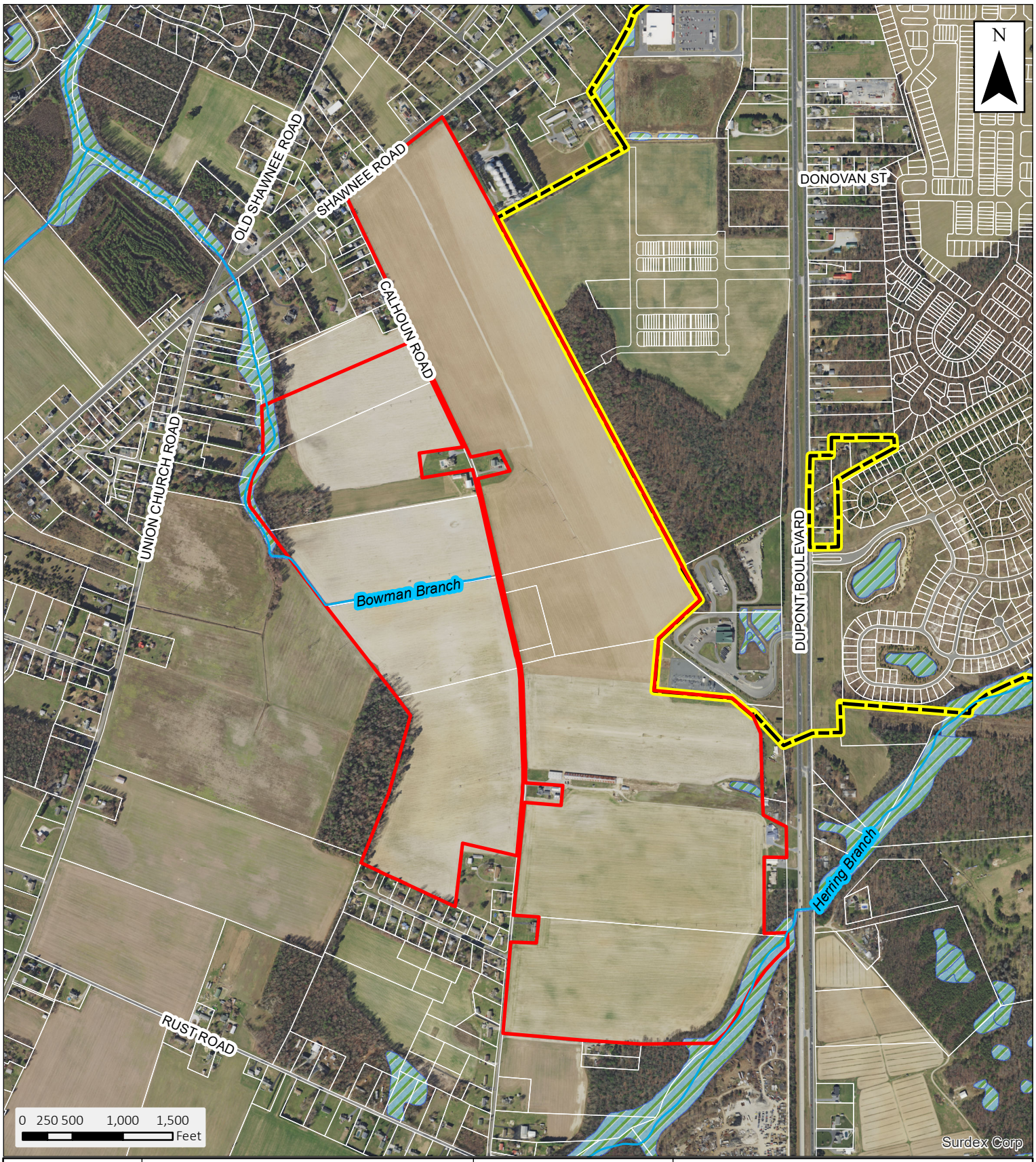
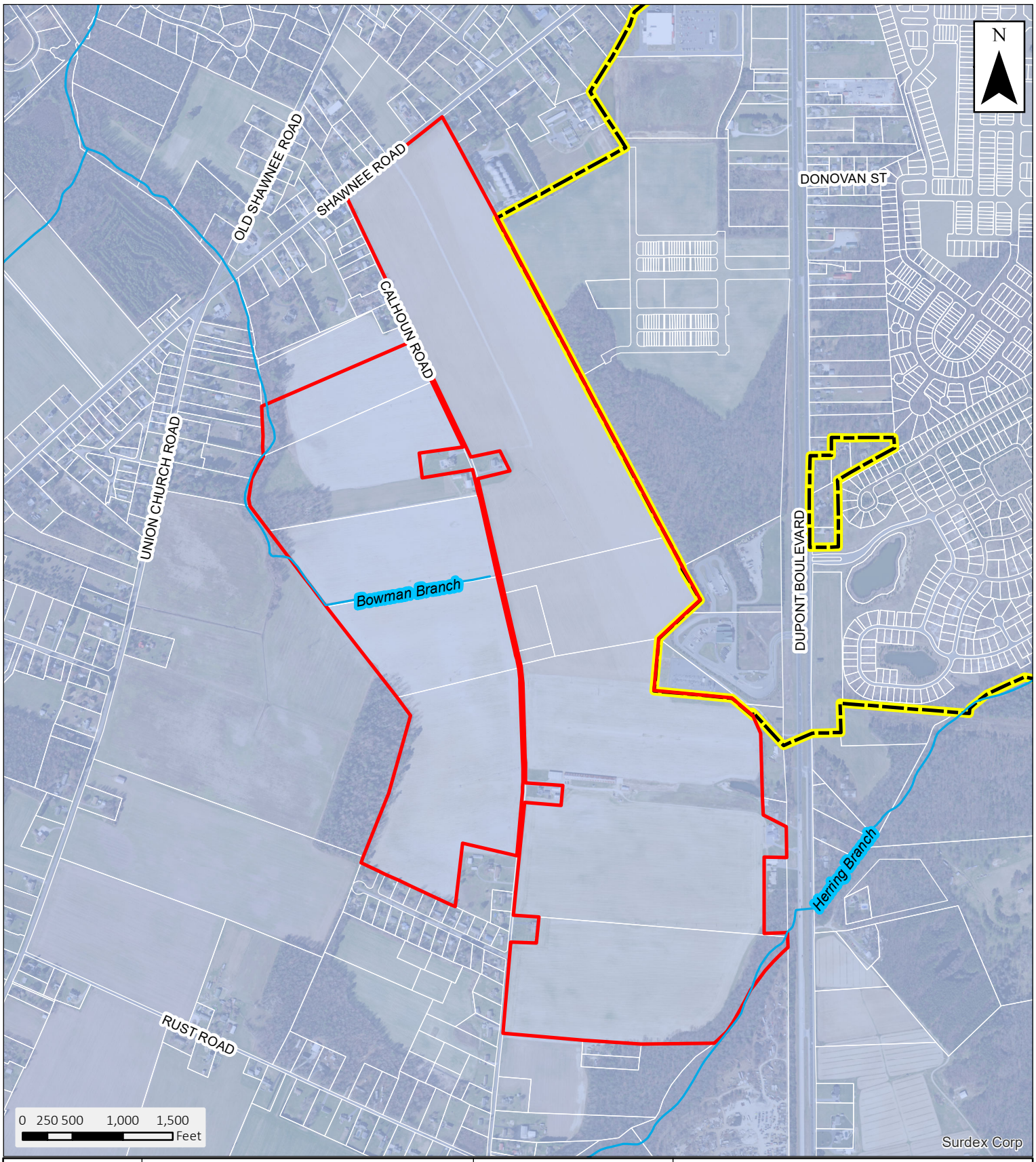


13	State Wetlands Mapping	Pennoni	DNREC Wetlands
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/24/2022

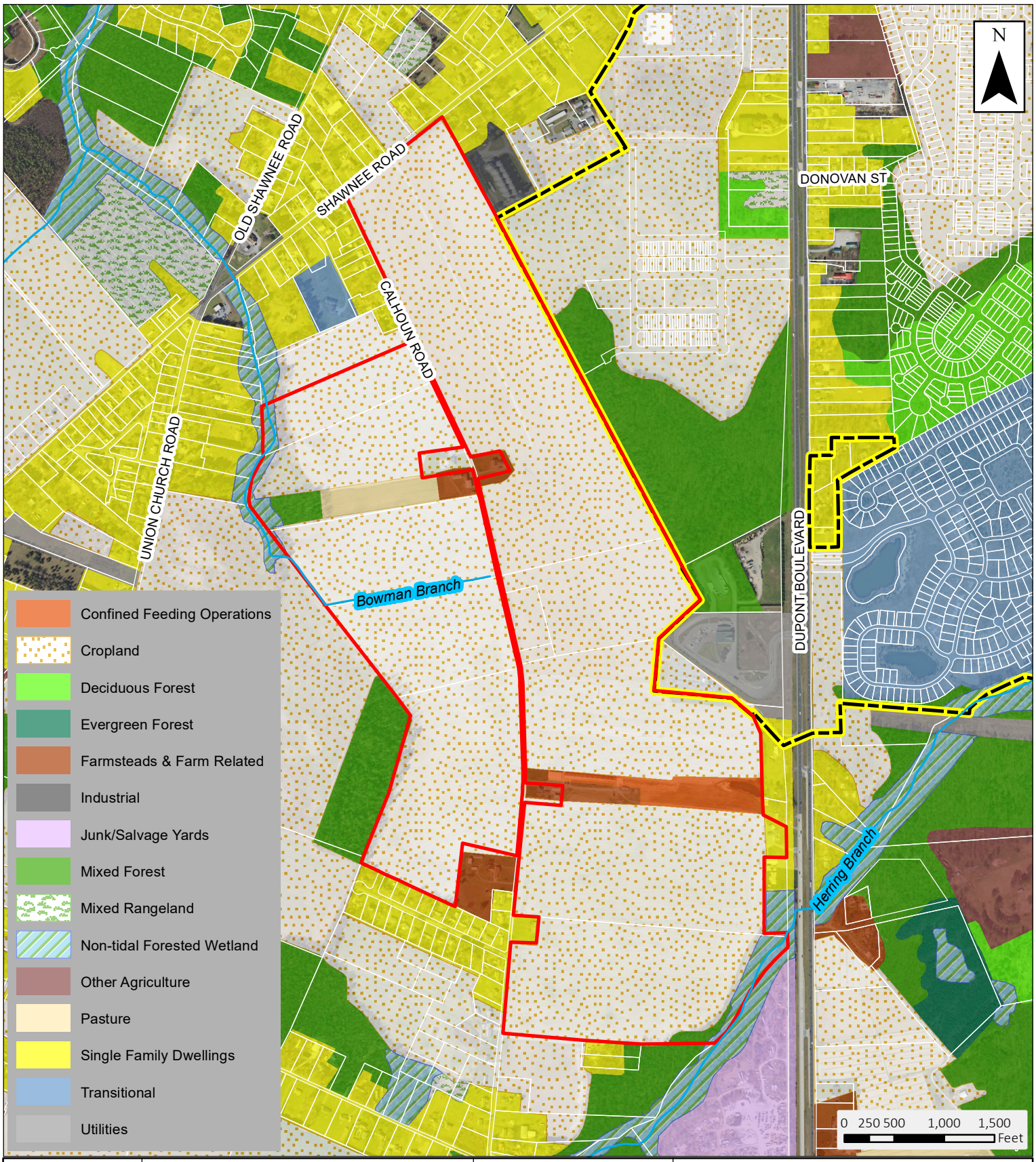
Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\13 State Wetlands Mapping.mxd



14	FEMA Floodplain Mapping	Pennoni	Zone X
	Freeman Solar Farm		Flood Map Reference: 10005C0039J (1/6/2005) 10005C0130K (3/16/15)
	BRKRE21001		

Date: 4/24/2022

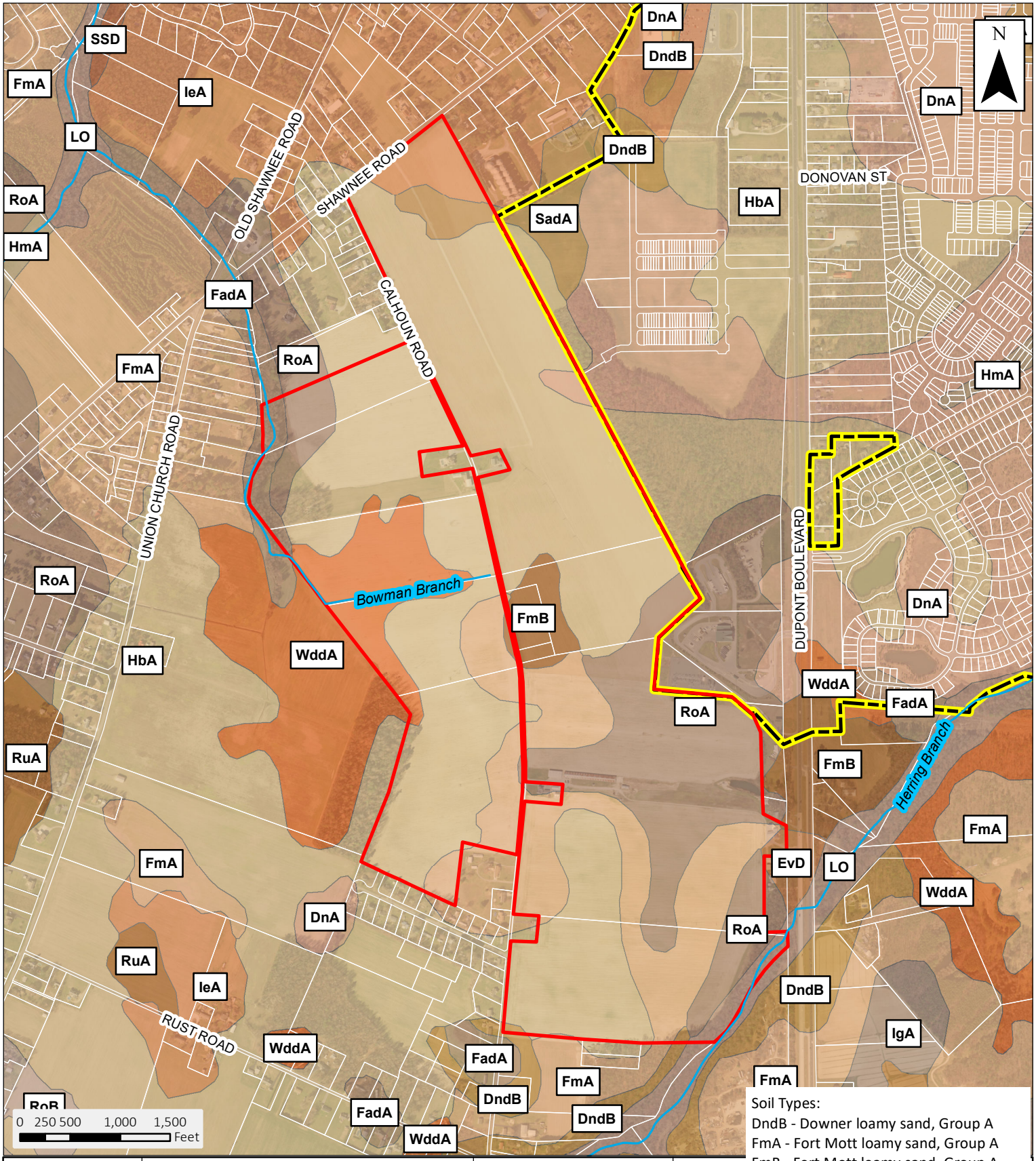
Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\14 FEMA Floodplain Mapping.mxd



15	2020 Land Use Land Cover	Pennoni	
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/24/2022

Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\15 2020 Land Use Land Cover.mxd



Soil Types:
DndB - Downer loamy sand, Group A
FmA - Fort Mott loamy sand, Group A
FmB - Fort Mott loamy sand, Group A
HbA - Hambrook sandy loam, Group B
HmA - Hammonton loamy sand, Group B
IeA - Ingleside loamy sand, Group A
RoA - Rosedale loamy sand, Group A
SadA - Sassafras sandy loam, Group B
WddA - Woodstown sandy loam, Group C

16

NRCS Soils Mapping

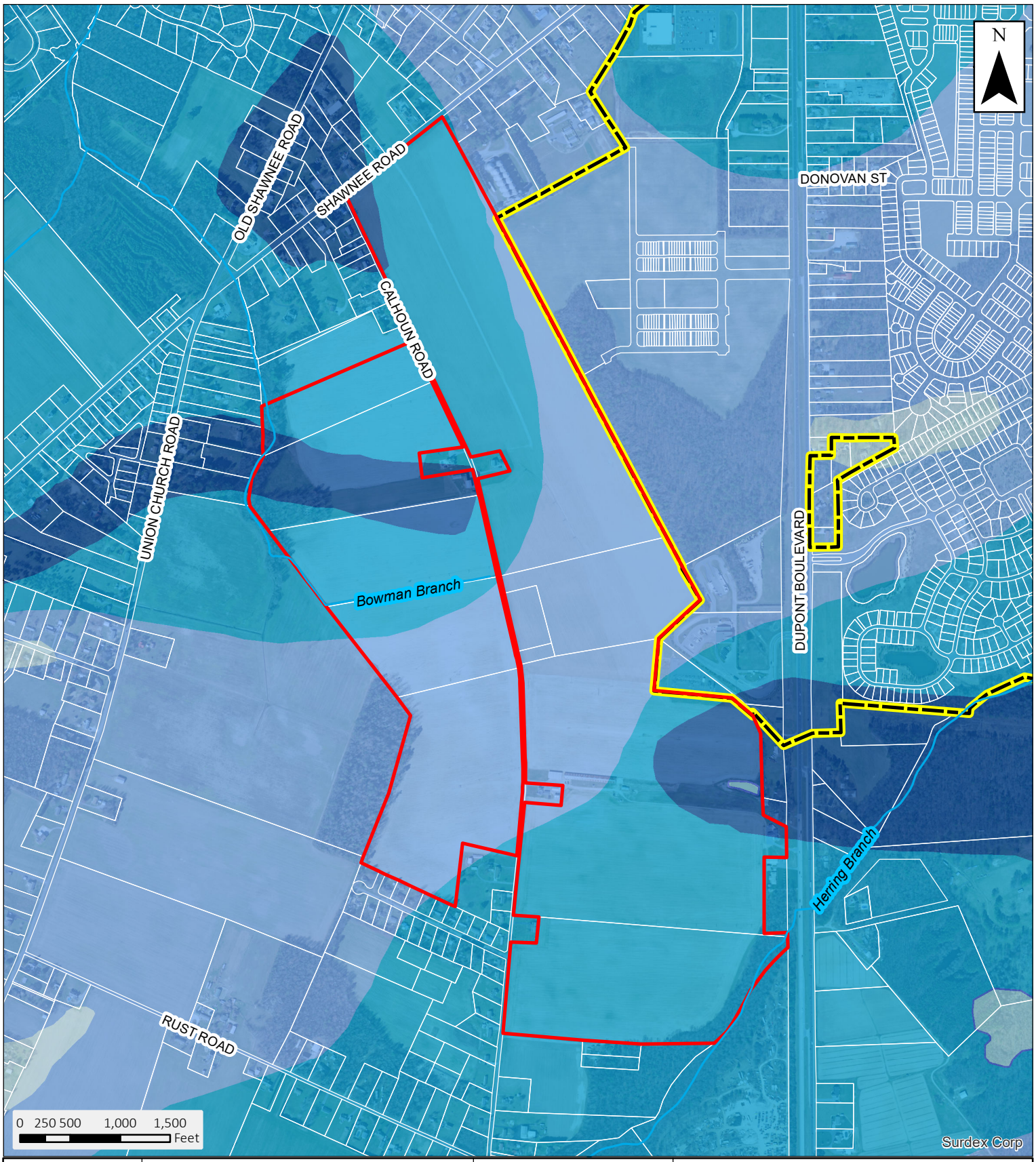
Freeman Solar Farm

BRKRE21001

Pennoni

Date: 4/24/2022

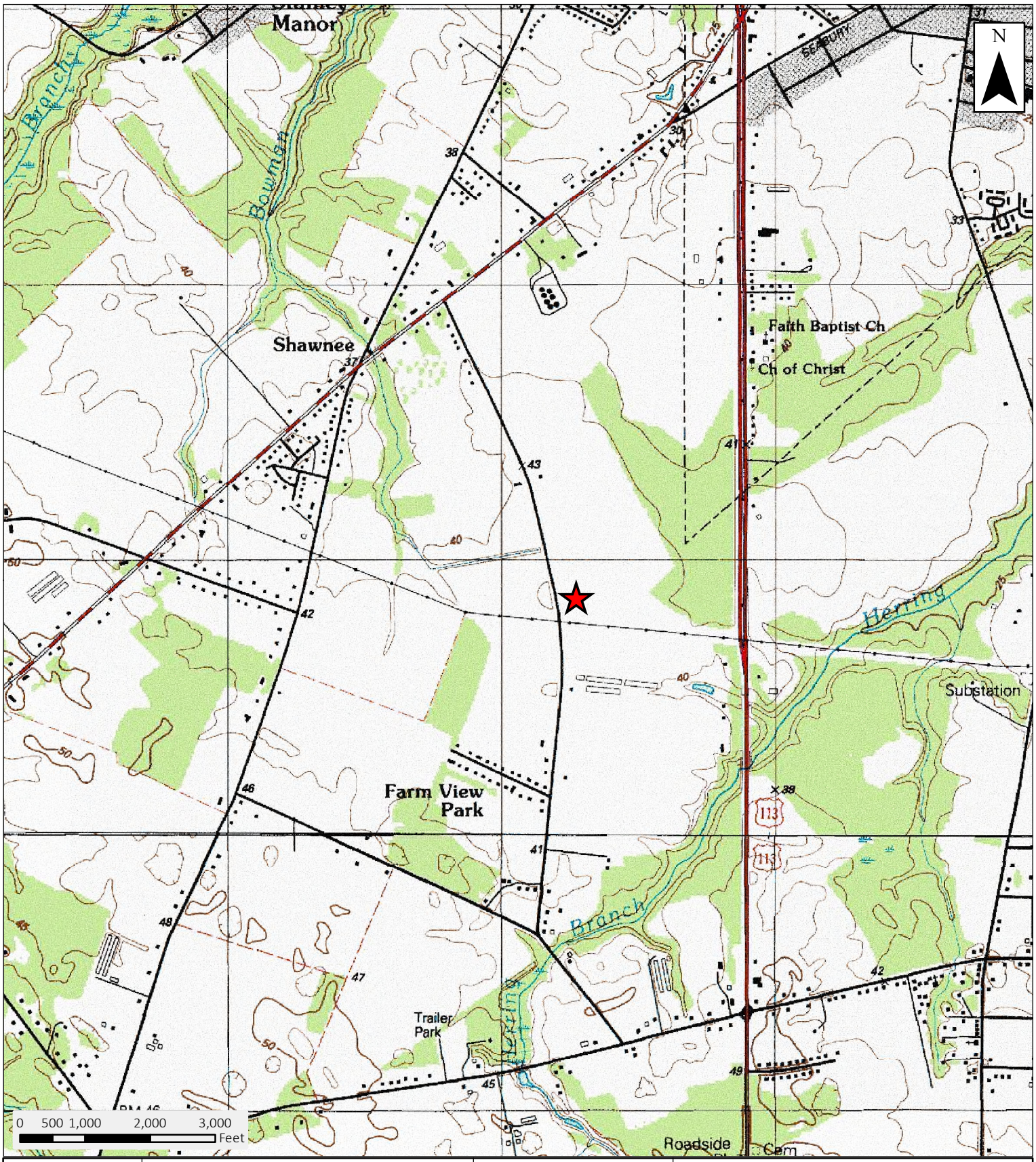
Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\16 NRCS Soils Mapping.mxd



17	Groundwater Recharge Potential Freeman Solar Farm BRKRE21001	Pennoni	Excellent Good Fair Poor Water Area

Date: 4/24/2022

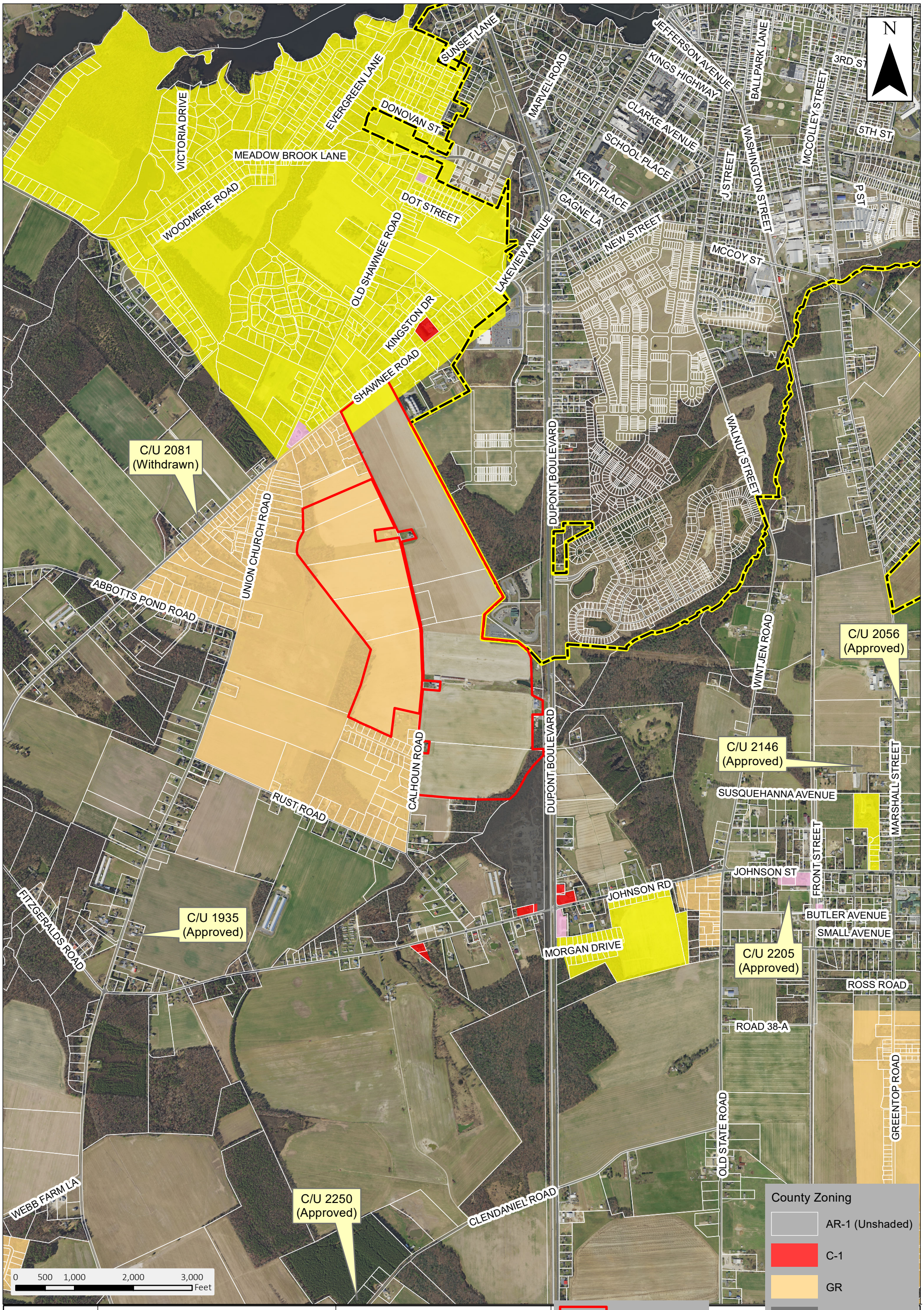
Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\17 Groundwater Recharge Potential.mxd



18	USGS Topographic Map	Pennoni	
	Freeman Solar Farm		
	BRKRE21001		

Date: 4/24/2022

Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\18 USGS Topographic Map.mxd



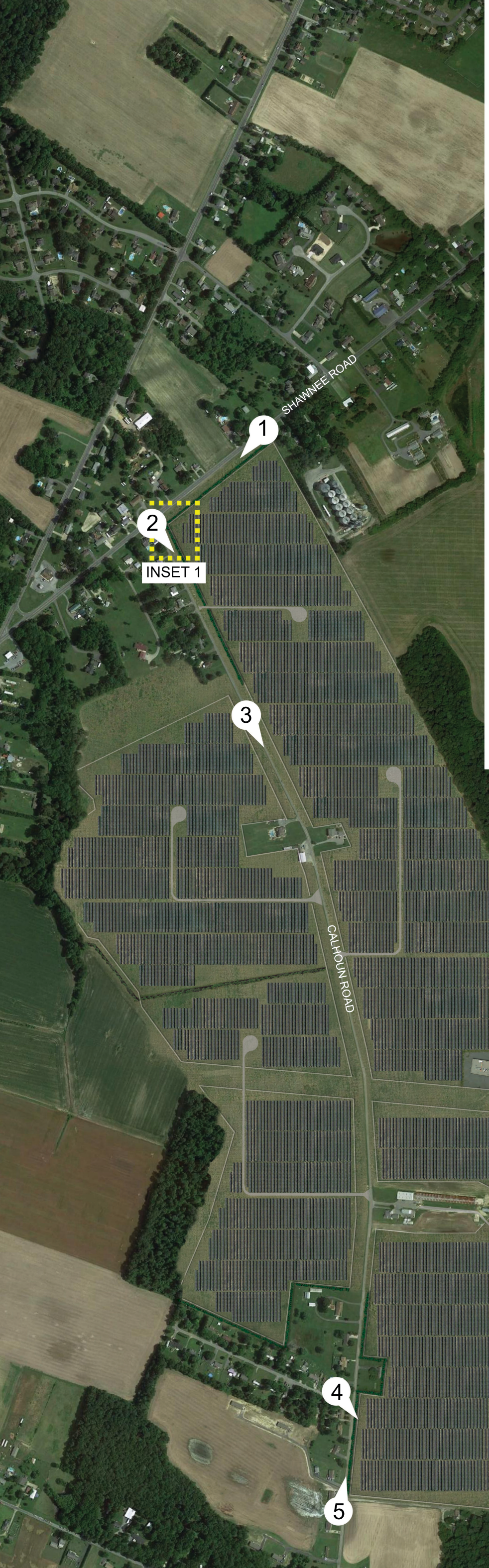
19	Area Land Use Applications	Pennoni
	Freeman Solar Farm	
	BRKRE22001	

Date: 4/25/2022

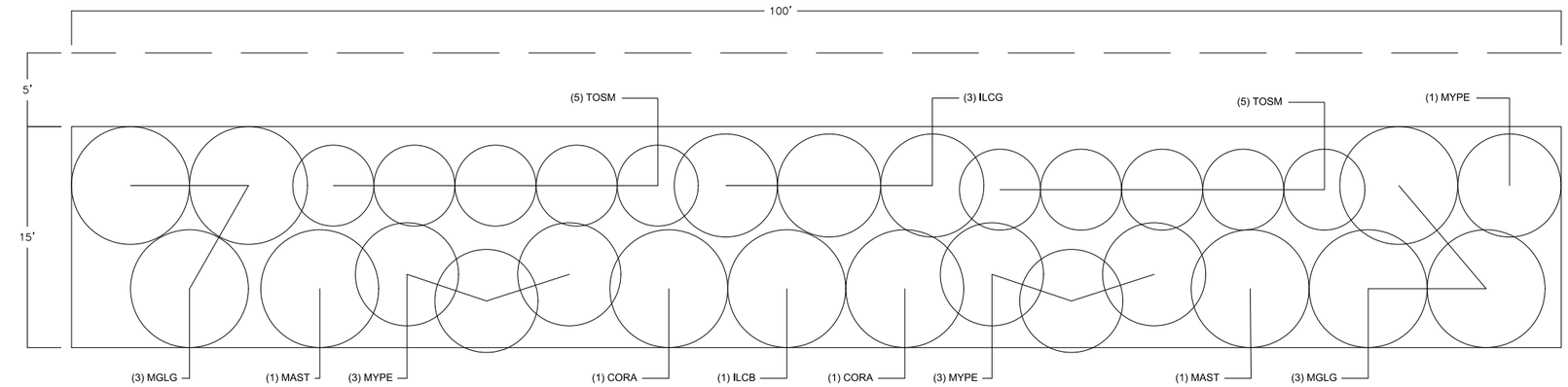
Document Path: C:\Users\MWalls\Documents\GIS Projects\BRKRE21001\19 Area Land Use Applications.mxd

TAB 7

LANDSCAPE

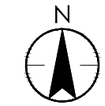


SITE PLAN RENDERING
SCALE: 1" = 300'-0"
0 300' 600'
N



TYPICAL 100' SECTION OF PLANTED VEGETATIVE SCREEN

0 5' 10'



Individual Screening Plant

15-Foot Landscaped Buffer

Project Fence

Notes
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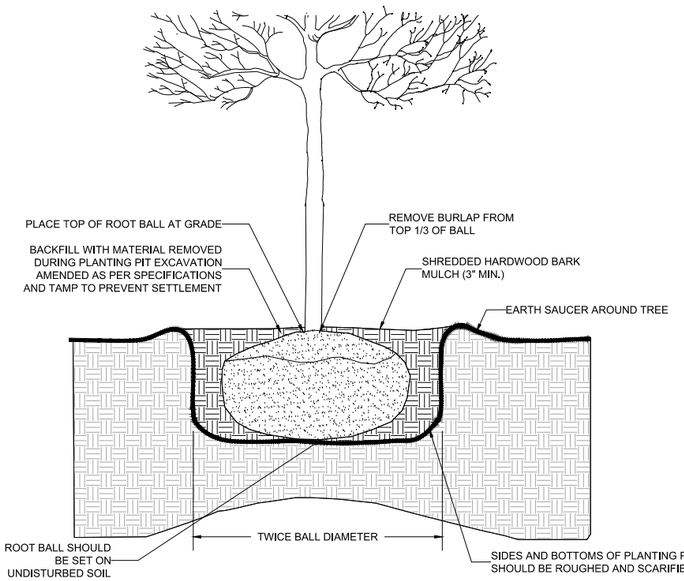
2. Exact plant selection and layout may vary depending on plant availability and site conditions.



DETAIL: TREE PLANTING

NTS

VEGETATIVE BUFFER NOTES

GENERAL NOTES

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PROPOSED BUFFER NOTES

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VISUAL SCREENING PLANTS

SYMBOL	BOTANICAL NAME	COMMON NAME	APPROXIMATE MATURE HEIGHT	APPROXIMATE MATURE SPREAD	INSTALLED SIZE SPECIFICATION	NOTES
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NOTES: 1) PROPOSED PLANTS WERE SELECTED BASED ON THE DELAWARE DEPARTMENT OF TRANSPORTATION'S PUBLICATION - "ROADSIDE VEGETATION CONCEPT AND PLANNING MANUAL." IN SOME CASES CULTIVARS OR CLOSELY RELATED SPECIES WERE SELECTED WITH SHORTER TYPICAL HEIGHTS TO AVOID SHADING CONFLICTS.
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GENERAL PLANTING NOTES:

SHRUB AND TREE INSTALLATION

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3. ALL PLANT MATERIAL SHALL MEET THE MINIMUM SPECIFICATIONS AND STANDARDS DESCRIBED IN THE CURRENT ISSUE OF "THE AMERICAN STANDARD FOR NURSERY STOCK," PUBLISHED BY THE AMERJICAN ASSOCIATION OF NURSERYMEN, 1250 I STREET, N.W., SUITE 500, WASHINGTON, D.C. 20005.
4. ALL CONTAINER STOCK SHALL HAVE BEEN PROPAGATED IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL. CONTAINER STOCK WITH POORLY DEVELOPED ROOT SYSTEMS SHALL NOT BE ACCEPTED.
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Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD
0 CONCEPT DESIGN	CMA	TX	21.06.22

Brookfield Renewable U.S.

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Client/Project
BROOKFIELD RENEWABLE US
75MW AC FREEMAN SOLAR

MILFORD, SUSSEX COUNTY, DE

File Name: Freeman_landscape_plan	JKM Dwn.	MGS Chkd.	JO Dsgn.	21.06.21 YY.MM.DD

Title
PLANTING NOTES

Project No.	Scale	
2028095052	AS SHOWN	
Drawing No.	Sheet	Revision
E-2	2 of 2	0

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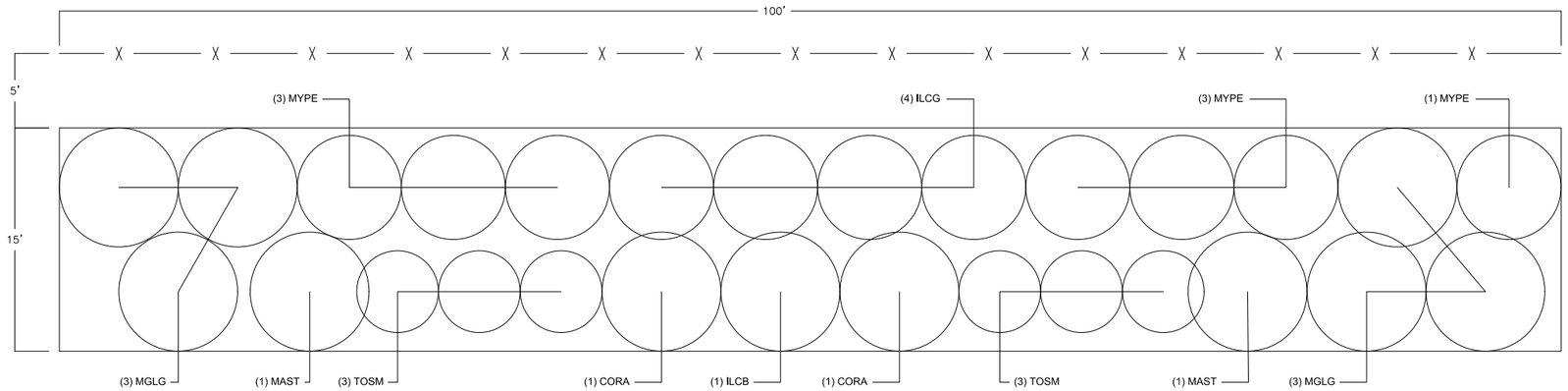

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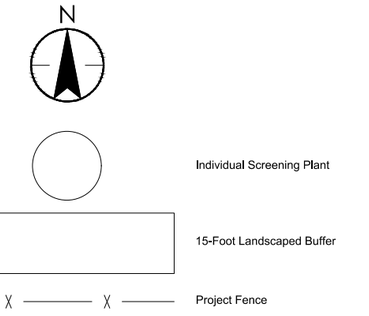

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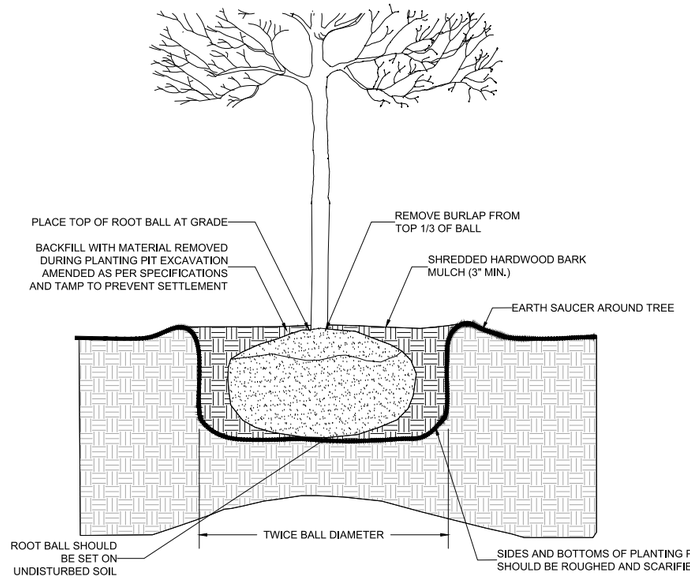

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0 CONCEPT DESIGN	CMA	TX	21.06.22

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Client/Project
BROOKFIELD RENEWABLE US
75MW AC FREEMAN SOLAR

MILFORD, SUSSEX COUNTY, DE

File Name: Freeman_landscape_plan	JKM Dwn.	MGS Chkd.	JO Dsgn.	21.06.21 YY.MM.DD

Title
PLANTING NOTES

Project No.	Scale	
2028095052	AS SHOWN	
Drawing No.	Sheet	Revision
E-2	2 of 2	0

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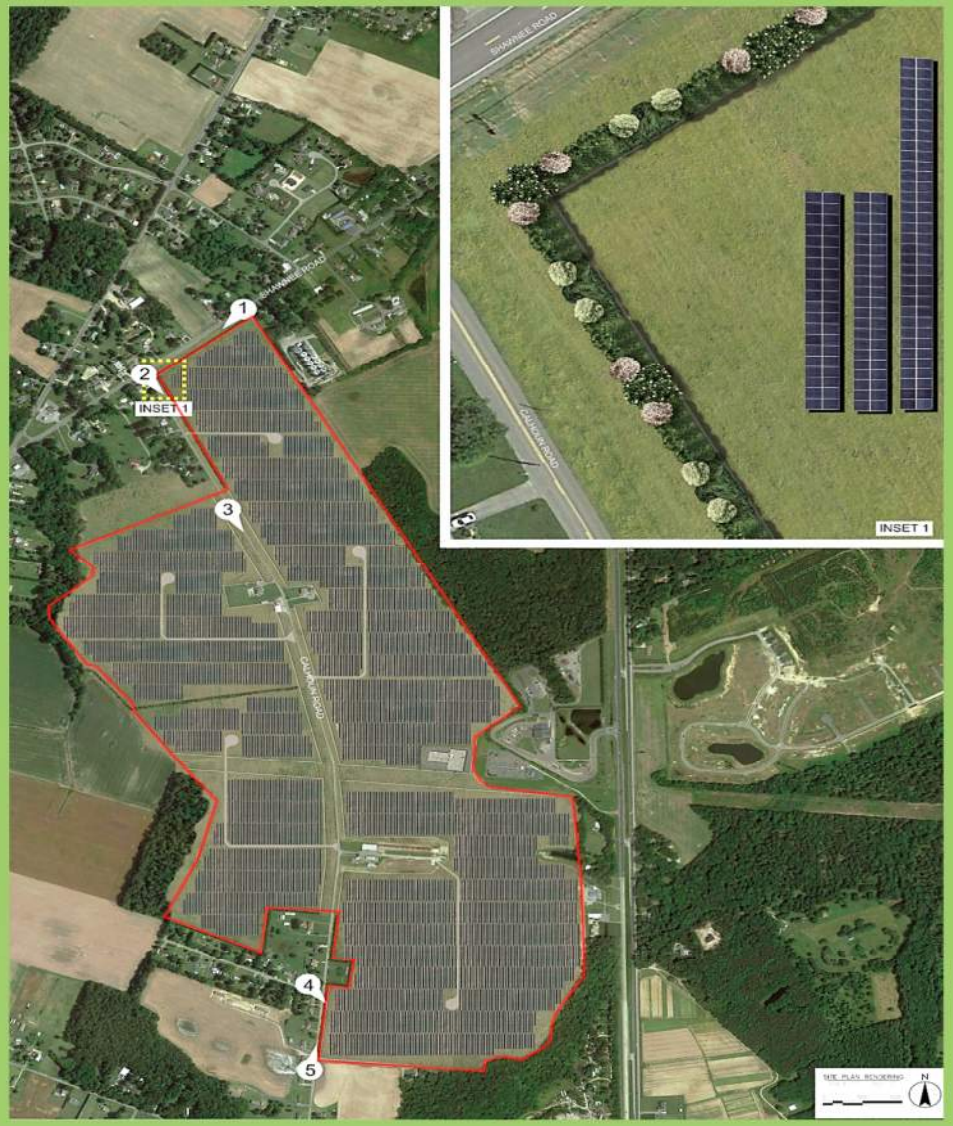

FREEMAN SOLAR LLC

CASE NO. CU 2298

Brookfield Renewable U.S.

OWNER:
CALHOUN VENTURES, LLC
6714 DUPONT BLVD.
MILFORD, DE 19963

CLARENCE D. CALHOUN, JR.
7237 CALHOUN ROAD
MILFORD DE 19963

DEVELOPER:
FREEMAN SOLAR LLC
200 LIBERTY ST. 14TH FLOOR
NEW YORK, NY 10281

LEGAL:
MORRIS JAMES LLP
107 W. MARKET STREET
GEORGETOWN, DE 19947
DAVID C. HUTT, ESQUIRE

PLANNER/ENGINEER/SURVEYOR:
PENNONI
18072 DAVIDSON DRIVE
MILTON, DE 19968
MARK H. DAVIDSON, PRINCIPAL LAND PLANNER
ALAN DECKTOR, PE., ENV SP
ERIC WAHL, RLA
JOHN W. HAUPT, PLS

STANTEC
810 GLEN EAGLES COURT, SUITE 300
BALTIMORE MD 21286-2237
ELEANOR T. WILSON, PWS

ENVIRONMENTAL:
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STANTEC CONSULTING SERVICES INC.
ELEANOR T. WILSON, PWS

ACCENT ENVIRONMENTAL
WILLIAM J. GANGLOFF, PhD.
PROFESSIONAL SOIL SCIENTIST

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810 Gleneagles Ct Suite 300
Baltimore, MD 21286
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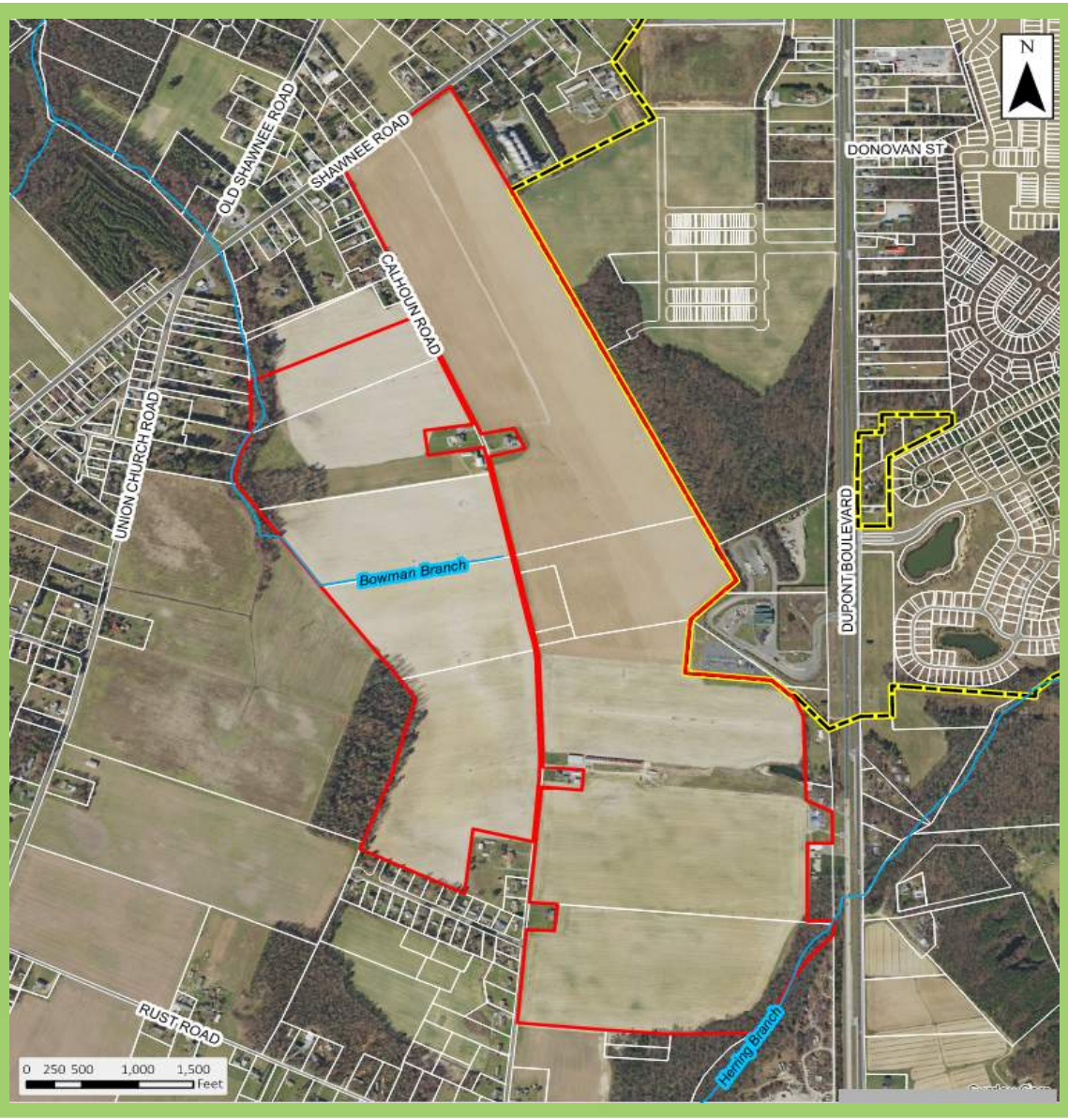

Developable Area 1 - 223.60 AC

Developable Area 2 - 127.36 AC

TOTAL PROJECT AREA - 350.96

TAX MAP AREA:	
130-3.00-246.00:	11.00 ± AC.
130-3.00-247.00:	116.04 ± AC.
130-3.00-247.02:	22.42 ± AC.
130-6.00-75.00:	21.50 ± AC.
130-6.00-76.00:	37.50 ± AC.
130-6.00-92.00:	39.30 ± AC.
130-6.00-94.00:	79.41 ± AC.
130-6.00-95.00	0.55 ± AC.
130-6.00-96.00:	2.57 ± AC.
130-6.00-97.00:	20.67 ± AC.

Streams

Subject Parcels

City Of Milford

Other Tax Parcels

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Baltimore, MD 21286
TEL (410) 583-6700
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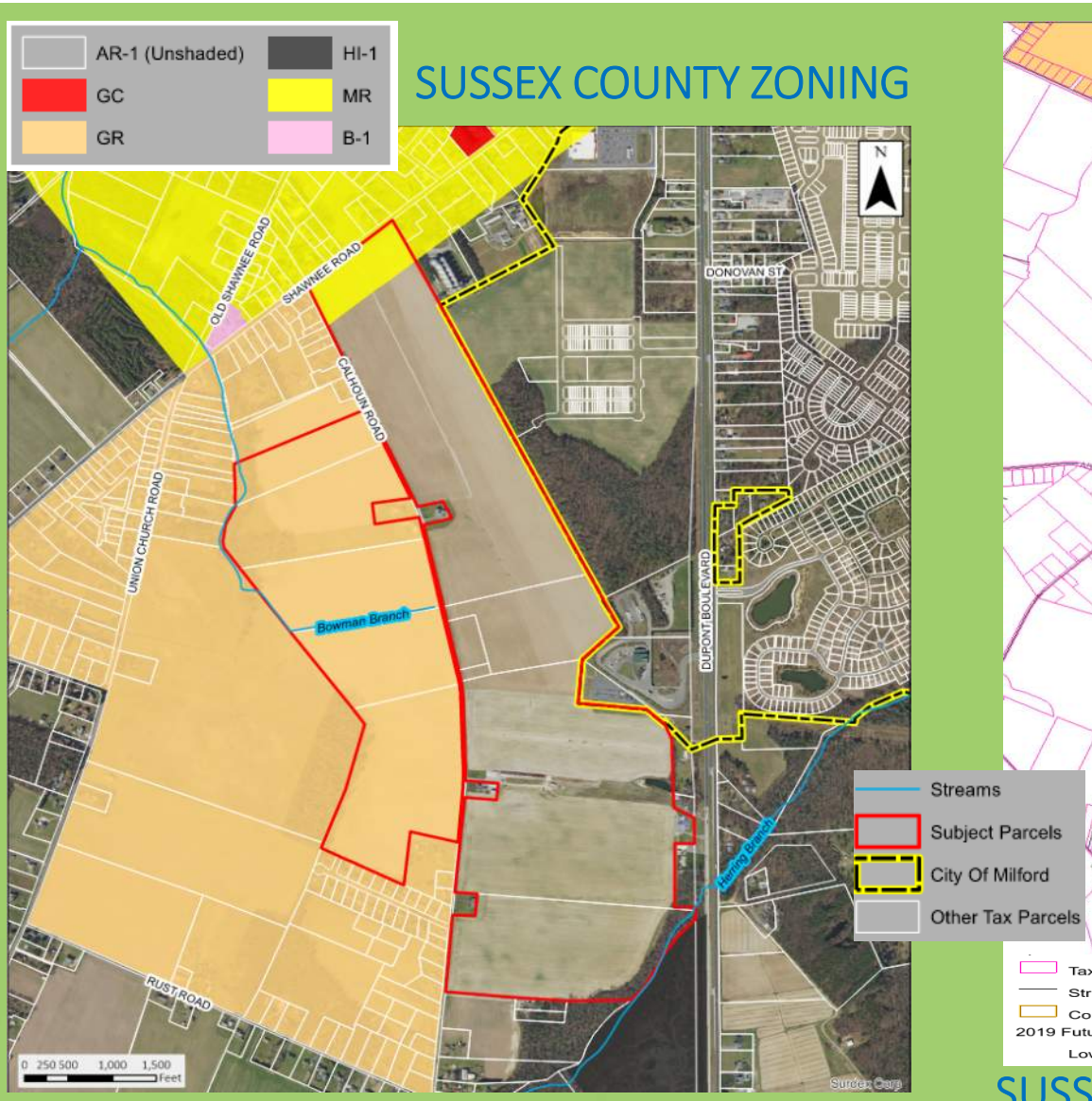
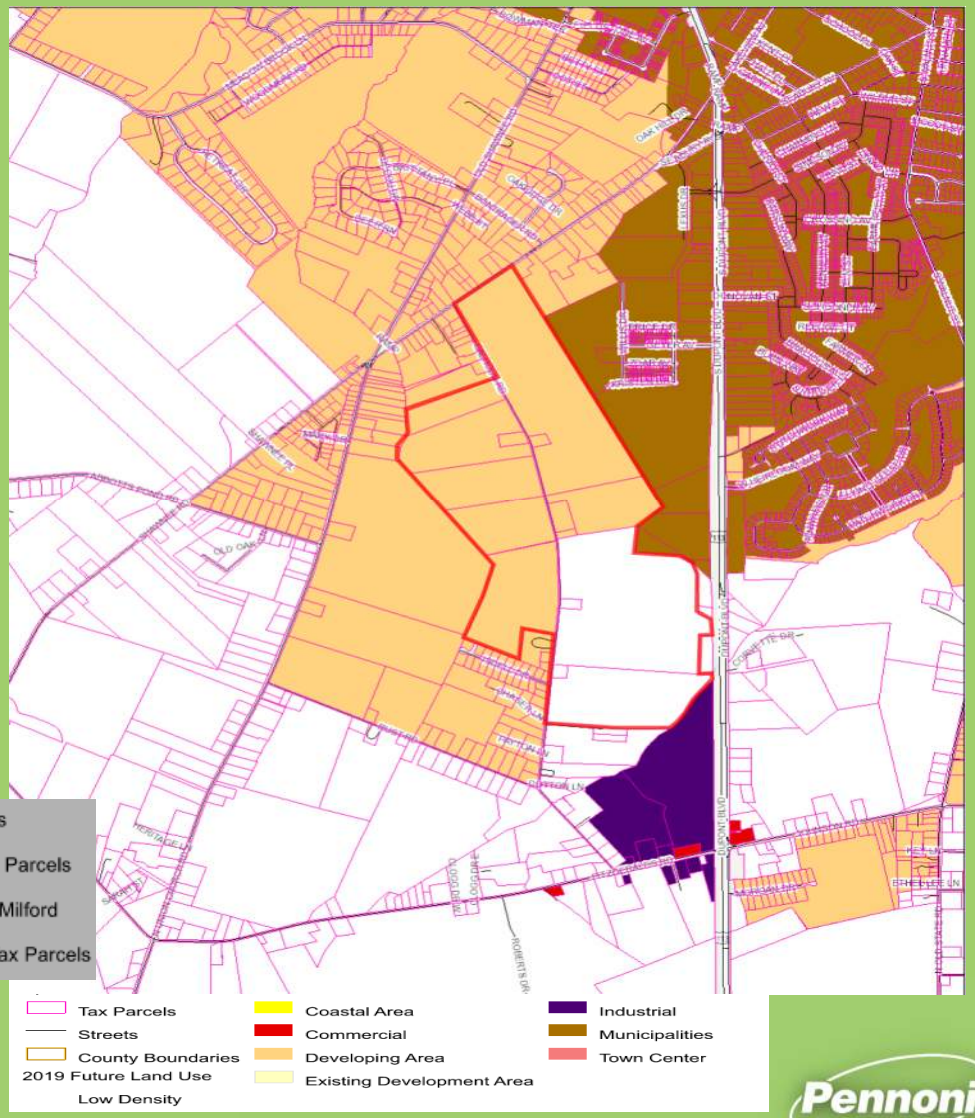
SUSSEX COUNTY ZONING





SUSSEX COUNTY 2019 FLUM

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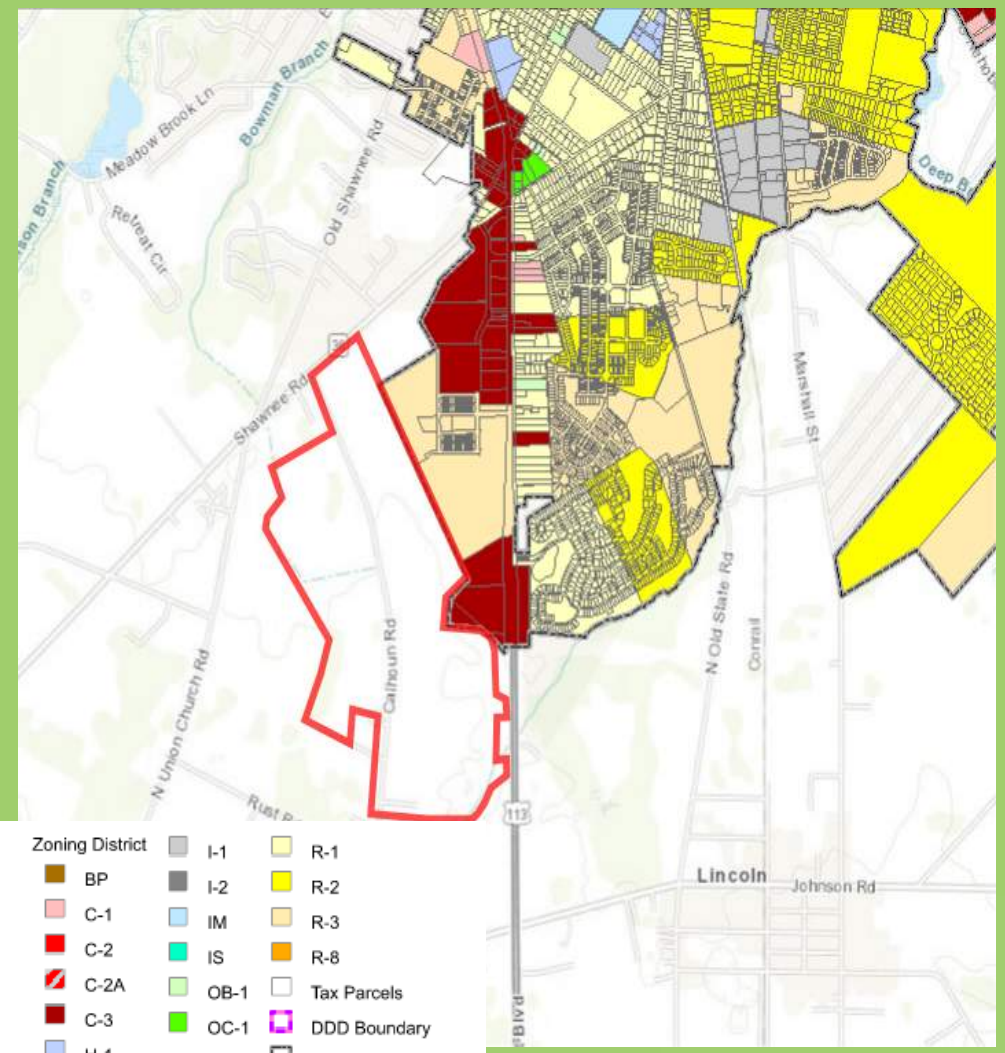
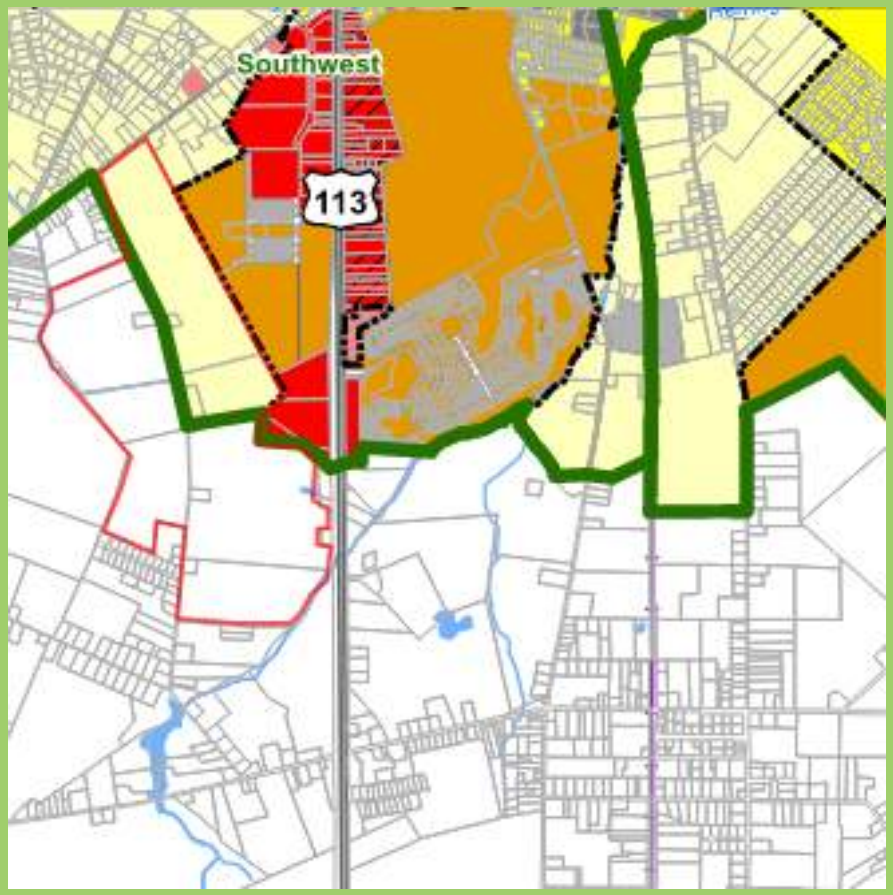
CITY OF MILFORD ZONING MAP





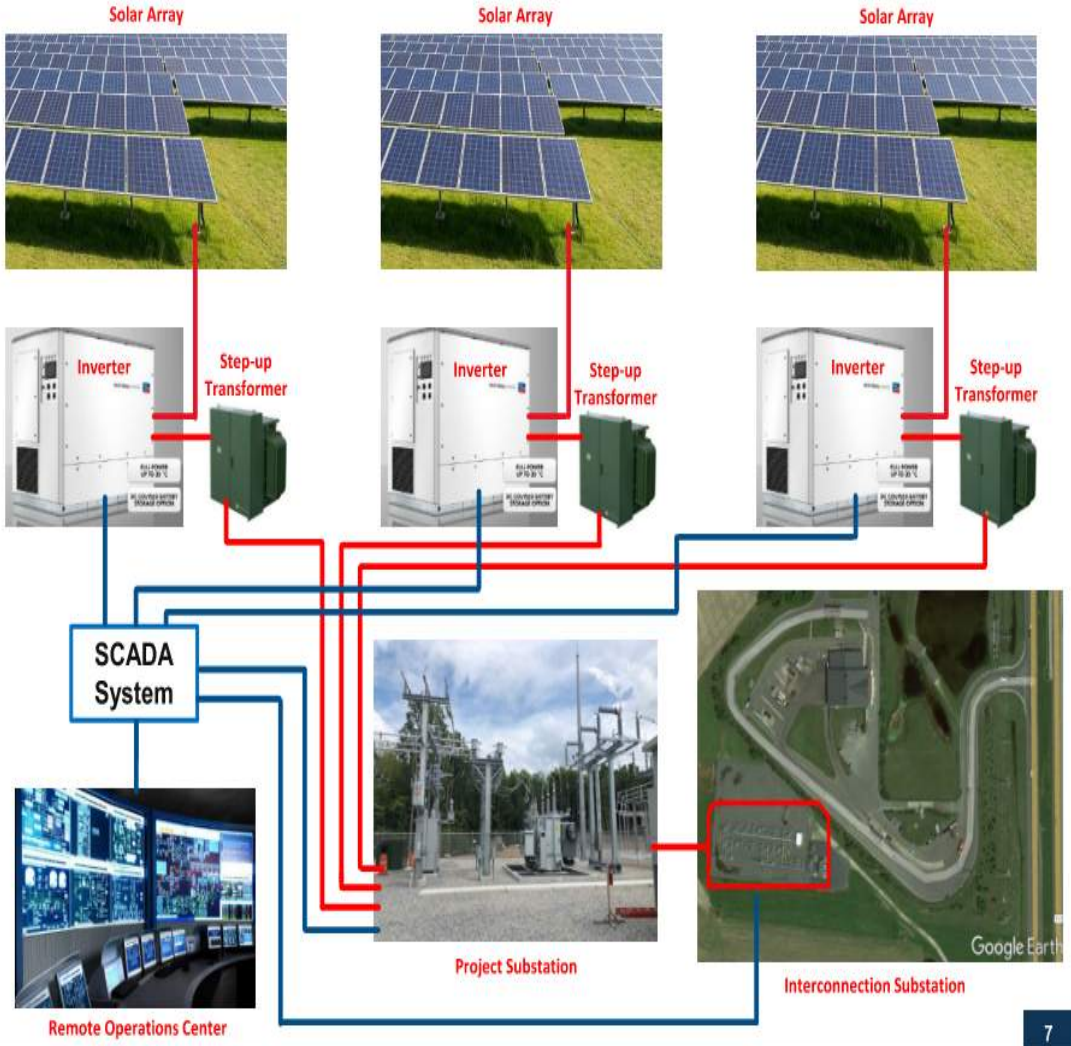
CITY OF MILFORD FUTURE LAND USE

(SOUTHWEST)

Pennoni

HOW A SOLAR PROJECT WORKS

Brookfield Renewable U.S.

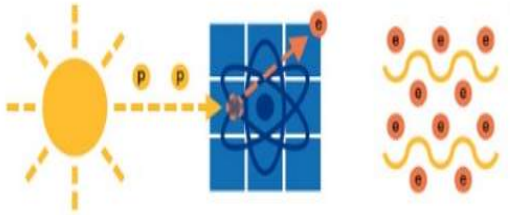


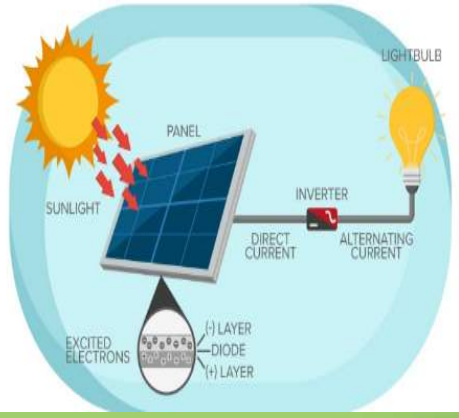
HOW A SOLAR PANEL WORKS

Brookfield Renewable U.S.

The Photovoltaic Effect

1. The sun emits light, which is made up of tiny particles called 'photons'
2. Photons hit a solar panel, knocking the electrons off the silicon atoms
3. These loose electrons generate an electric current





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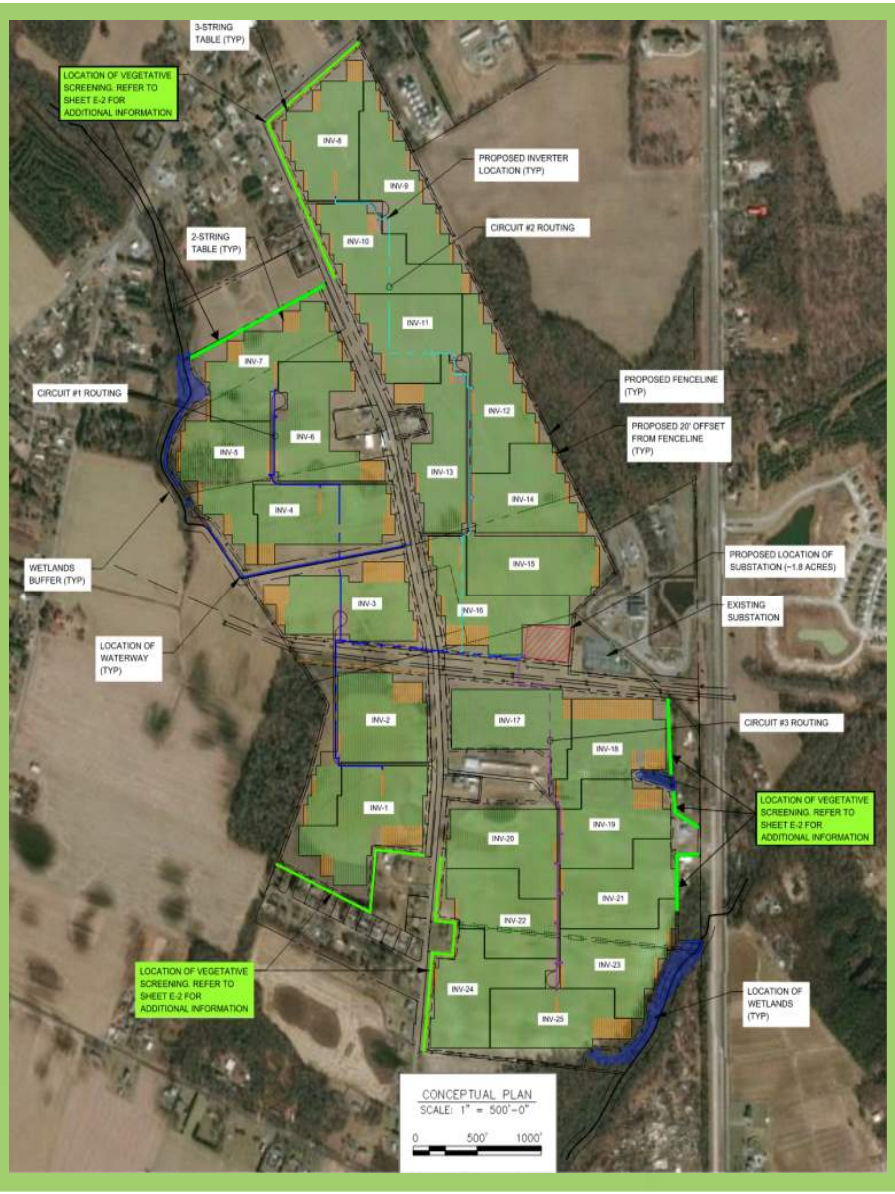

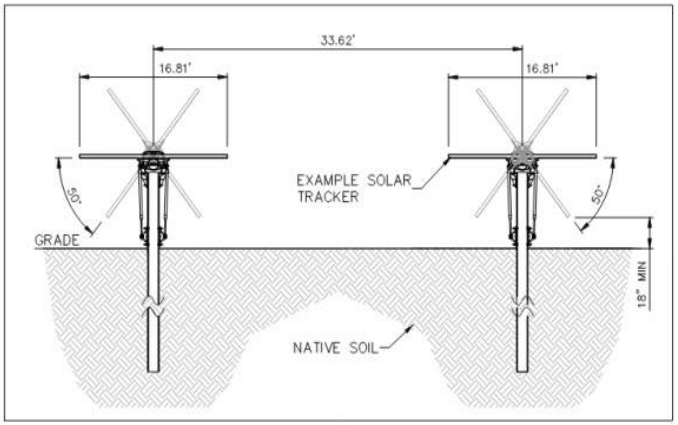

D SAMPLE TRACKER DETAIL
N.T.S

SYSTEM PROPERTIES	
	CANADIAN SOLAR CS7N-660MB-AG 660W MODULES
AZIMUTH / AXIS TILT	S0°E (0°) / 0°
TRACKER ROTATION LIMITS	±50°
RACKING	QTY: 2-STRING - 201 / 3-STRING - 1406 33.62' PITCH
MODULES	QTY: 138,600
MODULES/STRING	30
INVERTERS	3,000kW SMA SUNNY CENTRAL 3000-EV (QTY: 25)
DC SIZE (MW)	91.50
AC SIZE (MW)	75.00
OVERBUILD RATIO (DC/AC)	1.22
GROUND COVERAGE RATIO (GCR)	50.00

B SYSTEM PROPERTIES
N.T.S

PV System Power Summary						
Inverter No.	Inverter AC Rating (MW)	PV Module Rating (W)	Qty Of Modules	Qty of Strings	DC Power (MW)	DC/AC Ratio
1	3.000	660	6600	220	4.356	1.45
2	3.000	660	6630	221	4.376	1.46
3	3.000	660	6000	200	3.960	1.32
4	3.000	660	5820	194	3.841	1.28
5	3.000	660	5820	194	3.841	1.28
6	3.000	660	5790	193	3.821	1.27
7	3.000	660	5850	195	3.861	1.29
8	3.000	660	5370	179	3.544	1.18
9	3.000	660	5400	180	3.564	1.19
10	3.000	660	5370	179	3.544	1.18
11	3.000	660	5400	180	3.564	1.19
12	3.000	660	5310	177	3.505	1.17
13	3.000	660	5370	179	3.544	1.18
14	3.000	660	5310	177	3.505	1.17
15	3.000	660	5490	183	3.623	1.21
16	3.000	660	5370	179	3.544	1.18
17	3.000	660	5340	178	3.524	1.17
18	3.000	660	5340	178	3.524	1.17
19	3.000	660	5340	178	3.524	1.17
20	3.000	660	5370	179	3.544	1.18
21	3.000	660	5280	176	3.485	1.16
22	3.000	660	5160	172	3.406	1.14
23	3.000	660	5310	177	3.505	1.17
24	3.000	660	5280	176	3.485	1.16
25	3.000	660	5280	176	3.485	1.16
Total			138,600	4,620	91.5	1.22

C PV SYSTEM POWER SUMMARY
N.T.S

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PROJECT DETAILS:

- 75 Megawatt(MW) Nameplate Capacity
- 351 Acres of Calhoun Family Property
- Operating Life of +20 years
- ~150,000 MWh of Energy/Year
- 13,350 Average Delaware Homes Energy Usage
- Single Axis Tracking Solar Racking
- ~166,500 Solar Panels
- Full Decommissioning Is Developer Responsibility
- Land Returned To Owner In "Current Condition"
- Virtually No Noise
- Designed To Withstand Hurricane Force Winds
- Fully Insured By Project Owner

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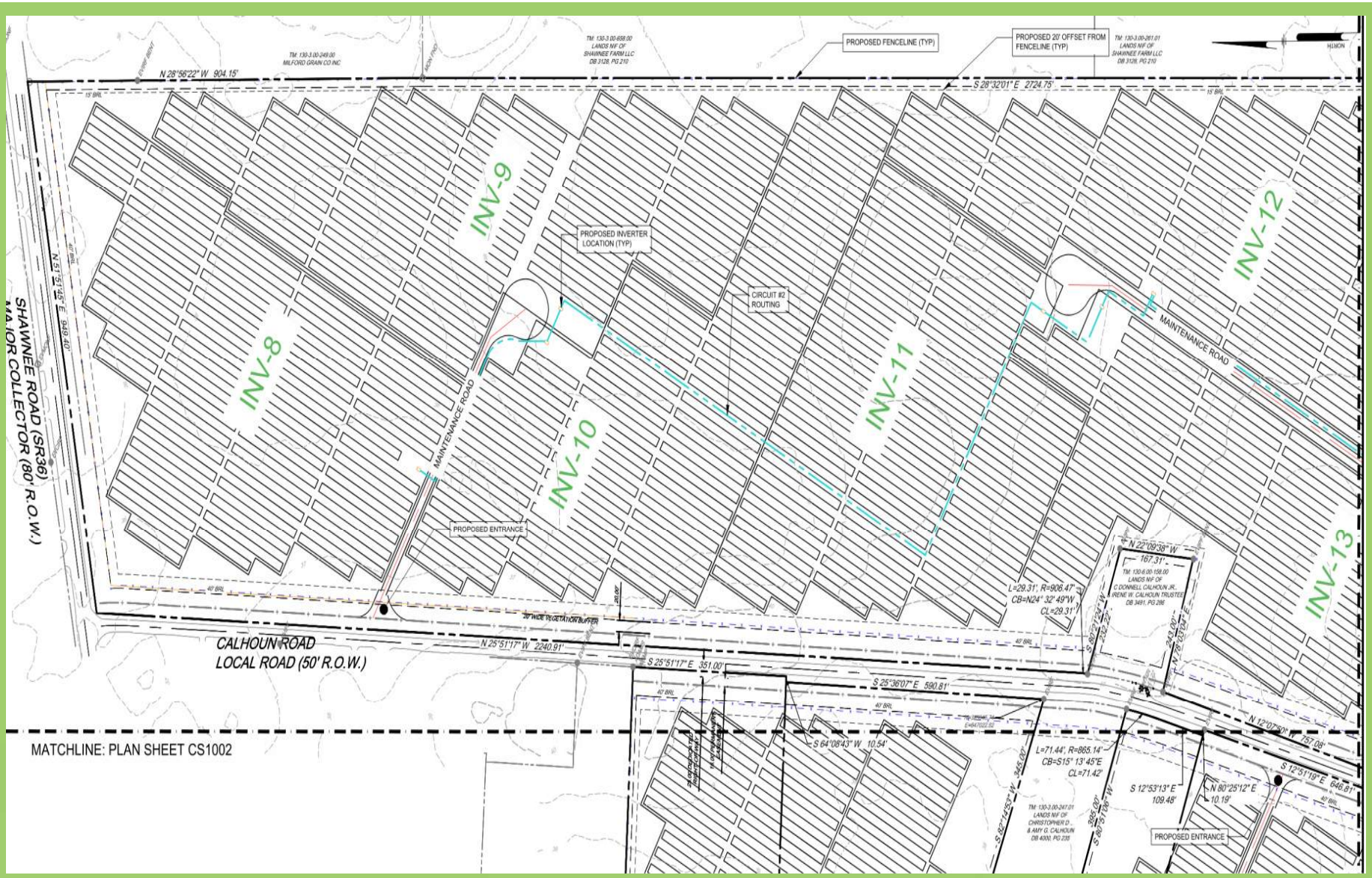
PROPOSED FENCELINE (TYP)
PROPOSED 20' OFFSET FROM FENCELINE (TYP)
N 28°56'22" W 904.15'
S 28°32'01" E 2724.75'
INV-8
INV-9
INV-10
INV-11
INV-12
INV-13
PROPOSED INVERTER LOCATION (TYP)
CIRCUIT #2 ROUTING
MAINTENANCE ROAD
PROPOSED ENTRANCE
SHAWNEE ROAD (SR36)
MAJOR COLLECTOR (80' R.O.W.)
CALHOUN ROAD
LOCAL ROAD (50' R.O.W.)
N 25°51'17" W 2240.91'
S 25°51'17" E 381.00'
S 25°36'07" E 590.81'
N 12°07'50" W 757.08'
S 12°51'19" E 646.81'
S 64°08'43" W 10.54'
L=29.31', R=906.47'
CB=N24° 32' 49"W
CL=29.31'
L=71.44', R=865.14'
CB=S15° 13' 45"E
CL=71.42'
N 22°09'38" W 167.31'
S 12°53'13" E 109.48'
N 80°25'12" E 10.19'
MATCHLINE: PLAN SHEET CS1002

S 64°08'43" W 10.54'
L=71.44', R=865.14'
CB=S15° 13' 45"E
CL=71.42'
S 12°53'13" E
109.48'
S 82°14'53" W 395.00'
S 80°51'06" W 395.00'
S 07°49'38" E 192.69'
N 80°25'12" E
10.19'
S 12°51'19" E 646.81'
S 12°07'50" W 757.09'
PROPOSED ENTRANCE
TM: 130-3.00-247.01
LANDS NIF OF
CHRISTOPHER D.
& AMY G. CALHOUN
DB 4000, PG 235
PREMISES 1
TM: 130-3.00-246.00
LANDS NIF OF
CLARENCE D. CALHOUN JR.
DB 5003, PG 105
PREMISES 10
TM: 130-3.00-247.00
LANDS NIF OF
CLARENCE D. CALHOUN JR.
DB 5003, PG 105
PREMISES 2
TM: 130-3.00-247.02
LANDS NIF OF
CALHOUN VENTURES LLC,
DB 4904, PG 207
TM: 130-3.00-245.00
LANDS NIF OF
JASON & JENNIFER FARISSIER
DB 5312, PG 155
N 64°08'43" E 1243.23'
INV-7
INV-6
INV-5
INV-4
MAINTENANCE ROAD
CIRCUIT #1 ROUTING
PROPOSED FENCELINE (TYP)
BOWMAN BRANCH
LOCATION OF WETLANDS
(TYP)
WETLANDS BUFFER (TYP)
TIE LINE
S 11°05'46" W 439.74'
N 14°07'16" E 182.70' (TOTAL)
N 12°35'12" E 110.87' (TOTAL)
N 38°08'18" W 220.33'
N 38°06'57" W 742.86'
LOCATION OF WATERWAY
(TYP)
N 07°19'03" W 16.92' (TOTAL)
N 22°30'48" W 33.76' (TOTAL)
20' BRL
0
100'
200'

INV-1
INV-2
INV-3
INV-14
INV-15
INV-16
INV-17
PROPOSED FENCELINE (TYP)
PROPOSED ENTRANCE
PROPOSED ENTRANCE
PROPOSED ENTRANCE
MAINTENANCE ROAD
MAINTENANCE ROAD
MAINTENANCE ROAD
PROPOSED LOCATION OF SUBSTATION (~1.8 AC)
EXISTING SUBSTATION
CIRCUIT #3 ROUTING
DELMARVA POWER AND LIGHT COMPANY 150' RIGHT OF WAY AGREEMENT DB.523, PG.361
DELMARVA POWER AND LIGHT COMPANY 150' RIGHT OF WAY HORSESHOE TO DB.523, PG.361
TM: 130-6.00-72.01 LANDS N/F OF KATHERINE D MARTINEZ DB.5260, PG.22
TM: 130-6.00-94.02 LANDS N/F OF CITY OF MILFORD DB.3636, PG.147
TM: 130-6.00-94.00 LANDS N/F OF NOAH BARRETT & JENNIFER CALHOUN ATTIX DB.4047, PG.91
L=76.85', R=1000.00'
CB=N10° 24' 01"W
CL=76.83'
L=101.69', R=1000.00'
CB=S05° 17' 07"E
CL=101.65'
L=476.79', R=3400.00'
CB=S01° 38' 43"W
CL=476.39'
L=125.74', R=1586.60'
CB=N80° 45' 36"W
CL=125.71'
S 72° 03' 50" W 30.04'
N 36° 36' 50" W 30.00'
N 36° 25' 50" W 158.98'
N 18° 25' 50" E 57.99'
S 13° 45' 50" E 100.00'
S 13° 45' 50" E 298.76'
N 14° 05' 51" W 899.78'
S 73° 26' 07" E 497.05'
S 30° 21' 59" E 525.76'
N 00° 01' 39" W 441.48'
S 00° 42' 50" E 466.90'
S 48° 00' 07" W 445.28'
S 64° 41' 27" E 668.74'
N 49° 33' 52" W 214.02'
S 84° 31' 00" E 96.94'
N 85° 53' 08" W 182.48'
S 84° 31' 00" E 266.68'
N 05° 44' 14" E 155.68'
N 36° 06' 47" W 425.71'
S 36° 06' 47" E 425.71'
S 36° 06' 47" E 323.05'
N 36° 06' 47" W 323.05'
N 36° 06' 47" W 449.91'
S 36° 06' 47" E 304.44'
S 36° 06' 47" E 214.55'
0
100'
200'

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INV-18
INV-19
INV-20
INV-21
INV-22
INV-23
INV-24
INV-25
MAINTENANCE ROAD
CALHOUN ROAD
LOCAL ROAD (50' R.O.W.)
LOCATION OF WETLANDS (TYP)
PROPOSED FENCELINE (TYP)
LOCATION OF WETLANDS (TYP)
HERRING BRANCH
TIE LINE
N 89°27'07" W
17.00'
N 87°35'04" E
102.85'
N 87°35'04" E
72.25'
N 84°14'30" W 1606.30'
S 33°17'23" W 1030.21'
0 100' 200'

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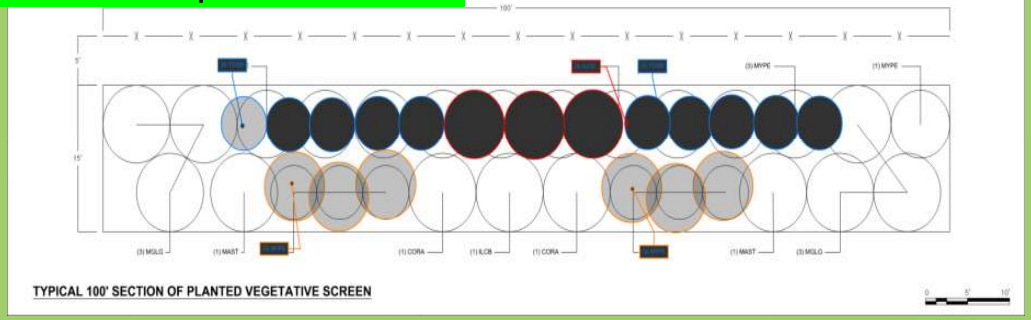
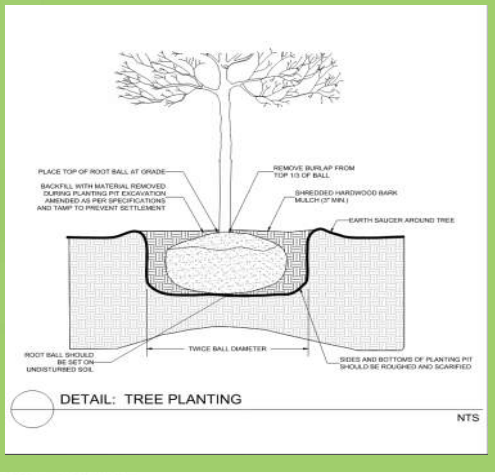
LANDSCAPE | BUFFER | SCREENING



TYPICAL 100' SECTION OF PLANTED VEGETATIVE SCREEN



DETAIL: TREE PLANTING

NTS

VEGETATIVE BUFFER NOTES

GENERAL NOTES

- WHERE SUFFICIENT NATURAL VEGETATION DOES NOT EXIST TO PROTECT SENSITIVE VIEWS, A PLANTED BUFFER CONSISTING OF A LANDSCAPED STRIP OF AT LEAST FIFTEEN (15) FEET WIDE SHALL BE INSTALLED WITHIN THE REQUIRED SETBACKS.
- BUFFER SHALL CONSIST OF EXISTING VEGETATION AND, WHERE EXISTING VEGETATION IS NOT SUFFICIENT, AN INSTALLED LANDSCAPED STRIP CONSISTING OF TWO ROWS OF SMALL TREES AND POLLINATOR-FRIENDLY SEEDING.
- BUFFER SHALL BE MAINTAINED FOR THE LIFE OF THE FACILITY.

EXISTING BUFFER NOTES

- BUFFER SHALL BE MET WHERE POSSIBLE BY EXISTING WETLAND AND WOODLANDS.
- EXISTING WETLANDS OR WOODLANDS SERVING AS VEGETATIVE BUFFER SHALL BE MAINTAINED FOR THE LIFE OF THE FACILITY.
- IF EXISTING TREES AND VEGETATION ARE DISTURBED WHICH ARE PROVIDING REQUIRED SCREEN, NEW PLANTINGS SHALL BE PROVIDED FOR THE BUFFER.

PROPOSED BUFFER NOTES

- BUFFER SHALL BE SOWN WITH APPROPRIATE GRASS SPECIES THAT MEET EROSION AND SEDIMENT CONTROL REQUIREMENTS.
- BUFFER SHALL BE, WHEN NECESSARY, PLANTED AND SEEDED PROMPTLY FOLLOWING COMPLETION OF CONSTRUCTION IN SUCH A MANNER AS TO REDUCE INVASIVE WEED GROWTH AND SEDIMENT RUN-OFF.
- TREES PLANTED IN THE BUFFER SHALL GROW TO A MINIMUM OF EIGHT (8) FEET WITHIN FIVE (5) YEARS.
- BUFFER SHALL BE MAINTAINED IN GOOD CONDITION UNTIL THE FACILITY HAS BEEN DECOMMISSIONED OR REMOVED.
- SECURITY FENCING SHALL BE INSTALLED ON THE INTERIOR OF THE BUFFER.

VISUAL SCREENING PLANTS

SYMBOL	BOTANICAL NAME	COMMON NAME	APPROXIMATE MATURE HEIGHT	APPROXIMATE MATURE SPREAD	INSTALLED SIZE SPECIFICATION	NOTES
ILCG	ILEX x MESERVEAE 'MESOG'	CHINA GIRL HOLLY	9'	7'	B&B OR CONTAINER; 4' HEIGHT MINIMUM	•PLANTS TO BE INSTALLED IN TWO OFF-SET ROWS. •SPACE PLANTS 5 TO 8 FEET ON CENTER OR AS APPROPRIATE PER THE SPECIES GROWTH HABIT AND SHOWN ABOVE. •INTENT IS TO LET THE CANOPIES GROW TOGETHER AND CREATE A FULL SCREEN OF THE SOLAR EQUIPMENT WITHIN 5 YEARS. •CONTRACTOR IS RESPONSIBLE FOR LAYOUT OF PLANT MATERIAL PER THE PLAN. •PLANT A MIXTURE OF CHINA BOY AND CHINA GIRL HOLLY TO PROMOTE BERRY PRODUCTION. 4 CHINA GIRL FOR EVERY 1 CHINA BOY.
ILCB	ILEX x MESERVEAE 'MESDOB'	CHINA BOY HOLLY	9'	6'	B&B OR CONTAINER; 4' HEIGHT MINIMUM	
CORA	CORNUS RACEMOSA	GRAY DOGWOOD	12'	12'	B&B OR CONTAINER; 4' HEIGHT MINIMUM	
TOSM	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	12'	4'	B&B OR CONTAINER; 4' HEIGHT MINIMUM	
MGLG	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	18'	8'	B&B OR CONTAINER; 4' HEIGHT MINIMUM	
MYPE	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	8'	8'	B&B OR CONTAINER; 4' HEIGHT MINIMUM	
MAST	MAGNOLIA STELLATA	STAR MAGNOLIA	18'	15'	B&B OR CONTAINER; 4' HEIGHT MINIMUM	

NOTES: 1) PROPOSED PLANTS WERE SELECTED BASED ON THE DELAWARE DEPARTMENT OF TRANSPORTATION'S PUBLICATION - "ROADSIDE VEGETATION CONCEPT AND PLANNING MANUAL." IN SOME CASES CULTIVARS OR CLOSELY RELATED SPECIES WERE SELECTED WITH SHORTER TYPICAL HEIGHTS TO AVOID SHADING CONFLICTS.
2) ESTIMATED INSTALLED COST IS BASED ON AN INDUSTRY RULE OF THUMB OF THREE TIMES THE COST OF THE PLANT. CONTRACTOR PRICES WILL VARY.

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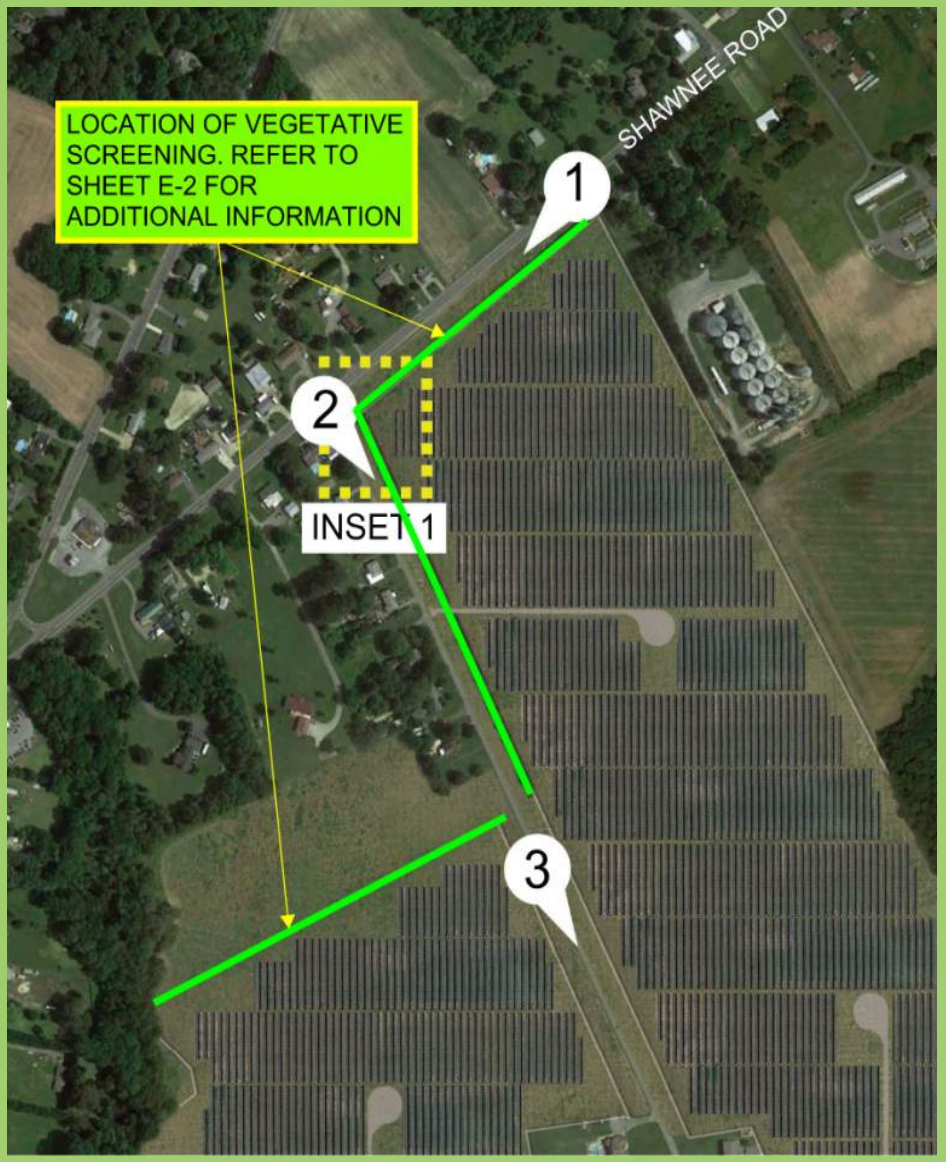

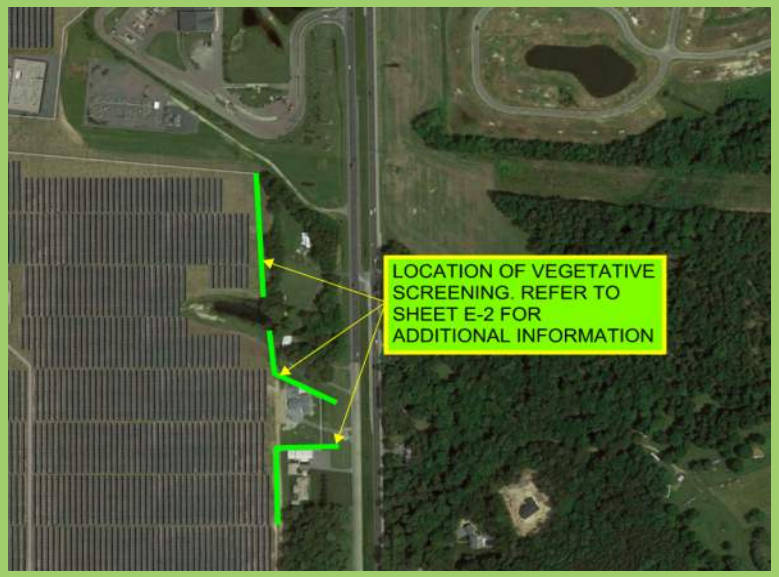

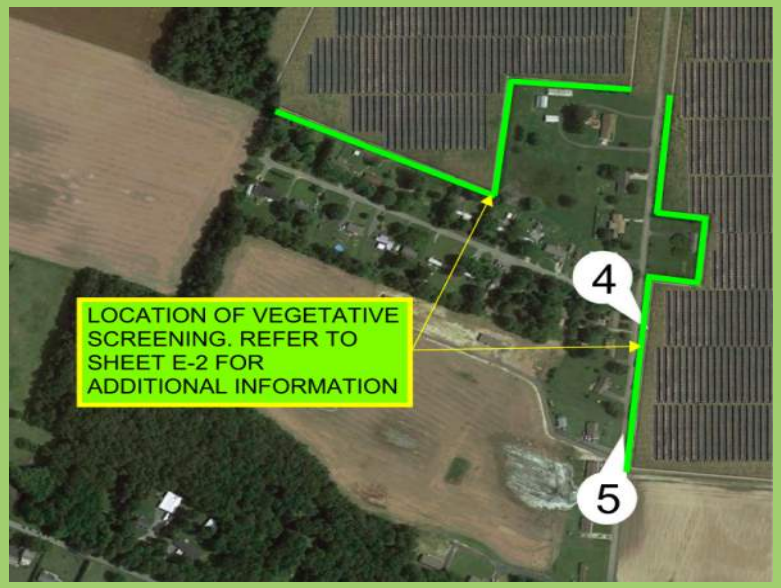

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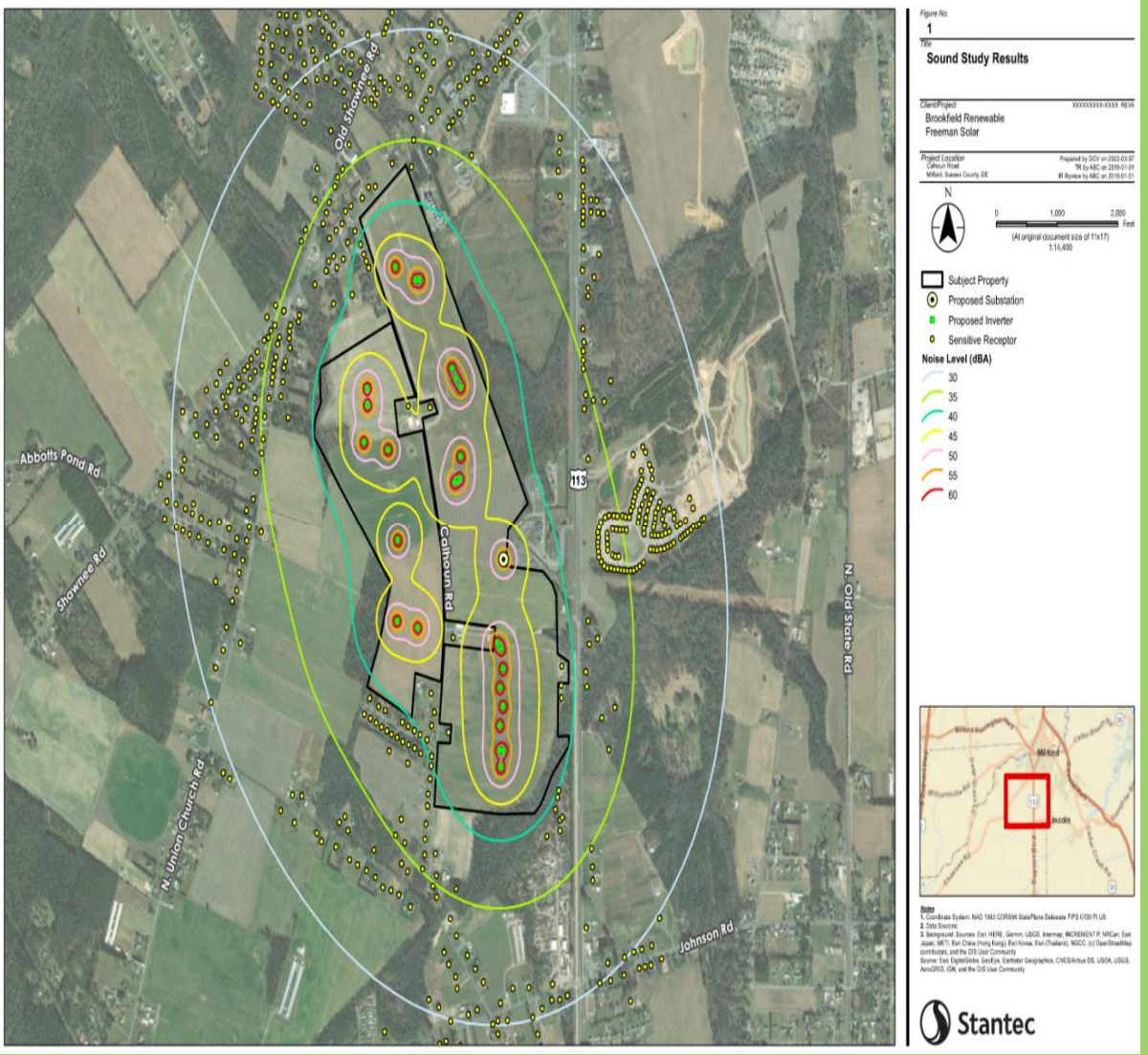

Figure No.
1
Title
Sound Study Results

Client/Project
Brookfield Renewable
Freeman Solar

Project Location
Calhoun Road
Milford, Sussex County, DE

Prepared by DGV on 2022-03-07
TR by ABC on 2019-01-01
IR Review by ABC on 2019-01-01

N

0 1,000 2,000 Feet
(At original document size of 11x17)
1:14,400

- Subject Property
- Proposed Substation
- Proposed Inverter
- Sensitive Receptor

Noise Level (dBA)
- 30
- 35
- 40
- 45
- 50
- 55
- 60

Notes
1. Coordinate System: NAD 1983 CORSIM State Plane Delaware FIPS 0700 Ft US
2. Data Sources:
3. Background Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Sound is caused by vibrations that generate waves of minute pressure fluctuations in the surrounding air. Sound levels are typically measured using a logarithmic decibel (dB) scale. Human hearing varies in sensitivity for different sound frequencies. The ear is most sensitive to sound frequencies between 800 and 8,000 hertz (Hz) and is least sensitive to sound frequencies below 400 Hz or above 12,500 Hz. Consequently, several different frequency weighting schemes have been used to approximate the way the human ear responds to sound levels. The decibel (A-weighted) or dBA scale is the most widely used for regulatory requirements, such as the Occupational Safety and Health Administration, because it discriminates against low frequencies, like the response of the human ear. The decibel (C-weighted) sound level (dBC) does not discriminate against low frequencies. Unweighted sound levels are generally reported as dB or dBZ.

For context, a soft whisper has a sound level of approximately 30 dBA, while a normal conversation is approximately 60 dBA. Common household appliances range in sound pressure levels from 40 dBA (refrigerator hum) to 60 dBA (air conditioner)[2].

The proposed Project is located in northern Sussex County, Delaware. No local sound ordinance or regulations were identified; however, Chapter 71, Title 7 of the Delaware Code provides a state-wide standard for "Noise Control and Abatement." Pursuant to Title 7 of the Delaware Code, the Department of Natural Resources and Environmental Control adopted "Regulations Governing the Control of Noise" which are found in the Delaware Administrative Code. The most applicable regulation is found in Title 7, Chapter 1149 which states that no person(s) shall operate, or cause to be operated, any stationary source of sound in such a manner as to create a 24-hour equivalent A-weighted sound level which exceeds the L_{eq} limits set forth for a residential property when measured at the point of complaint origination within the receiving property boundary. Therefore, sound from the operation of Project facilities cannot exceed the daytime (7 am – 10 pm) limit of 65 dBA and the nighttime (10 pm – 7 am) limit of 55 dBA, as set forth in the Regulations.

Sound analyses were completed for the Project, considering 25 inverters and one substation in full operation. The sound signature of the inverter is based on information provided by the equipment manufacturer for the example inverter. The maximum sound impact at a residence is predicted to be approximately 45.8 dBA. Sound due to Project operation is not expected to exceed 55 dBA at any non-participating residential property boundary. The facility will operate converting power during daytime hours, only. Sound from the inverters and substation will be minimal during the nighttime hours, due to equipment operating in an energized stand-by mode.

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OTHER PERMITTING REQUIREMENTS

Brookfield
Renewable U.S.

Large Generator Interconnection Agreement - PJM

- Freeman Solar LLC submitted an interconnection request to PJM in the fall of 2020 and obtained queue position AG1-529
- Freeman Solar LLC proceeded through the interconnection process and obtained System Impact Study Results in September of 2021.
- Freeman Solar LLC entered into a Facilities Study Agreement in October of 2021 with an expected study delivery date of May 31st 2023
- PJM currently has a backlog of +2,000 projects and is experiencing significant delays.
- PJM is advancing a queue reform process through FERC so the current timing for study delivery for this project is unknown.

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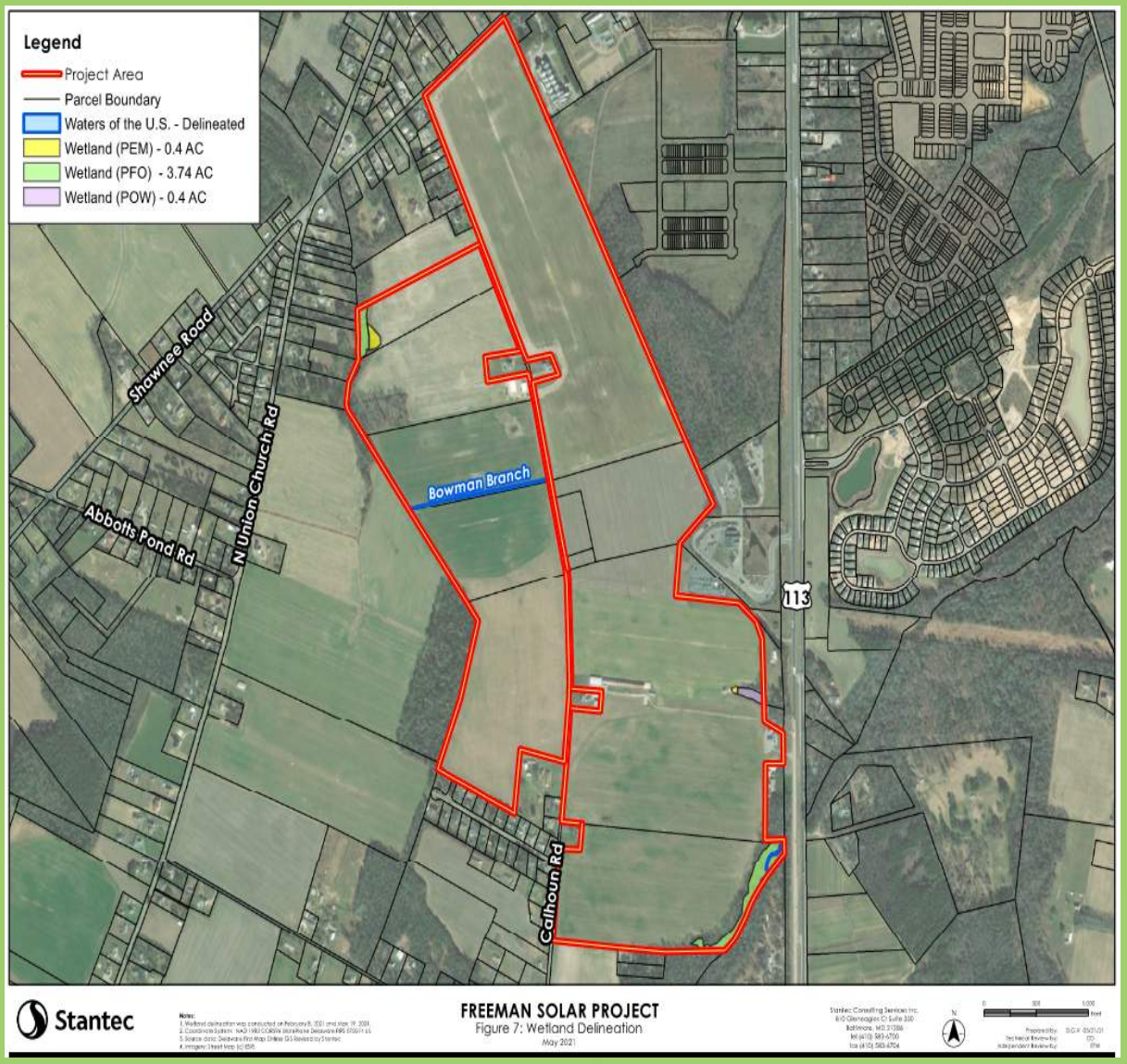

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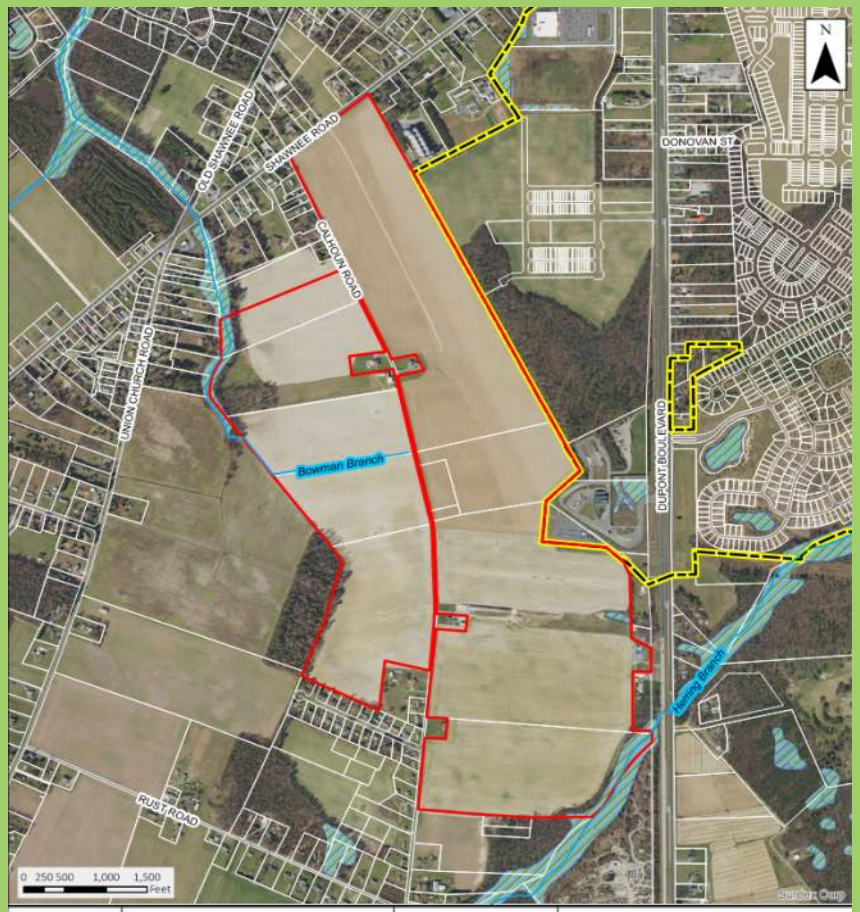
FREEMAN SOLAR PROJECT
Figure 7: Wetland Delineation
May 2021



13	State Wetlands Mapping	Pennoni	DNREC Wetlands
	Freeman Solar Farm		
	BRKRE21001		

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- Freeman Solar LLC is committed to being a good neighbor and long-term owner operator actively involved in the community.
- The construction phase of the project will be the most disruptive, but will last for less than a year, followed by +20 years of quiet operations.
- Studies demonstrate that solar projects do not negatively impact adjacent residential property values and, in many instances, help support healthy communities.
- At the end of its functional life the project will be fully decommissioned and the property will be returned to the landowners in its “current condition”.
- This project will produce enough clean, renewable energy to power approximately 13,350 homes every year for its operational life.

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