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Sussex County

DELAWARE
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PLEASE NOTE

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COUNTY ADMINISTRATIVE OFFICES
2 THE CIRCLE | PO BOX 417
GEORGETOWN, DELAWARE



December 13, 2022

Lockhaven Farm, LLC
26412 Broadkill Road
Milton, Delaware 19968

**RE: Minor Subdivision
Tax Map 235-15.00-34.00**

To Whom It May Concern,

Scaled Engineering Inc (Scaled) has been contracted by Lockhaven Farm, LLC (client) to prepare a Minor Subdivision Plan for "Lockhaven Farm", known herein as the "Site". The site is located northwest side of Round Pole Bridge Road, west of Hudson Road, Milton, DE 19968. The site is listed under Sussex County tax map number 235-15.00-34.00. Pursuant to the Minor Subdivision Plan (copy attached), Scaled is providing a summary of soil investigation work conducted at the site.

Per the Department of Natural Resources and Environmental Control (DNREC) policy, a soil feasibility study may be submitted for any proposed Major Subdivision to ensure compliance with the DNREC "Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems" (Regulations), and to satisfy other local government approval processes. In general, a soil feasibility study includes hand-auger borings and test pits, excavated in a grid pattern across a site to indicate the type of limiting zone, its depth, estimated permeability rate, soil series or taxonomic subgroup, and associated on-site wastewater treatment and disposal system (OWTDS) suitability. Percolation tests are conducted within each soil interpretive unit to establish representative percolation rates. A soil feasibility report detailing results of the feasibility study is submitted to DNREC for review. Following DNREC's review, the owner/developer is provided a statement of preliminary subdivision feasibility, which contains a statement of on-site wastewater treatment and disposal feasibility. Feasibility study approvals do not expire, and soil conditions remain valid unless a site is altered in a way that impacts the soils.

A soil feasibility study was performed for the site by Geo-Technology Associates, Inc (GTA), and a report titled "Report of Soil Feasibility Study, Gaitlyn Farm, Tax Map 2-35-15-34, Sussex County, Delaware", dated March 2006 was submitted to DNREC for review (copy attached). DNREC issued a "Non-Binding Statement of Feasibility" letter, dated December 17, 2015 (copy attached), stating the proposed major subdivision would be feasible in accordance with the Regulations "as long as judicious and coordinated use of land is exercised, areas delineated by GTA as being feasible for OWTDS as depicted by the Plan are accurate and if proposed Lot 3 is combined with proposed Lots 2 and/or 4". The site has not been altered in a way that impacts the soils since the feasibility approval; therefore, findings of the feasibility remain valid. Scaled prepared a new proposed Major Subdivision Plan for the site. Correspondence with DNREC (copy attached) confirmed soils data from the original feasibility study can be utilized to obtain a new Non-Binding Statement of Feasibility for the new Major

Subdivision. Scaled prepared an updated Soil Delineation Map (copy attached) depicting suitable soils area with the updated lot configuration overlaid. The updated Map confirms all proposed lots are situated within area suitable for OWTDS.

Scaled performed a preliminary soil investigation to further evaluate the “proposed Lot 3” area of the site mentioned in the DNREC Non-Binding Statement of Feasibility. Results of the investigation concluded sufficient area exists within the “proposed Lot 3” area to place a residential dwelling, well and septic. A copy of the “Preliminary Soil Investigation” letter is provided as an attachment to this letter.

Scaled has prepared a Minor Subdivision Plan for the site, which includes four proposed lots and remaining lands. Proposed Lots 1, 2 and 3 are situated within area found suitable for septic in the soil feasibility study. The site has remained unaltered since the soil feasibility study; therefore, the soil conditions have not changed, nor has the suitability for an OWTDS. Scaled performed a site evaluation for on-site septic for proposed Lot 4 (formerly known as Lot 15). Lot 4 was found suitable for a capping fill gravity OWTDS, with additional area suitable for capping fill and full depth low pressure pipe OWTDS. The site evaluation was approved by DNREC and is valid until August 27, 2025 (copy attached). Based on combined soil investigation information, sufficient area to fit a dwelling, septic and well exists for each proposed lot, and the remaining lands.

Please feel free to contact me with any questions, concerns, or for additional information at (302) 227-7808 or josh@scaledengineering.com

Respectfully Submitted,

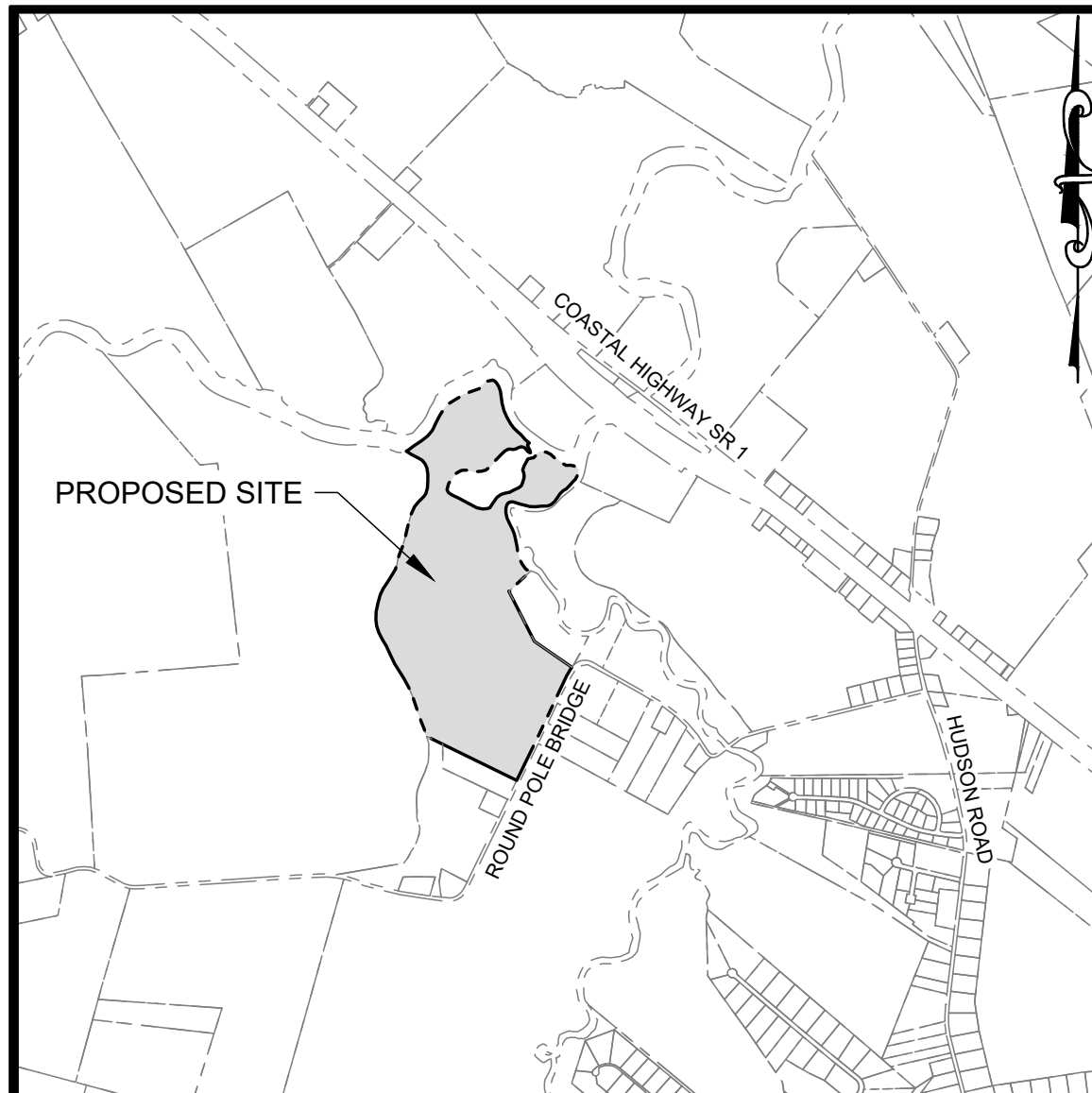
SCALED ENGINEERING INC.



M. Josh Stallings
Senior Environmental Scientist
Class D.2 Site Evaluator, DNREC License #4601

ATTACHMENTS

MINOR SUBDIVISION PLAN



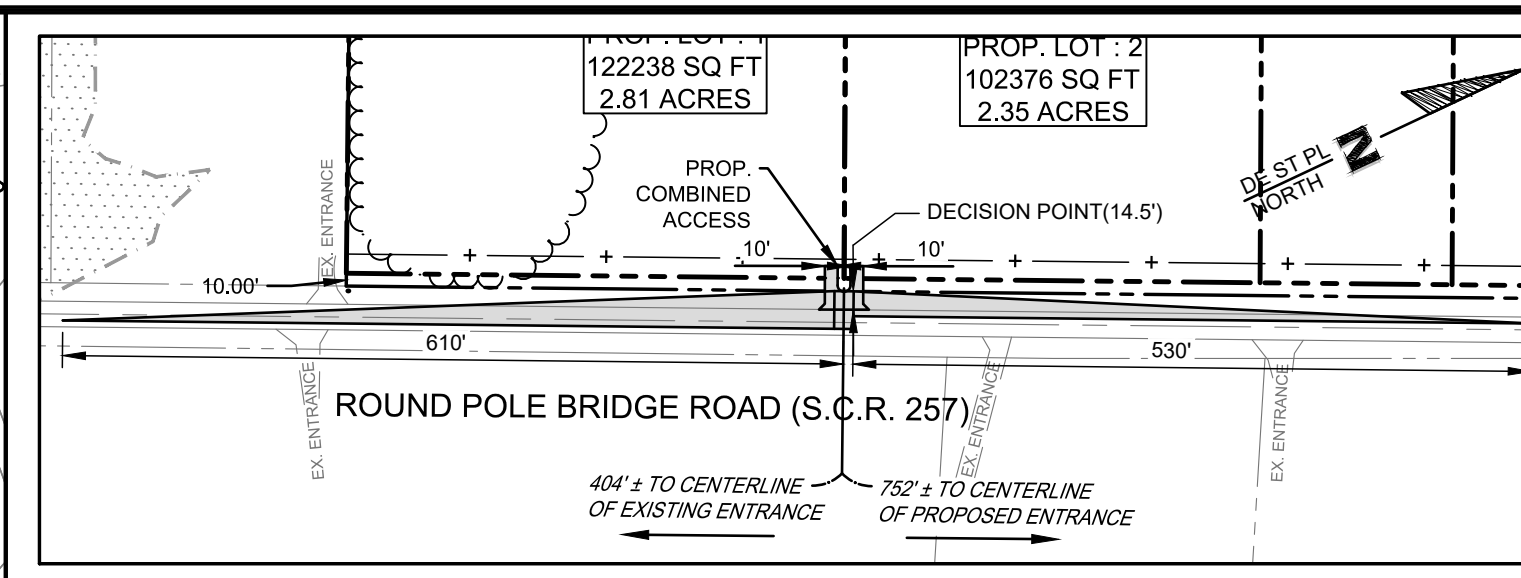
LOCATION MAP

SCALE: 1" = 2,000'

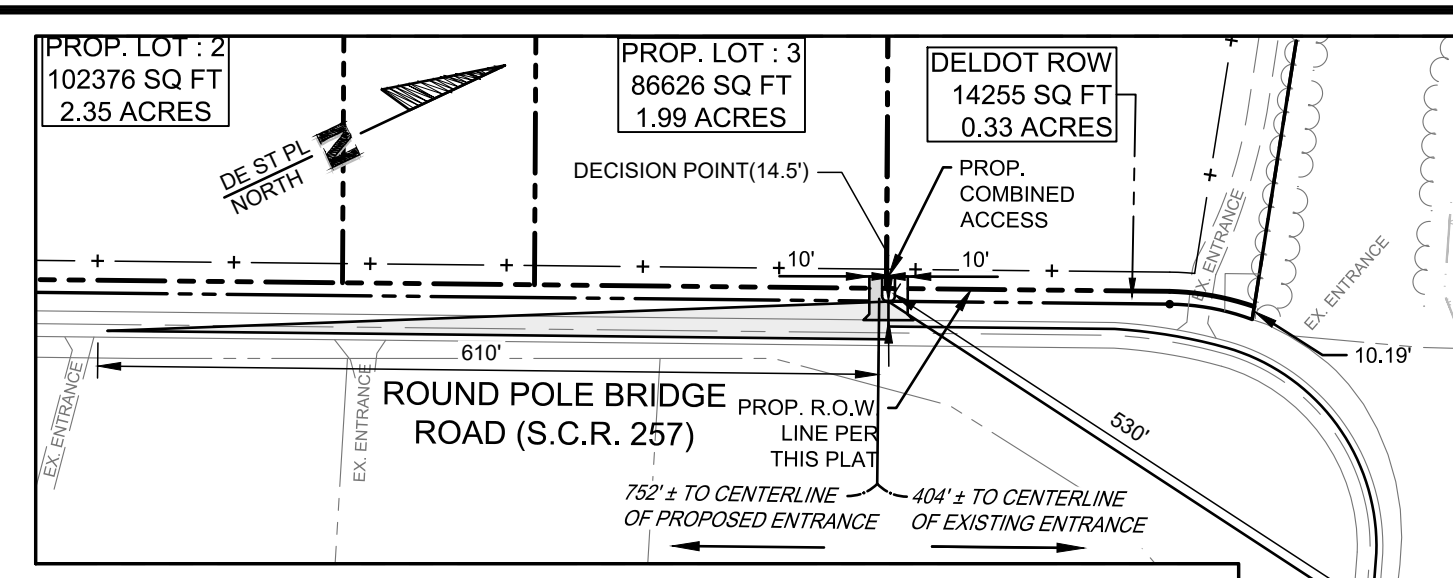
DELDOT NOTES:

- IF EXISTING ENTRANCES ARE ALTERED, THEY SHALL CONFORM TO DELDOT'S DEVELOPMENT COORDINATION MANUAL (DCM) AND SHALL BE SUBJECT TO ITS APPROVAL. NO CONSTRUCTION ACTIVITY SHALL OCCUR IN THE RIGHT-OF-WAY (ROW) WITHOUT A DELDOT PERMIT.
- SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNERS LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
- IF THE RESIDUAL LANDS OF THE APPLICANT ARE EVER DEVELOPED INTO A MAJOR SUBDIVISION, THEN THE ACCESS TO THE PARCELS CREATED BY THIS MINOR SUBDIVISION PLAN MAY BE REQUIRED TO BE FROM AN INTERNAL SUBDIVISION STREET.
- REFER TO DELDOT STANDARD DETAIL M-2 FOR RIGHT-OF-WAY MONUMENTS.
- ALL ENTRANCES SHALL CONFORM TO DELDOT'S DEVELOPMENT COORDINATION MANUAL (DCM) AND SHALL BE SUBJECT TO ITS APPROVAL.
- LOTS 1 & 2 SHALL HAVE COMBINED ACCESS FROM SCR 257.
- LOT 3 & RESIDUAL SHALL HAVE COMBINED ACCESS FROM SCR 257.
- LOT 4 SHALL HAVE COMBINED ACCESS FROM EXISTING ENTRANCE OFF SCR 257.

MAINTENANCE OF EASEMENT SHALL BE SHARED BY THE ABOVE DESCRIBED PARCELS.



SIGHT DISTANCE TRIANGLE (LOTS 1 & 2)



SIGHT DISTANCE TRIANGLE (LOT 3 & RESIDUAL)

WETLANDS DELINEATION CERTIFICATION STATEMENT:

I, BRUCE BAGLEY, CERTIFY THAT THIS PROPERTY HAS BEEN EXAMINED FOR WETLANDS IN ACCORDANCE WITH CRITERIA FOUND IN THE 1987 CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND ASSOCIATED REGULATORY DOCUMENTS. THE DELINEATION HERE SHOWN, IN MY BEST PROFESSIONAL JUDGEMENT, ACCURATELY DEPICTS WETLAND BOUNDARIES PRESENT WITHIN THE PROJECT AREA.

BRUCE BAGLEY
420 COSDEN RD.
BARCLAY, MD 21607

OWNER CERTIFICATION:

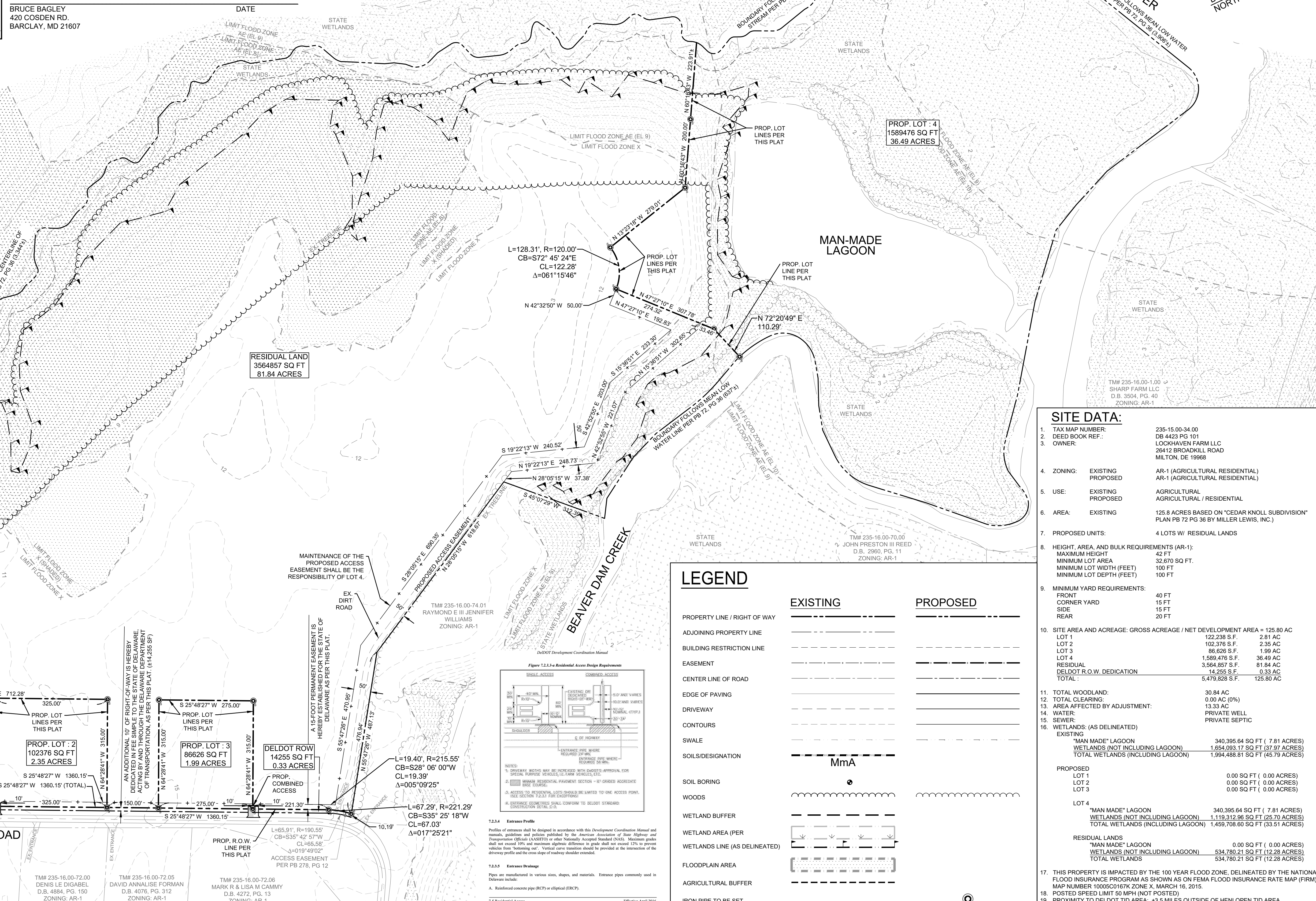
I, THE UNDERSIGNED, HEREBY CERTIFY TO THE OWNERSHIP OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION, AND THAT I ACKNOWLEDGE THE SAME TO BE MY ACT AND THAT I DESIRE THE PLAN TO BE RECORDED ACCORDING TO LAW. I CERTIFY THAT TITLE 17, SECTION 530 IS APPLICABLE TO THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN BY VIRTUE OF:

PRINTED NAME: LOCKHAVEN FARM, LLC
26412 BROADKILL ROAD
MILTON, DE 19968

ENGINEERS CERTIFICATION

I, CARLTON R. SAVAGE, JR. HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION, AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

CARLTON R. SAVAGE, JR., P.E. (LICENSE #16457)

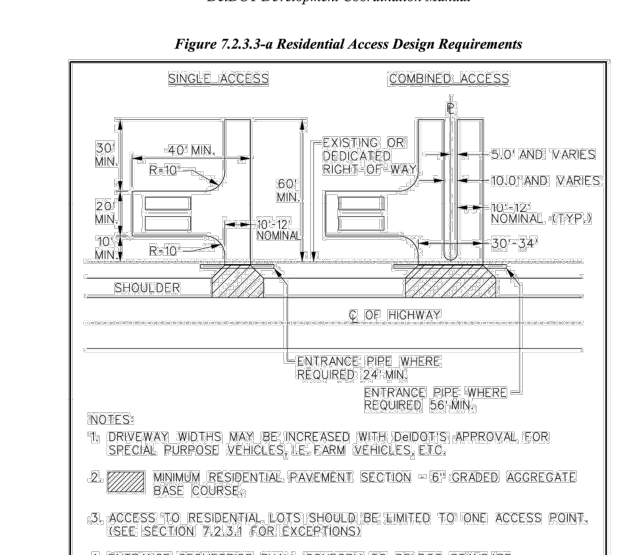


SITE DATA:

1. TAX MAP NUMBER:	235-15.00-34.00
2. DEED BOOK REF.:	DB 4423 PG 101
3. OWNER:	LOCKHAVEN FARM LLC 26412 BROADKILL ROAD MILTON, DE 19968
4. ZONING:	EXISTING: AR-1 (AGRICULTURAL RESIDENTIAL) PROPOSED: AR-1 (AGRICULTURAL RESIDENTIAL)
5. USE:	EXISTING: AGRICULTURAL PROPOSED: AGRICULTURAL / RESIDENTIAL
6. AREA:	EXISTING: 125.8 ACRES BASED ON "CEDAR KNOLL SUBDIVISION" PLAN PB 72 PG 36 BY MILLER LEWIS, INC.) PROPOSED: 4 LOTS W/ RESIDUAL LANDS
7. PROPOSED UNITS:	4 LOTS W/ RESIDUAL LANDS
8. HEIGHT, AREA, AND BULK REQUIREMENTS (AR-1):	MAXIMUM HEIGHT: 42 FT MINIMUM LOT AREA: 33,870 SQ FT MINIMUM LOT WIDTH (FEET): 100 FT MINIMUM LOT DEPTH (FEET): 100 FT
9. MINIMUM YARD REQUIREMENTS:	FRONT: 40 FT CORNER YARD: 15 FT SIDE: 15 FT REAR: 20 FT
10. SITE AREA AND ACREAGE: GROSS ACREAGE / NET DEVELOPMENT AREA = 125.80 AC	
11. TOTAL WOODLAND:	30.84 AC
12. TOTAL CLEARING:	0.00 AC (0%)
13. AREA AFFECTED BY ADJUSTMENT:	13.33 AC
14. WATER:	PRIVATE WELL
15. SEWER:	PRIVATE SEPTIC
16. WETLANDS: (AS DELINEATED)	
EXISTING:	"MAN MADE" LAGOON: 340,395.64 SQ FT (7.81 ACRES) WETLANDS (NOT INCLUDING LAGOON): 1,654,093.17 SQ FT (37.97 ACRES) TOTAL WETLANDS (INCLUDING LAGOON): 1,994,488.81 SQ FT (45.79 ACRES)
PROPOSED:	LOT 1: 0.00 SQ FT (0.00 ACRES) LOT 2: 0.00 SQ FT (0.00 ACRES) LOT 3: 0.00 SQ FT (0.00 ACRES) LOT 4: "MAN MADE" LAGOON: 340,395.64 SQ FT (7.81 ACRES) WETLANDS (NOT INCLUDING LAGOON): 1,119,312.96 SQ FT (25.70 ACRES) TOTAL WETLANDS (INCLUDING LAGOON): 1,459,708.60 SQ FT (33.51 ACRES)
RESIDUAL LANDS:	"MAN MADE" LAGOON: 0.00 SQ FT (0.00 ACRES) WETLANDS (NOT INCLUDING LAGOON): 534,780.21 SQ FT (12.28 ACRES) TOTAL WETLANDS: 534,780.21 SQ FT (12.28 ACRES)
17. THIS PROPERTY IS IMPACTED BY THE 100 YEAR FLOOD ZONE, DELINEATED BY THE NATIONAL FLOOD INSURANCE PROGRAM AS SHOWN AS ON FEMA FLOOD INSURANCE RATE MAP (FIRM) MAP NUMBER 10005C0167K ZONE X, MARCH 16, 2015.	
18. POSTED SPEED LIMIT 50 MPH (NOT POSTED)	
19. PROXIMITY TO DELDOT TID AREA: 3.5 MILES OUTSIDE OF HENLOPEN TID AREA	
20. RECHARGE AREA: POOR/FAIR	

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE / RIGHT OF WAY	---	---
ADJOINING PROPERTY LINE	---	---
BUILDING RESTRICTION LINE	---	---
EASEMENT	---	---
CENTER LINE OF ROAD	---	---
EDGE OF PAVING	---	---
DRIVEWAY	---	---
CONTOURS	---	---
SWALE	---	---
SOILS/DESIGNATION	---	MmM
SOIL BORING	---	---
WOODS	---	---
WETLAND BUFFER	---	---
WETLAND AREA (PER	---	---
WETLANDS LINE (AS DELINEATED)	---	---
FLOODPLAIN AREA	---	---
AGRICULTURAL BUFFER	---	---
IRON PIPE TO BE SET	---	---



7.2.3.4 Entrance Profile
Profiles of entrances shall be designed in accordance with this Development Coordination Manual and standards, guidelines and policies published by the Delaware Association of State Highway and Transportation Officials (ASHTO) or other National Accepted Standard (NAS). Maximum grades shall not exceed 10% and maximum algebraic difference in grade shall not exceed 12% to prevent vehicle from "bottoming out". Vertical curve transition should be provided at the intersection of the driveway profile and the cross slope of roadway shoulder extended.

7.2.3.5 Entrance Drainage
Pipes are manufactured in various sizes, shapes, and materials. Entrance pipes commonly used in Delaware include:
A. Reinforced concrete pipe (RCP) or elliptical (ECP).
Effective April 2016

SCALED ENGINEERING

SCALED ENGINEERING
2000 North Beach, DE 19801
Phone: (302) 236-3600

MINOR SUBDIVISION PLAN

LOCKHAVEN FARM MINOR SUBDIVISION

TM: 235-15.00-34.00

LOCKHAVEN FARM, LLC

REVISIONS:
10-25-22 SCP&Z COMMENTS

Date: 9-21-22
Scale: 1" = 150'
Dwn. By: JRE
Proj. No.: LDCC005
Dwg. No.:

SOIL FEASIBILITY REPORT

RECEIVED
DEC 10 2015
GROUNDWATER

01 121015 14:10 0118 PLU FEASIBILITY \$945.00

REPORT OF
SOIL FEASIBILITY STUDY

GAITLYN FARM
Tax Map # 2-35-15-34
Sussex County, Delaware

MARCH 2006

Prepared For:

Meridian Architects and Engineers
26412 Broadkill Road
Milton, Delaware 19968

Attn: Ms. Jessica Nichols, P.E.

Prepared By:

GEO-TECHNOLOGY ASSOCIATES, INC.
Geotechnical and Environmental Consultants
3445-A Box Hill Corporate Center Drive
Abingdon, Maryland 21009

GTA Job No: 060037



March 24, 2006

Meridian Architects and Engineers
26412 Broadkill Road
Milton, Delaware 19968

Attn: Ms. Jessica Nichols, P.E.

Re: Soil Feasibility Report
Gaitlyn Farm
Tax Map# 2-35-15-34
Sussex County, Delaware

Dear Ms. Nichols:

In accordance with our agreement, Geo-Technology Associates, Inc. (GTA) has performed a Soil Feasibility Study (SFS) for the proposed Gaitlyn Farm subdivision, in Sussex County, Delaware. The SFS was performed to evaluate the suitability of soil conditions for wastewater disposal via individual on-lot systems. The results of the SFS are summarized in the attached report.

We appreciate the opportunity to be of assistance to you on this project. Should you have any questions, or should you require additional information, please contact the undersigned.

Sincerely,
GEO-TECHNOLOGY ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Kevin A. Thomas". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kevin A. Thomas, CPSS
Soil Scientist License # 4395

A handwritten signature in black ink, appearing to read "Craig T. Rodano". The signature is cursive and somewhat stylized, with a large initial "C".

Craig T. Rodano, P.G.
Vice President

KAT/CTR/kl

050864 L:\Shared\Aquifer\Reports\WW - Perc Rpts\060037 Gaitlyn Farm\GAILLYN FARM SF rpt.doc

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REPORT OF SOIL FEASIBILITY STUDY

**GAITLYN FARM
SUSSEX COUNTY, DELAWARE
MARCH 2006**

1.0 INTRODUCTION

Geo-Technology Associates, Inc. (GTA) has performed a Soil Feasibility Study (SFS) at the Gaitlyn Farm site, located approximately 2,000 feet west of Brickyard Road and Hudson Road intersection, in Sussex County, Delaware. GTA understands that the site is proposed for development with 25 single-family homes to be serviced by private on-site wastewater disposal systems and wells.

The purpose of the SFS was to evaluate the suitability of soil conditions for wastewater disposal via individual on-lot wastewater disposal systems. The SFS was performed within an approximate 79-acre portion of the site, excluding the northwestern portion based on previous wetland delineation by Mr. Kenneth W. Redinger. The results of the field observations, testing, and analysis associated with the SFS are summarized herein.

2.0 SITE LOCATION AND DESCRIPTION

The subject property consists of an approximate 126-acre tract consisting primarily of open agricultural fields and woodlands. The woodlands are situated at the central and western portions of the site, including areas along the banks of the Broadkill River and Beaverdam Creek.

According to the *Preliminary Subdivision Plat for Gaitlyn Farm* (Preliminary Plan), prepared by Meridian Architects and Engineers (MAE), the elevations on the site range from a minimum of approximately 4 feet above Mean Sea Level (ft MSL), at the western and eastern portions of the site along the Broadkill River and Beaverdam Creek, to a maximum of approximately 16 ft MSL near the south-central portion of the site. The topography of the site is

gently to moderately sloping, with surface water drainage generally directed to the west on the western portion of the site, toward the Broadkill River and east on the eastern portion of the site, toward Beaverdam Creek. A *Site Location Map* is inset on the *Preliminary Test Pit/Hand Auger Location and Soil Taxonomy Plan* (Soils Plan), which is attached to this Report in Appendix A.

3.0 GEOLOGY AND SOILS

According to the *Geology of Southern Delaware*, published by the Delaware Geologic Survey in 1990 (DGS, 1990), the site is situated on the alluvial deposits of the Coastal Plain Physiographic Province. The Coastal Plain is characterized by undifferentiated and interlayered sedimentary materials, derived from eroded and transported rock formations to the north and west. Specifically, the DGS (1990) indicates that the surficial deposits that underlie the site are the Pleistocene Age sediments of the Columbia Formation. The Columbia Formation is characterized by quartz sands and gravels, with the uppermost portion of the Formation being silty, and thin clay beds occurring locally.

According to the *Sussex County Soil Survey*, issued by the U.S. Department of Agriculture, and dated October 1971 (USDA, 1971), the site is underlain by the well-drained Evesboro loamy sand (EvA); Kalmia sandy loam (Ka), Kenansville loamy sand (KbA) and Sassafras sandy loam (SaA); the moderately well-drained Rumford loamy sand (RuB); the very poorly drained Johnston silt loam (Jo) and Tidal Marsh (Tm).

4.0 SOIL FEASIBILITY STUDY

The SFS was performed on February 1, 2, 3, 6 and 7, 2006, and included the excavation of 50 test pits and 18 hand auger borings at the approximate locations indicated on the Soils Plan attached to this Report in Appendix A. In addition, infiltrometer testing was performed at twelve locations, also indicated on the Soils Plan.

The soils encountered by the test pits and hand auger borings were classified by a D-Licensed Soil Scientist, in accordance with the Delaware Natural Resources and Environmental Control (DNREC) protocol. Mr. Jack Hayes of DNREC was present on February 2, 2006, and observed the soils encountered within approximately 32 of the 50 evaluated test pits. The results of the SFS are summarized herein, with the infiltrometer testing and soil profile evaluations summarized on the *Infiltration Data* table and *Soil Profile Notes*, attached to this Report in Appendices B and C.

4.1 General Description of Soils

The soils at the western and eastern portions of the site, and along the side slopes of the Broadkill River and Beaver Dam Creek, are characterized by a sandy epipedon (surface soil) of variable thickness, which overlies a sandy loam to sandy clay loam subsoil. These soils appear to be well- to moderately well-drained. Water bearing fine to coarse sands to loamy fine to coarse sands were generally encountered below the subsoil. The sandy loam to sandy clay loam subsoil materials generally appear to be uniformly present beneath these portions of the site, in contrast to the soils at the central portion of the site.

The soils at the central portion of the site are characterized by a sandy epipedon of variable thickness, which overlies a sandy loam to clay subsoil and appear to be moderately to somewhat poorly drained. Fine to coarse sands to loamy fine to coarse sands were generally encountered below the subsoil. The loamy to clayey subsoil materials generally appear to be uniformly present beneath the central portion of the site and appear to be hydraulically restrictive.

4.2 Soil Taxonomic Descriptions in the Context of Wastewater Disposal Suitability

The soils encountered by the test pits and hand augers were classified by a D-Licensed Soil Scientist, in accordance with DNREC protocol. A description of the Soil Taxonomic groups with regard to wastewater disposal suitability is as follows:

4.2.1 Arenic Hapludult (HCGK), Lamellic Hapludult (HCGI) and Typic Dystrudept (KGEX)

The Arenic Hapludult (HCGK) soil is typically comprised of surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; an elluvial horizon, or a zone of clay loss, with textures of loamy sand or sand to depths ranging from approximately 20 to 40 in. bgs. These surface soils typically transition to or terminate into argillic horizon(s), or zone(s) of clay increase, greater than 10 inches thick. The HCGK soil has a seasonal high groundwater table or saturated soil conditions greater than or equal to 40 in. bgs.

The Lamellic Hapludult (HCGI) soil is typically comprised of surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; and an elluvial horizon. These surface soils transition or terminate into horizons known as lamellae (argillic horizons that are less than 1 to 2 inches thick). The lamellae can form multiple thin bands of clay, bridging sand and silt grains, within the soil profile. The HCGI soil has a seasonal high groundwater table or saturated soil conditions greater than or equal to 40 in. bgs.

The Typic Dystrudept (KGEX) soil is typically comprised of surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; and an elluvial horizon with textures of loamy sand or sand to depths ranging from approximately 20 to 40 in. bgs. These surface soils transition to or terminate into cambic horizon(s), or zone(s) of physical alterations, chemical transformations or removals. The KGEX soils have a seasonal high groundwater table or saturated soil conditions greater than or equal to 40 in. bgs.

Redoximorphic features, or indicators of seasonally saturated conditions, were generally encountered within 43 to 64 in. bgs for the soils observed and designated as Arenic Hapludult, Lamellic Hapludult and Typic Dystrudept. The Arenic Hapludult and

Lamellic Hapludult soils encountered at the site were typically comprised of loamy sand to depths of approximately 20 to 39 in. bgs. The soils transitioned to or terminated in an argillic horizon, i.e., the subsoil or solum comprised of loamy sand to sandy clay loam, to depths ranging from approximately 39 to 60 in. bgs. Below the solum, the soil transitioned into the water-bearing parent or geologic material, typically comprised of loamy sand or sand to depths of approximately 60 to greater than 72 in. bgs.

The Typic Dystrudept soil encountered at the site was typically comprised of loamy sand to depths of approximately 20 to 39 in. bgs. These soils transitioned to or terminated in a cambic horizon, i.e., the subsoil or solum comprised of loamy sand, to depths ranging from approximately 39 to 50 in. bgs. Below the solum, the soil transitioned into the water-bearing parent or geologic material, typically comprised of loamy sand or sands to depths of approximately 50 to greater than 72 in. bgs.

Based on observed soil textures, infiltrometer testing, and DNREC's *Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems* (Regulations), amended on April 11, 2005, the observed Arenic Hapludult, Lamellic Hapludult and Typic Dystrudept soils are generally associated with rapid to moderately rapid percolation rates of approximately 8 to 25 minutes per inch (mpi). However, some areas exhibited slight cementation and/or finer textures deeper in the soil profile, indicating potentially slow 50 to 80 mpi, permeability.

The Arenic Hapludult, Lamellic Hapludult and Typic Dystrudept soils encountered appear to be generally favorable for the following wastewater disposal systems: capping fill pressure dosed; full-depth or capping fill low pressure pipe; and elevated sand mound.

It should be noted that soils at the site are heterogeneous and may have Oxyaquic or Aquic inclusions (see section 4.3.2 for soil morphology). Such inclusions may be associated with relatively shallow limiting zones.

4.2.2 Oxyaquic Hapludult (HCGH), Oxyaquic Dystrudept (KGEL) and Oxyaquic Udipsamment (LCFC)

The Oxyaquic Hapludult (HCGH) soils are typically comprised of one or both surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; and elluvial horizon if present. HCGH soils transition to or terminate into an argillic horizon(s) greater than 10 inches thick, with redoximorphic features at depths less than or equal to 39 in. bgs. Oxyaquic Hapludult soils are typically saturated for at least 20 consecutive days, or more than 30 cumulative days, within the upper 39 inches of the soil profile, and include redoximorphic features at depths less than or equal to 39 in. bgs.

The Oxyaquic Dystrudept (KGEL) soils are typically comprised of one or both surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; and elluvial horizon. These surface soils transition to or terminate into cambic horizon(s), or zone(s) of physical alterations, chemical transformations or removals and include redoximorphic features at depths less than or equal to 39 in. bgs. Oxyaquic Dystrudept soils are typically saturated for at least 20 consecutive days, or more than 30 cumulative days, within the upper 39 inches of the soil profile.

The Oxyaquic Udipsamment (LCFC) soils are typically comprised of one or both surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; and elluvial horizon if present. These surface soils transition or terminate into the original parent material. The Oxyaquic Udipsamment is a sandy-textured soil associated with a lack of pedogenic horizons, and is typically saturated for at least 20 consecutive days, or more than 30 cumulative days, within the upper 39 inches of the soil profile, and include redoximorphic features at depths less than or equal to 39 in. bgs.

Faint to prominent redoximorphic features were encountered at depths of 21 to 39 in. bgs within the soils designated as Oxyaquic Hapludult, Oxyaquic Dystrudept and Oxyaquic Udipsamment. The Oxyaquic Hapludult soils encountered on the site are comprised of sandy loam to loamy sand surface horizon(s), i.e., plow and elluvial horizon(s), at depths ranging from 9 to 29 in. bgs, transitioning to or terminating into sandy loam to sandy clay loam argillic horizon(s), at depth ranging from 9 to 39 in. bgs, and include redoximorphic features at depths less than or equal to 39 in. bgs.

The Oxyaquic Dystrudept soils encountered on the site are comprised of sandy loam to loamy sand surface horizon(s) that may include plow and elluvial horizon(s), at depths ranging from 9 to 29 in. bgs. These soils transitioned to or terminated into loamy sand to sandy loam cambic horizon(s), at depths ranging from 9 to 39 in. bgs, and included redoximorphic features less than or equal to 39 in. bgs.

The Oxyaquic Udipsamment soils encountered on the site are comprised of sandy loam to loamy sand surface horizon(s) and may include plow and elluvial horizon(s), at depths ranging from 9 to 29 in. bgs. These soils transitioned to or terminated into the geologic parent material, and included redoximorphic features at depths less than or equal to 39 in. bgs.

The Oxyaquic Hapludult, Oxyaquic Dystrudept and Oxyaquic Udipsamment soils parent or geologic material typically is comprised of loamy sand to loamy fine sand or sands at approximately 24 to greater than 72 in. bgs. The Oxyaquic Hapludult, Oxyaquic Dystrudept and Oxyaquic Udipsamment soils observed on this site appear to be associated with relatively shallow seasonal saturated conditions at depths of approximately 21 to 39 in. bgs.

Based on observed soil textures, infiltrometer results, and the Regulations, the Oxyaquic Hapludult soils are associated with a rapid to moderately rapid percolation

rates of approximately 7 to 18 mpi (see *Soil Profile Notes*). These soils are associated with limited options with respect to emplacement of on-site wastewater disposal systems due to the observed redoximorphic features and shallow saturated conditions within the soil profile. The Oxyaquic Hapludult, Oxyaquic Dystrudept and Oxyaquic Udipsamment soils encountered at the site are potentially favorable for emplacement of the following systems: full-depth and capping-fill low pressure pipe and elevated sand mound.

It should be noted that soils at the site are heterogeneous and may have Aquic inclusions (see below for soil description). Such inclusions may be associated with different limiting zones.

4.2.3 Aquic Hapludults (HCGF) Aquic Arenic Hapludult (HCGE) Soil Taxonomic Complex

Aquic Hapludult (HCGF) soils are typically comprised of surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; and may or may not have an elluvial horizon. Additionally, these soils transition to or terminate into an argillic horizon(s) to more than 10 inches thick. These soils have redoximorphic features within the upper 24 inches of the argillic horizon(s). The redoximorphic feature is described as a soil color value of 4 or more and a soil chroma value of 2 or less. Aquic Hapludult soils are associated with a seasonal high groundwater table or saturated soil conditions less depths than or equal to 39 in. bgs.

Aquic Arenic Hapludult (HCGE) soils are typically comprised of surface horizon(s) that may include a plow horizon, if currently or previously under agricultural production; and have an elluvial horizon at least 20 inches thick. HCGE soils transition to or terminate into an argillic horizon(s) greater than 10 inches thick. These soils have redoximorphic features within the upper 24 inches of the argillic horizon(s) with a soil color value of 4 or more and a soil chroma value of 2 or less. HCGE soils are generally

associated with a seasonal high groundwater table or saturated soil conditions at depths less than or equal to 39 in. bgs.

Faint to prominent redoximorphic features were encountered at depths of approximately 11 to 20 in. bgs. within the soils observed and were designated as Aquic Hapludult and Aquic Arenic Hapludult. It should be noted that soils encountered in Test Pit TP-K1 had prominent redoximorphic features at a depths of approximately 36 in. bgs. The Aquic Hapludult soils encountered at the site generally included sandy loam to loamy sand surface horizon(s) that may include plow and elluvial horizon(s), at depths ranging from 9 to 19 in. bgs. The Aquic Arenic Hapludult soils encountered on this site were generally comprised of loamy sand surface horizon(s) that may include plow and elluvial horizon(s) at depths ranging from 20 to 36 in. bgs. The HCGF and HCGE surface soils transitioned to or terminated into sandy loam to clay loam argillic horizon(s) at depths ranging from 19 to 36 in. bgs. These soils had redoximorphic features with a soil color value of 4 or more and a soil chroma value of 2 or less within the top 24 inches of the argillic horizon(s). Below the argillic horizons, the soil transitioned into the parent or geologic material typically comprised of loamy sand to loamy fine sand or sands at approximately 60 to more than 72 in. bgs. The Aquic Hapludult and Aquic Arenic Hapludult soils observed on this site appeared to be associated with relatively shallow seasonal saturated conditions at depths of approximately 11 to 20 in. bgs, with the exception of TP-K1, which had a water depth of 57 in. bgs.

Based on observed soil textures, infiltrometer testing, and the Regulations, the Aquic Hapludult and Aquic Arenic Hapludult soils are associated with a slow to very slow percolation rate of approximately 80 to more than 120 mpi, with the exception of TP-K1 witch had a rapid percolation rate of 7 mpi (see *Appendix B*). Aquic Hapludults and Aquic Arenic Hapludult on this site are likely to be associated with limited options with respect to emplacement of on-site wastewater disposal systems due to the observed

redoximorphic features, slow permeability and shallow saturated conditions observed within the soil profile. The Aquic Hapludult and Aquic Arenic Hapludult soils encountered are potentially favorable for emplacement of alternative wastewater disposal systems, with the exception of the area within the vicinity of TP-K1, which is suitable for full-depth and capping-fill low pressure pipe, and elevated sand mound wastewater disposal systems. Areas with less than 18 in. bgs. to the water table and/or redoximorphic features will require advanced pre-treatment.

4.3 Infiltrometer Testing

Infiltrometer testing was performed in Test Pits TP-A9, TP-B6, TP-B7, TP-C4, TP-C8, TP-E3, TP-E9, TP-G7, TP-H3, TP-I2, TP-J4 and TP-K1 at depths ranging from approximately 16 to 40 in. bgs. The tests resulted in the following infiltration rates: approximately 16, 3 and 10 minutes per inch (mpi) in the Arenic Hapludult and Typic Dystrudept soil encountered by Test Pits TP-A9, TP-B6 and TP-B7, respectively; approximately 7 to 18 minutes per inch (mpi) in the Oxyaquic Hapludult and Oxyaquic Dystrudept soils encountered in Test Pits TP-C4, TP-C8, TP-E3, TP-I2 and TP-J4; and approximately 7 to greater than 120 minutes per inch (mpi) in the Aquic Hapludult and Aquic Arenic Hapludult soils encountered in Test Pits TP-G7, TP-H3 and TP-K1. The results of the infiltrometer testing are summarized in Appendix B. In accordance with DNREC protocol, percolation rates were assigned for the encountered soils based on soil texture, DNREC's Regulations and the infiltrometer testing results. Assigned percolation rates are indicated on the *Soil Profile Notes*, attached in Appendix C.

5.0 SUMMARY AND CONCLUSIONS

GTA performed an SFS during the period of February 1, 2, 3, 6 and 7, 2006, consisting of the excavation of 50 test pits and 18 hand auger borings and performance of twelve double-ring infiltrometer tests. Mr. Jack Hayes of DNREC was present during the field evaluation performed on February 2, 2006. Soil profiles encountered within the test pits and hand auger borings were classified by a D-Licensed Soil Scientist, in general accordance with DNREC protocol. Based on the observed soil profiles, a *Preliminary Test Pit/Hand Auger Boring Location and Soil*

Taxonomy Plan was prepared, and is attached to this Report in Appendix A. Conclusions associated with each of the encountered soil taxonomic class, with respect to wastewater disposal feasibility follows.

5.1 Arenic Hapludult (HCGK), Lamellic Hapludult (HCGI) and Typic Dystrudept (KGEX)

Redoximorphic features were generally encountered at depths of approximately 43 to 64 in. bgs for the soils observed and designated as Arenic Hapludult, Lamellic Hapludult and Typic Dystrudept. Based on observed soil textures, infiltrometer testing, and the Regulations, these soils are associated with very rapid to moderately rapid percolation rates of approximately 3 to 16 mpi (see *Appendices B and C*). The Arenic Hapludult, Lamellic Hapludult and Typic Dystrudept soils encountered within Lots 1, 16, 17, 18, and 20 through 25 are potentially favorable for capping fill pressurized, full-depth and capping fill low pressure pipe and elevated sand mound systems.

5.2 Oxyaquic Hapludult (HCGH), Oxyaquic Dystrudept (KGEL) and Oxyaquic Udipsamment (LCFC)

Faint to prominent redoximorphic features were encountered at depths of approximately 21 to 39 in. bgs within the soils designated as Oxyaquic Hapludult, Oxyaquic Dystrudept and Oxyaquic Udipsamment. The soils are associated with limitations with respect to emplacement of on-site wastewater disposal systems due to the observed redoximorphic features and high water tables observed within the test pits and/or hand auger borings. Based on observed soil textures and the Regulations the Oxyaquic Hapludult, Oxyaquic Dystrudept and Oxyaquic Udipsamment soils are associated with a rapid to moderately rapid percolation rates of approximately 7 to 18 mpi (see *Soil Profile Notes and Appendix B*). The Oxyaquic Hapludult, Oxyaquic Dystrudept and Oxyaquic Udipsamment soils encountered within Lots 1, 5 through 11, 14 through 23 and 25 are potentially favorable for full-depth and capping fill low pressurize pipe or elevated sand mound wastewater disposal systems.

5.3 Aquic Hapludults (HCGF) and Aquic Arenic Hapludults (HCGE)

Faint to prominent redoximorphic features were generally encountered at approximate depths of 11 to 22 in. bgs within the soils designated as Aquic Hapludult and Aquic Arenic Hapludult. The Aquic Hapludult and Aquic Arenic Hapludult soils observed on this site appear to be associated with relatively shallow seasonal saturated conditions at depths of approximately 11 to 30 in. bgs.

Based on observed soil textures and the Regulations the Aquic Hapludult and Aquic Arenic Hapludult soils are generally associated with a slow to very slow percolation rate of approximately 80 to greater than 120 mpi. The Aquic Hapludult and Aquic Arenic Hapludult soils encountered at portions of proposed Lots 1 through 22 appear to be unsuitable for emplacement of conventional disposal systems, but may be favorable for alternative wastewater disposal systems.

If wastewater systems are proposed within the soil types delineated as Aquic Arenic Hapludult or Aquic Hapludult, monitoring of groundwater levels within the proposed disposal areas through the "wet season," i.e., the annual period extending from January through April is recommended. It is recommended that well installation for monitoring during this 2006 "wet season" be initiated immediately to establish suitability of soil conditions for potential alternative system emplacement.

6.0 LIMITATIONS

This Report has been prepared for the exclusive use of Meridian Architects and engineers in accordance with generally accepted soil science practice. No warranty, express or implied, is made.

The analyses and conclusions contained in this Report are based on the data obtained from limited observations utilizing test pits and hand auger borings which indicate soil conditions only within specific areas at specific times, and only to the depths penetrated. They

do not necessarily reflect variations in soil conditions that may exist outside of their zone of penetration.

In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions contained in this Report should not be considered valid unless the changes are reviewed and conclusions of this Report are verified in writing. Geo-Technology Associates, Inc. is not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data or engineering analysis without the expressed written authorization of Geo-Technology Associates, Inc.

This Report and the attached appendices are instruments of service. If certain conditions or items are noted during our investigation, Geo-Technology Associates, Inc. may be required by prevailing statutes to notify and provide information to regulatory or enforcement agencies. Geo-Technology Associates, Inc. will notify our Client should a required disclosure condition exist.

This Report was prepared by Geo-Technology Associates, Inc. for the sole and exclusive use of GTA and Meridian Architects and Engineers. Use and reproduction of this Report by any other person without the expressed written permission of Geo-Technology Associates, Inc. and Meridian Architects and Engineers is unauthorized, and such use is at the sole risk of the user.

******* END OF REPORT *******

**Infiltration Test Data
GAILLYN FARM
Sussex County, Delaware**

Test Pit	Test Depth (inches)	Test Rate: Drop (in inches)/Unit Time	Infiltration Rate Minutes Per Inch (mpi)	Free Water (in. bgs.)	Soil Type
A9	32	0.63/10min	16	>80	Arenic Hapludult
B6	36	3.06/10min	3	>72	Typic Dystrudept
B7	35	1/10min	10	>72	Arenic Hapludult
C4	24	1.38/10min	7	39	Oxyaquic Dystrudept
C8	30	0.75/10min	14	>82	Oxyaquic Hapludult
E3	25	1.38/10min	7	26	Oxyaquic Dystrudept
E9*	22	0.125/30min	240	17	Aquic Hapludult
G7	20	0.38/30min	80	24	Aquic Arenic Hapludult
H3	22	NM	*	23	Aquic Arenic Hapludult
	16**	0.69/30min	43		
I2	26	1.13/10min	9	42	Oxyaquic Hapludult
J4	40	0.56/10min	18	53	Oxyaquic Dystrudept
K1	32	1.38/10min	7	57	Aquic Arenic Hapludult

Notes:

in. bgs. = inches below ground surface

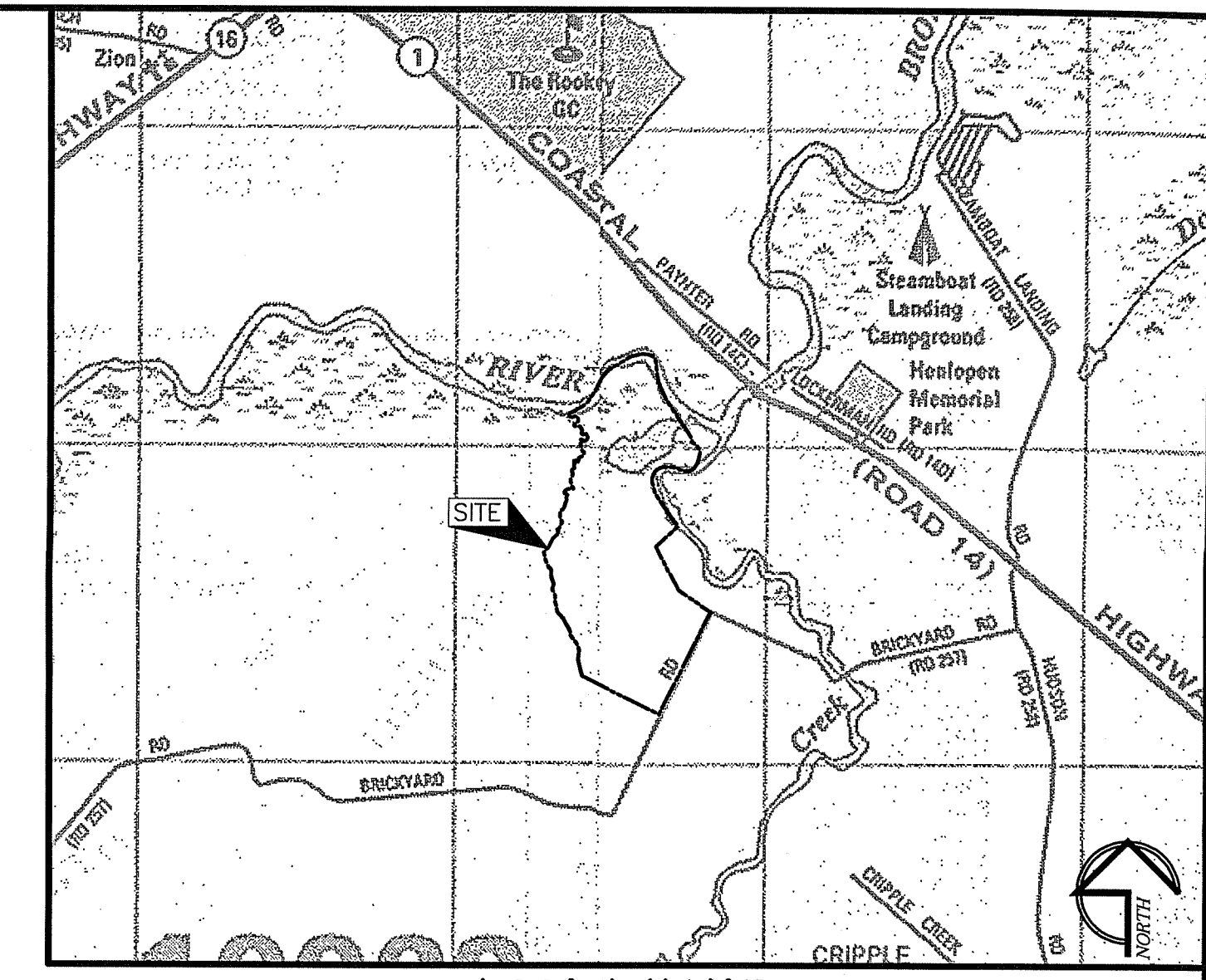
mpi = minutes per inch

NM = no movement

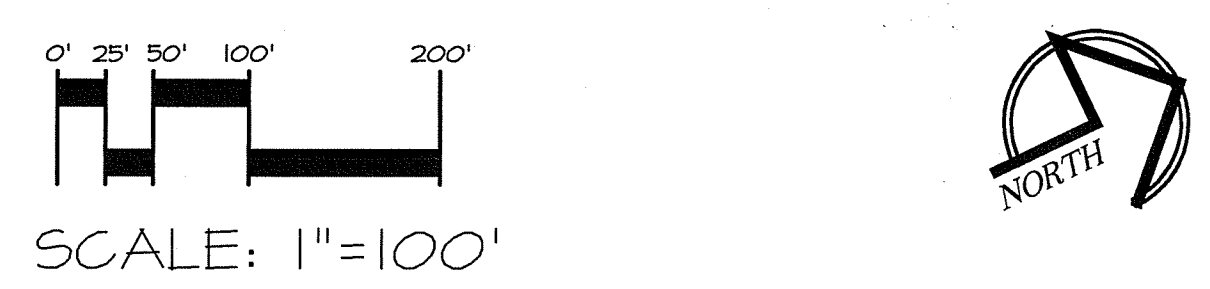
* During test the water table rose above the base of the infiltrometer ring

** Within Test Pit H3, the second test was pre-soaked for only 2 hours, with only one measurement during the pre-soak

A B C D E F G H I J K



- LEGEND**
- ARENIC HAPLUDULT (HCGK), LAMELLIC HAPLUDULT (HCGI), & TYPIC DYSTRUDEPT (KSGX) COMPLEX
THESE SOIL TYPES ARE POTENTIALLY FAVORABLE FOR THE FOLLOWING SYSTEM TYPES: CAPPING FILL PRESSURE DOSED, FULL DEPTH, AND CAPPING FILL LOW PRESSURE PIPE AND ELEVATED SAND MOUND.
 - OXYAQUIC HAPLUDULT (HGH), OXYAQUIC DYSTRUDEPT (KSEL), & OXYAQUIC UDIPSAMMENT (LCG) COMPLEX
THESE SOIL TYPES ARE POTENTIALLY FAVORABLE FOR THE FOLLOWING SYSTEM TYPES: FULL DEPTH AND CAPPING FILL LOW PRESSURE PIPE, AND ELEVATED SAND MOUND.
 - AQUIC HAPLUDULT (HGF) & AQUIC ARENIC HAPLUDULT (HGE) COMPLEX
THESE SOIL TYPES APPEAR TO BE UNSUITABLE FOR CONVENTIONAL WASTEWATER DISPOSAL SYSTEMS, BUT MAY BE FAVORABLE FOR ALTERNATIVE WASTEWATER DISPOSAL SYSTEMS.
 - HAND AUGER LOCATION
 - TEST PIT LOCATION
 - INFILTRATOR AND TEST PIT LOCATION
 - LZ 30"** DEPTH TO LIMITING ZONE
 - FW 18"** DEPTH TO FREE WATER



	GEO-TECHNOLOGY ASSOCIATES, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS 3445-A BOX HILL CORPORATE CENTER DRIVE ABINGDON, MARYLAND 21009 (410) 515-9446 FAX (410) 515-4895
	PRELIMINARY TEST PIT/HAND AUGER LOCATION AND SOIL TAXONOMY PLAN GAITLYN FARM SUSSEX COUNTY, DELAWARE

JOB NO:	060037
SCALE:	1"=100'
DATE:	MARCH 2006
DRAWN BY:	JAT
DESIGN BY:	JAT/KAT
REVIEW BY:	CTR
SHEET:	1

SUSSEX COUNTY ROAD #257
BRICKYARD ROAD
(50' PUBLIC R/W)

R=190.55'
θ=19°49'01"
L=45.91'
C=65.58'
BRG=5 54°54'30" W

LANDS N/2 OF
FREDERICK N. PEPPER &
CAROLE ANN SHUTE
2-35-16-71
ZONED AR-1

DEDICATED ADDITIONAL 5' ROW FOR PUBLIC USE

DNREC NON-BINDING STATEMENT OF FEASIBILITY LETTER



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF WATER RESOURCES
20653 DUPONT BLVD
UNIT 5
GEORGETOWN, DE 19947

December 17, 2015

Lockwood Design & Construction
and Development Companies
c/o Don A. Lockwood
26412 Broadkill Road
Milton, Delaware 19968

RE: Soil Feasibility Study
Gaitlyn Farm
Tax Map No.: 235-15.00-34.00

Dear Mr. Lockwood:

The Department of Natural Resources and Environmental Control (the Department) has received a submittal from Meridian Architects and Engineers (MAE) requesting a non-binding statement of feasibility for subdivision as required by the Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems, dated January 4, 1985, last amended on January 11, 2014 (the Regulations).

The submittal consists of a report titled "Report of Soil Feasibility Study, Gaitlyn Farm, Tax Map # 2-35-15-34, Sussex County, Delaware," dated March 2006" prepared by Geo-Technology Associates, Inc (GTA). The report includes a written summary of the study, soil profile notes and the results of permeability testing. In addition, the report includes a plan titled "Preliminary Test Pit/Hand Auger Location and Soil Taxonomy Plan, Gaitlyn Farm, Sussex County, Delaware," dated March 2006, sheet 1 of 1, prepared by GTA and hereafter referred to as the Plan. Information shown by the Plan includes, but is not necessarily limited to, the boundaries of the evaluated area, the conceptual lot layout, test pit and hand soil boring locations, soil mapping units, permeability test locations and on-site topographic information at an apparent one-foot contour.

Background Information

The property is located along the northwest side of Brickyard Road (CR 257) about 2,000 feet west of Hudson Road (CR 258), Sussex County, Delaware. The property consists of 126 acres of which approximately 79 acres were reportedly evaluated by GTA. This 79-acre portion of the property will hereafter be referred to as the project site. The owner(s)/developer propose to subdivide the project site into 25 lots to be occupied by single-family homes and on-site wastewater treatment and disposal systems (OWTDS).

Delaware's good nature depends on you!

Based on information provided by GTA and a review of aerial photography the project site consists of agricultural land and woods. The project site is bordered by the Broadkill River to the north, Beaverdam Creek to the east, agriculture and residential land use to the south and an unnamed tributary off Broadkill River to the west.

Soils Investigations by GTA and Discussion

Sixty-eight (68) observations (test pits and soil borings) and twelve (12) permeability tests were reportedly performed by GTA as part of the study. GTA delineated the project site into three areas being the HCGK-HCGI-KGEX complex, the HCGH-KGEL-LCFC complex and the HCGF-HCGE complex.

The HCGK-HCGI-KGEX complex has estimated limiting zones of 43 to 64 inches and estimated permeability rates of 20 to 35 minutes per inch (MPI). Three permeability tests were performed in this complex with measured rates of 3 to 16 MPI.

The HCGH-KGEL-LCFC complex has estimated limiting zones of 21 to 44 inches and estimated permeability rates of 20 to 65 MPI. Six permeability tests were performed in this complex with measured rates of 7 to 18 MPI.

The information above suggests that areas encompassed by the HCGK-HCGI-KGEX and HCGH-KGEL-LCFC complexes have limiting zones and permeability rates that conform to current Regulations and therefore, feasible for OWTDS.

The HCGF-HCGE complex has estimated limiting zones of 0 to 43 inches and estimated permeability rates of 20 to slower than 120 MPI. The estimated limiting zone of 43 inches is considered by the Department as an anomaly for this complex. Also, the observations with estimated limiting zones of zero inches are located outside proposed lot boundaries. The removal of these observations results in a limiting zone range of 7 to 22 inches which better represents this complex.

A review of soil profile notes for those observations located in the HCGF-HCGE complex suggests that proposed Lot 3 may not have sediments with limiting zones feasible for OWTDS. Therefore, proposed Lot 3 may need to be combined with proposed Lot 2 and/or 4.

Three permeability tests were performed in this complex at observations E9, G7 and H3 with measured rates of 240, 80 and 43 MPI, respectively. The rate of 240 MPI at E9 is suspect based on the observation by GTA that the water table rose above the base of the infiltration ring during the test which serves to disallow the infiltration into soil of water added as part of the test. The test at E9 was reportedly performed at a depth of 22 inches in sandy clay loam sediments (no consistence noted). Also, it is the Department's opinion that the measured rate of 80 MPI at G7 is unusual since the test was reportedly located in loamy sand sediments having friable consistence. It was reported that the water table was located just four inches below the depth of the test which may have served to limit downward movement of the water added as part of the test. The test at H3 is likely the most representative of this complex. GTA attempted to perform

the test at a depth of 22 inches, but the water table rose above the base of the infiltration ring forcing GTA to run the test at a shallower depth. The test was run at a depth of 16 inches in a sandy loam with friable consistence.

The Department reviewed soil profile notes for those observations within the HCGF-HCGE complex and determined that test pits/soil borings located on proposed lots encountered sediments with textures, structures and consistencies that are usually associated with estimated permeability rates that conform to regulatory requirements (rates of 120 MPI and faster). This is confirmed by the rates measured in sediments tested in both the HCGK-HCGI-KGEX and HCGH-KGEL-LCFC complexes. Tests were performed in similar sediments with measured rates of 3 to 18 MPI.

The information above suggests that certain portions of the areas encompassed by the HCGF-HCGE complex do not have limiting zones that conform to current Regulations and therefore, are not feasible for OWTDS. It is the opinion of the Department that permeability tests performed in this complex were compromised by the height of the water table during testing and that for the most part sediments in this complex that were encountered in areas encompassed by proposed lots likely have similar permeability rates as those measured in the other two complexes.

Conclusions

- Based on information collected, analyzed and presented by GTA as part of the soil feasibility study, it appears that proposed Lots 1, 5 through 11 and 14 through 25 as shown by the Plan have sufficient area occupied by either the HCGK-HCGI-KGEX complex or HCGH-KGEL-LCFC complex to locate an initial OWTDS.
- Based on information collected, analyzed and presented by GTA as part of the soil feasibility study, it appears that proposed Lots 2, 4, 12 and 13 as shown by the Plan are located on the HCGF-HCGE complex which is marginal for on-site OWTDS. Sand Mounds and Innovative/Alternative OWTDS will be required based on estimated limiting zones.
- Based on information collected, analyzed and presented by GTA as part of the soil feasibility study, proposed Lot 3 will likely need to be combined with proposed Lots 2 and/or 4. No information contained by the study suggests that soils on proposed Lot 3 are feasible for an initial OWTDS.

Site Preparation

Removal, disturbance or compaction of soils mapped as being feasible for OWTDS during any portion of the construction and building phase other than that necessary for system installation may result in the rescission of the site evaluation approval. Soil material from road cuts and other excavated sources should not be placed on any portion of areas proposed for OWTDS. It is best to keep all areas proposed for OWTDS free from any form of disturbance by methods such as staking,

flagging or fencing. Tree clearing, if necessary, should be performed in accordance with current Department "Lot Clearing Guidelines." The Department reserves the right to inspect the construction site at any time to ensure compliance with the above.

Future Requirements and Comments

Prior to obtaining individual OWTDS construction permits complete site evaluation reports will be required for all lots in accordance with the Regulations. The Department requires one copy of the **Record Plat** following final subdivision approval by the Planning and Zoning Commission of Sussex County prior to processing and approving any site evaluations.

Non-Binding Statement of Feasibility

Based on the information prepared, analyzed and presented by GTA, it is the opinion of the Department that the proposed major subdivision as shown by the Plan would be feasible (at least an initial OWTDS on each proposed lot) in accordance with the Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems, dated January 4, 1985, last amended on January 11, 2014, as long as judicious and coordinated use of land is exercised, areas delineated by GTA as being feasible for OWTDS as depicted by the Plan are accurate and if proposed Lot 3 is combined with proposed Lots 2 and/or 4.

The comments in this letter are technical and are not intended to suggest that the Department supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to construct the development you indicate or any subdivision thereof on these lands.

Sincerely,



J. Scott Kline
Environmental Scientist

Cc: file

DNREC CORRESPONDENCE

Josh Stallings

From: Gray, Jaime (DNREC) <Jaime.Gray@delaware.gov>
Sent: Wednesday, May 11, 2022 9:17 AM
To: Josh Stallings
Cc: Tsai, Jenwei (DNREC); Cassidy, James W. (DNREC); Carlton Savage
Subject: RE: Feasibility Study

Josh,

Submit the Soil Feasibility Letter of Intent and subsequent report as you would a new application with the new subdivision layout and soils data.

Regards,
Jaime

Jaime D. Ewalt Gray, Ph.D.,
Environmental Scientist III
DNREC, Division of Water, Groundwater Discharges Section (GWDS)

21309 Berlin Road, Unit 2, Georgetown DE 19947



Jaime.Gray@delaware.gov

<https://dnrec.alpha.delaware.gov/water/groundwater/>

(office) 302-259-7006 | (cell) 302-270-8047 | (main) 302-856-4561

From: Josh Stallings <josh@scaledengineering.com>
Sent: Tuesday, May 10, 2022 5:35 PM
To: Gray, Jaime (DNREC) <Jaime.Gray@delaware.gov>
Cc: Tsai, Jenwei (DNREC) <Jenwei.Tsai@delaware.gov>; Cassidy, James W. (DNREC) <James.Cassidy@delaware.gov>; Carlton Savage <carlton@scaledengineering.com>
Subject: Feasibility Study

Hi Jaime,

I want to go over a feasibility study/subdivision project we're involved with to determine how to move forward. There are a few moving parts so I'll try to explain as much of the history as I know.

The property tax map number is 235-15.00-34.00. A feasibility study was performed in 2006 for the site, which was formerly known as "Gaitlyn Farm". A copy of the report is attached for your reference. On December 17, 2015, DNREC issued a Non-Binding Statement of Feasibility (copy attached). The major subdivision was never submitted to the County for approval. Scaled was contracted by the current owner, Lockhaven Farm LLC, to revise the major subdivision layout and submit for approval. The major subdivision did not gain approval at the County, partially because the lot configuration did not match the original configuration associated with the DNREC Non-Binding Statement of Feasibility.

We have revised the subdivision layout per comments from the reviewing agencies, and are planning to move forward with subdivision submittals. Because we have changed the lot configuration, we will need a new DNREC Non-Binding Statement of Feasibility (letter of approval). The site is unaltered from the original soil feasibility study. We have overlaid the subdivision layout on the feasibility study map and confirmed each proposed lot falls within area found suitable for septic (see attached plan). The original soil delineation plan is also attached. Historically, feasibility studies had no expiration date, assuming the site remained unaltered; however, the subdivision layout referenced in the report has changed, so I'm not exactly sure what is required moving forward.

Our hope is to submit the original feasibility study with our new lot configuration for DNREC review, considering the soils/site condition have not changed and a DNREC letter of approval was previously provided. Will that be acceptable, or will the department require something additional? We are just trying to confirm what will be needed for a DNREC feasibility review and approval.

This is definitely not a typical situation, so please feel free to call to discuss this further if you have any questions.

Thank you,

M. Josh Stallings

Senior Environmental Scientist



Scaled Engineering Inc.

[20246 Coastal Highway](#)

[Rehoboth Beach, DE 19971](#)

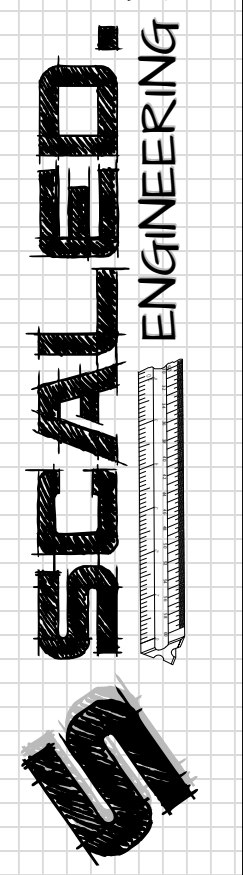
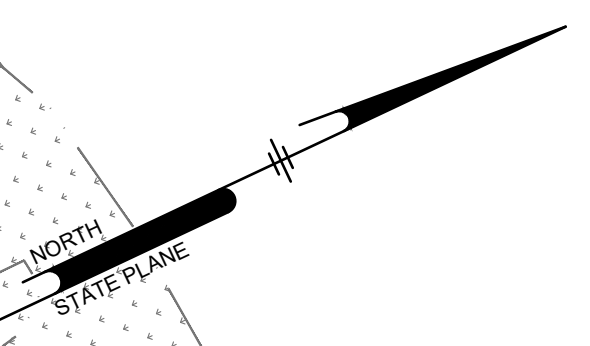
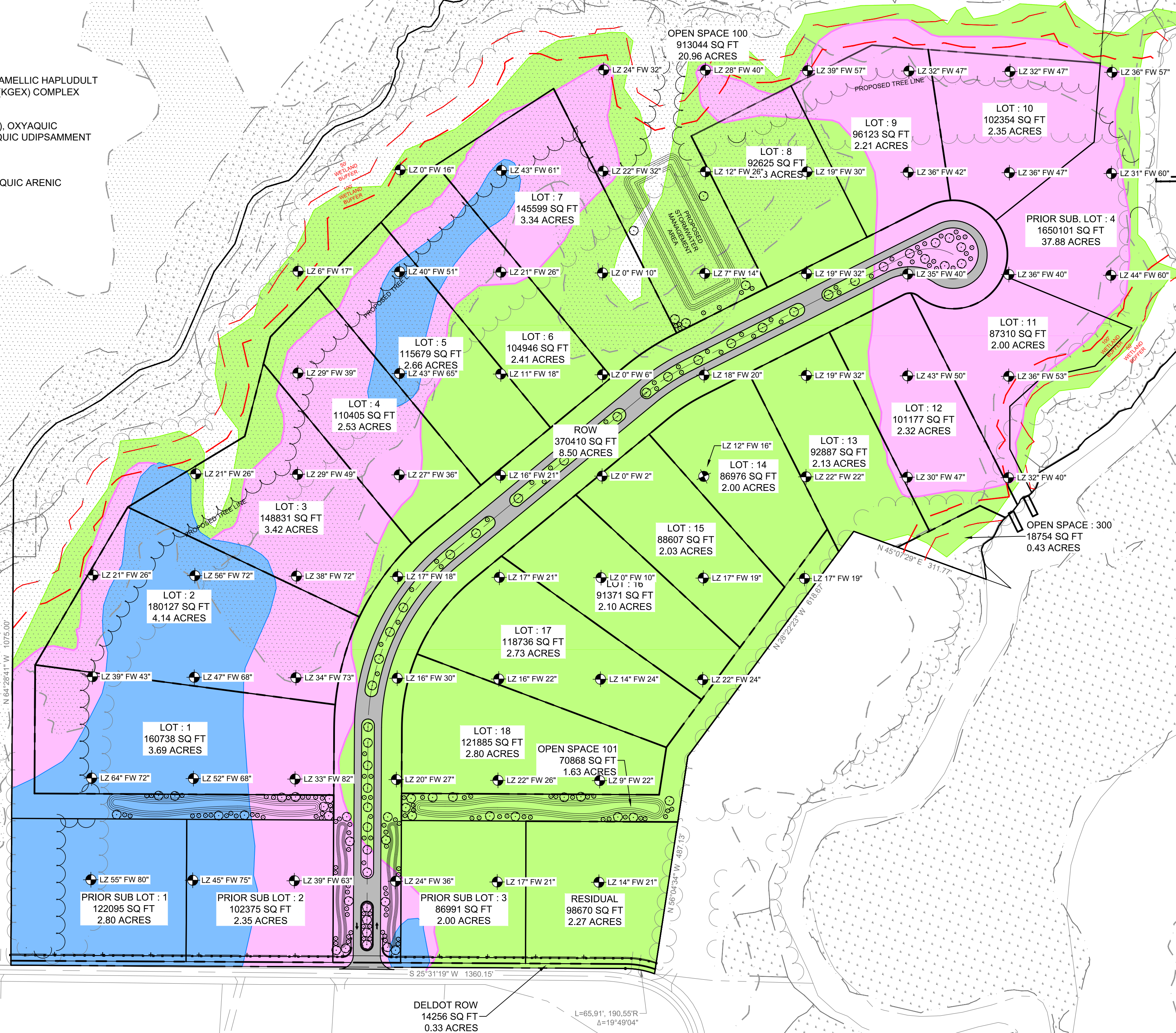
Office: (302) 227-7808 ext. 201

Cell: (302) 632-7548

UPDATED SOIL DELINEATION MAP

LEGEND

- ARENIC HAPLUDULT (HCGK), LAMELLIC HAPLUDULT (HCGI), & TYPIC DYSTRUDEPT (KGEX) COMPLEX
- OXYAQUIC HAPLUDULT (HCGH), OXYAQUIC DYSTRUDEPT (KGEL), & OXYAQUIC UDIPSAMMENT (LCFC) COMPLEX
- AQUIC HAPLUDULT (HCGF) & AQUIC ARENIC HAPLUDULT (HCGE) COMPLEX
- LZ 24° FW 32° SOIL BORING



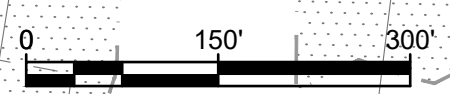
Scaled Engineering Inc.
2000 Highway 101
Rehoboth Beach, DE 19871
Phone: (302) 238-3600

SOILS EXHIBIT

LOCKHAVEN
TM: 235-15.00-34.00
LIMITLESS DEVELOPMENT CONSULTING, LLC

Date: 3-10-22
Scale: 1" = 150'
Dwn.By: JRE
Proj.No.: LDC0005
Dwg.No.:

S-1



S:\PROJECTS\LIMITLESS DEVELOPMENT CONSULTING\LOCKHAVEN\SOILS\SOILS_031022.dwg PROJECT STATUS: PLOTTED: 3/10/2022 2:50:00 PM BY: JRE PLOTSTYLE: SCALED.dwt

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PRELIMINARY SOIL INVESTIGATION LETTER



July 8, 2021

Limitless Development Consulting, Inc.
26412 Broadkill Road
Milton, DE 19968

**RE: Lockhaven Subdivision
Preliminary Soil Investigation**

To Whom It May Concern,

Scaled Engineering Inc (Scaled) performed a preliminary soil investigation for on-site wastewater treatment and disposal system (OWTDS) suitability for proposed Lot 21 of Lockhaven Subdivision, located off Round Pole Bridge Road, Milton, DE 19968. Lot 21 is situated in area formerly designated as Lot 3 in the original subdivision layout. Soil was evaluated by method of hand-auger borings, excavated a maximum depth of seventy-two (72) inches below the soil surface. Soil profiles were evaluated in accordance with the United States Department of Agriculture (USDA), Soil Survey Manual (Handbook 18) and USDA Natural Resources Conservation Service (NRCS) Field Book for Describing and Sampling Soils. Soils were classified in accordance with USDA, NRCS "Keys to Soil Taxonomy", Twelfth Edition, 2014.

Four (4) hand-auger borings were excavated throughout the lot (see attached "Soil Investigation Plan"). Soils encountered were moderately well to somewhat poorly drained, with limiting zones ranging from ten (10) to twenty (20) inches below the soil surface (see attached "Soil Boring Summary" table). Based on DNREC regulations, Lot 21 (former Lot 3 area) is suitable for an OWTDS, with sufficient area to place a residential dwelling, well and septic. Soil borings SB 21-1, SB 21-2 and SB 21-3 were suitable for Peat Biofilter, Innovative/Alternative Elevated Sand Mound, and/or Conventional Elevated Sand Mound. Soil boring SB 21-4 was found unsuitable for any OWTDS.

Please feel free to contact me with any questions, concerns, or for additional information at (302) 227-7808 ext. 201, or josh@scaledengineering.com.

Respectfully Submitted,

SCALED ENGINEERING INC.

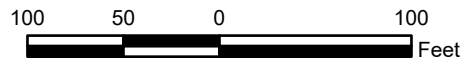
A handwritten signature in blue ink that reads "M. Josh Stallings".

M. Josh Stallings
Senior Environmental Scientist
DNREC Class D.2 Soil Scientist (License #4601)



Legend

 Soil Investigation Boring



SOIL INVESTIGATION PLAN

LOCKHAVEN SUBDIVISION
ROUND POLE BRIDGE ROAD

MILTON, DE 19968

TM: 235-15.00-34.00

Date: 7/8/2021

1 IN = 100 FT

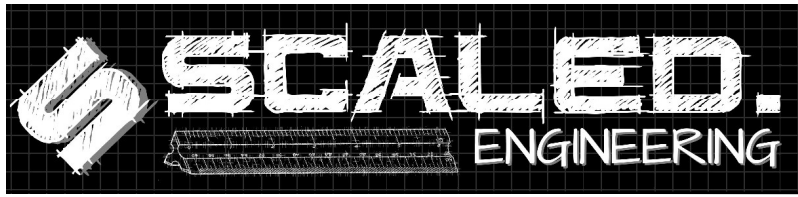
Drawn: MJS

Project: LDCO005



SOIL BORING SUMMARY			
BORING #	DEPTH TO LIMITING ZONE (IN)	SOIL CLASSIFICATION	SYSTEM TYPE
SB 21-1	14	OXYAQUIC HAPLUDULT	PEAT BIOFILTER OR INNOVATIVE/ALTERNATIVE ELEVATED SAND MOUND
SB 21-2	20	OXYAQUIC HAPLUDULT	ELEVATED SAND MOUND
SB 21-3	12	OXYAQUIC HAPLUDULT	PEAT BIOFILTER OR INNOVATIVE/ALTERNATIVE ELEVATED SAND MOUND
SB 21-4	10	AQUIC HAPLUDULT	DENIAL (UNSUITABLE FOR OWTDS)

DNREC APPROVED SITE EVALUATION



563411

20246 Coastal Highway
Rehoboth Beach, DE 19971
PH: (302) 632-7548
www.scaledengineering.com

SITE EVALUATION – APPROVAL PAGE

The soils on this site are approved when the following is completed in full and signed by the approving authority. The information contained in this site evaluation reflects Delaware Department of Natural Resources and Environmental Control (DNREC) policies and procedures at the time of the review. Exhibits and Regulations cited in this report refer to the most current DNREC "Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems". Isolation distance requirements, limited area of suitable soils, filling, removal, and/or compaction of the soil may negate construction permit approval or modify the type of system that can be permitted. All information shall be verified by interested parties prior to design and installation of the septic system. This is not a construction permit. Approval of this site evaluation is limited to five years. Upon expiration, a new site evaluation will be required in compliance with regulations in effect at that time.

Owner's Name: Lockhaven Farm, LLC

Lot/Parcel #: 15 (Proposed), Lockhaven Subdivision

Tax Map #: 235-15.00-34.00

Owner/Client Email: dal@lockwooddesigns.com

Disposal Option 1: Capping Fill Gravity On-Site Wastewater Treatment and Disposal System (OWTDS). Trenches are highly recommended.

Location of Option 1: In the immediate vicinity of Soil Borings (BOR) #1 (see plot drawing).

Depth to Limiting Zone: 48 inches to indication of saturation/seasonal high water table.

Disposal Option 2: Full Depth Low Pressure Pipe OWTDS.

Location of Option 2: In the immediate vicinity of BOR #3 (see plot drawing).

Depth to Limiting Zone: 36 inches to indication of saturation/seasonal high water table.

RECEIVED
08/26/2020
GROUNDWATER

Disposal Option 3: Capping Fill Low Pressure Pipe OWTDS.

Location of Option 3: In the immediate vicinity of BOR #2 (see plot drawing).

Depth to Limiting Zone: 32 inches to indication of saturation/seasonal high water table.

Design Considerations and Comments: See Exhibit M and N (Option 1); Exhibit O and P (Options 2 & 3). Maintain all isolation distances specified in Exhibit C. See Exhibit C for ways to reduce well isolation distances. Other disposal options include any conventional or innovative/alternative technologies approved by DNREC. See Report for additional design information.

Replacement Disposal System: Same as above if space allows or a sand-lined upgrade in area of initial system.

Location of Replacement System: Adjacent to Initial Disposal System.

Depth to Limiting Zone (Replacement System): Same as above.

Instructions to Property Owner / Client

1. Contact a Licensed Class **B (Option 1 Only) or C** System Designer.
2. A permeability rate of **30 (Option 1) and 45 (Options 2 & 3)** minutes per inch has been estimated based on the soils found on this site, guidelines set forth in the Regulations, and other factors. You may use the estimated rate or, at your expense, have a percolation test conducted. If you do not choose to use the estimated permeability rate, contact a Licensed Class A Percolation Tester. The depth, location, number, and method of percolation test is to be determined by the Class D Soil Scientist.
3. If you have questions, call the evaluator at (302) 632-7548 or DNREC Sussex County (302) 856-4561; Kent County (302) 739-9947.
4. See attached Site Evaluation Report for additional information.

This report has been prepared by: M. Josh Stallings, License # D4601
M. Josh Stallings

Disclaimer: Approval of this site evaluation indicates only that the site evaluation, **based on information presented to us**, was conducted in compliance with the Regulations. It is not an indication of the correctness or quality of the evaluation nor does it guarantee the evaluation is free of omissions.

Field Checked _____

For Office Use Only

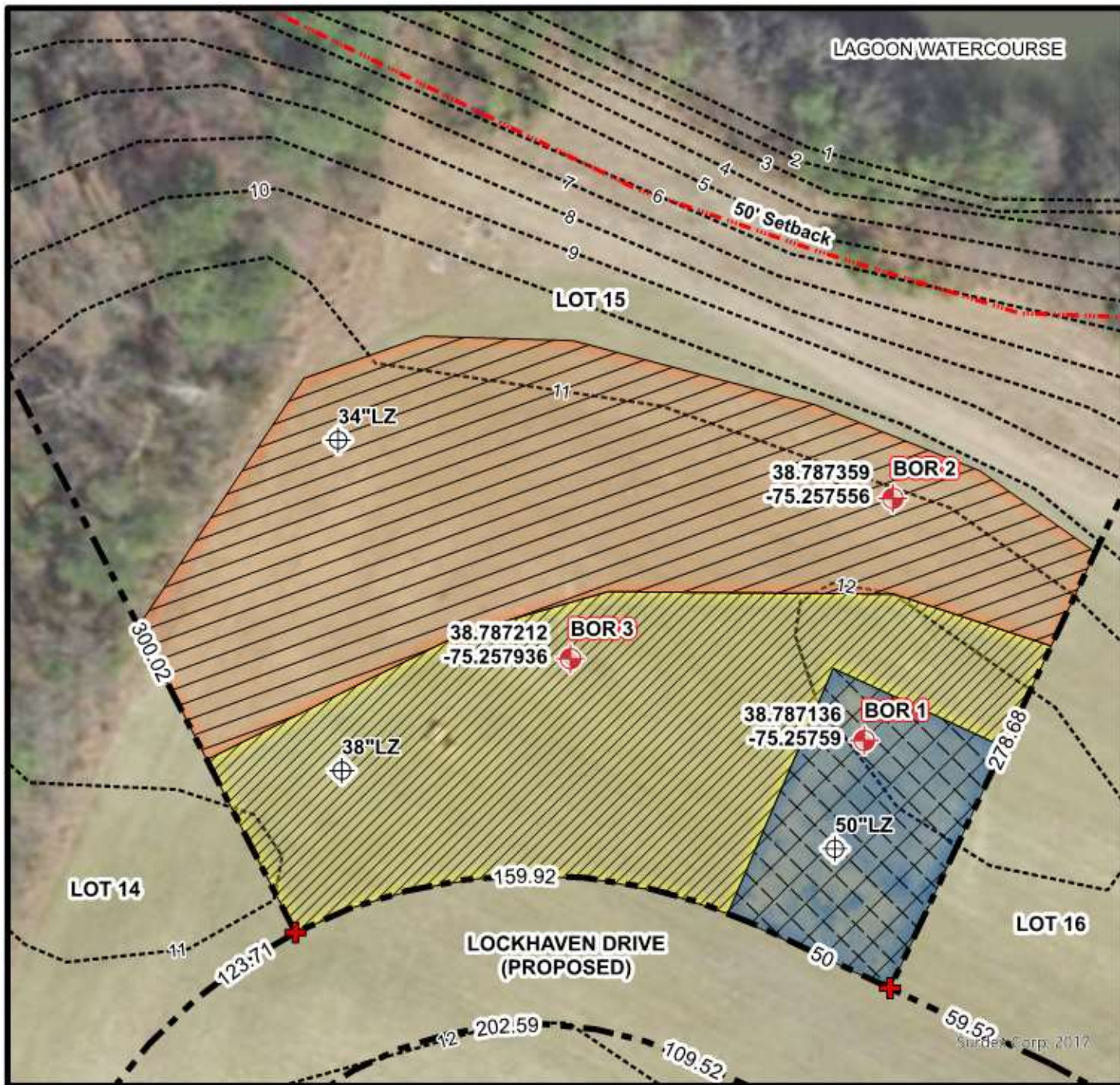
Date 8/27/20

J
DNREC Reviewing Soil Scientist

Expiration Date 8/27/25

**IF THERE ARE QUESTIONS
REGARDING THIS REPORT
CONTACT CLASS D LICENSEE**

**THE CLASS D LICENSEE
IS RESPONSIBLE FOR
ERRORS/OMISSIONS**



NOTE:
All wells within 150' of proposed OWTDS area shown on plan (unless otherwise noted).



SITE EVALUATION PLAN

LOCKHAVEN FARM, LLC
PROPOSED LOT 15, LOCKHAVEN SUBD.
MILTON, DE 19968

TM: 235-15.00-34.00 (P/O)

Date: 8/26/2020

1 IN = 50 FT

Drawn: MJS

Project: LDCO005

Legend

- | | | | |
|--|---------------------|--|----------------------|
| | Soil Boring | | CFG Disposal Area |
| | Unlogged Boring | | FDLPP Disposal Area |
| | Survey Stake | | CFLPP Disposal Area |
| | Watercourse Setback | | 2014 Sussex Contours |





20246 Coastal Highway
 Rehoboth Beach, DE 19971
 PH: (302) 632-7548
 www.scaledengineering.com

Date: 8/21/2020 Tax ID Number: 235-15.00-34.00

Property Owner: Lockhaven Farm, LLC Project Number: LDCO005

Property Location: Proposed Lot 15, Lockhaven Subdivision, Milton, DE 19968

Profile #: BOR 1 Slope: 1-2% Estimated Permeability: 30 mpi

Profile Type: Soil Boring Test Pit GPS: See Plot

Horizon	Depth (in.)	Colors		Mottles Desc.	Texture	Structure	Consistence
		Matrix	Mottles	Ab. S. Con.			
Ap	0-10	10yr4/3			LS	m	fr
BE	10-28	10yr5/4			LS	m	vfr
EandB+	28-48	10yr5/8	7.5yr4/6	30-50% Lamellae	LS SL	m m	vfr fr
BC+	48-54	10yr7/6	7.5yr6/8 7.5yr4/6	fzd Lamellae	(25%) LS	m	vfr
C	54-60	2.5yr7/3			LS	m	vfr
2C	60-72	10yr6/6	2.5yr6/2 7.5yr5/8	c1p c2d	SL	m	fr/fi

Soil Classification: Lamellic Aap Indult Relief: back slope

Depth to Limiting Zone: 48" to Redox Features Depth to Freewater: >72"

Comments:

Soil Scientist: M. Josh Stalling's



20246 Coastal Highway
 Rehoboth Beach, DE 19971
 PH: (302) 632-7548
 www.scaledengineering.com

Date: 8/21/2020

Tax ID Number: 235-15.00-34.00

Property Owner: Lockhaven Farm, LLC

Project Number: LDCO005

Property Location: Proposed Lot 15, Lockhaven Subdivision, Milton, DE 19968

Profile #: BOR 2 Slope: 1-3% Estimated Permeability: 40 mpi

Profile Type: Soil Boring Test Pit GPS: See Plot

Horizon	Depth (in.)	Colors		Mottles Desc.	Texture	Structure	Consistence
		Matrix	Mottles	Ab. S. Con.			
Ap	0-10	10yr5/3			LS	m	fr
BE	10-18	10yr5/4			LS	m	vfr
EandBt	18-32	10yr5/4	7.5yr4/6	5% Lamella	LS	m	vfr
Bt ₁	32-42	7.5yr4/6 10yr6/6	2.5y6/2 7.5yr5/8	fzP c2d	(Lenses) LS + SCL	m	fr
Bt ₂	42-52	7.5yr4/6			SL	m	fr
BC _t	52-58	7.5yr4/6 10yr5/6	(SL - 30%) (LS - 70%)		SL LS	m m	fr vfr
C	58-72	10yr7/6	2.5y7/2 7.5yr6/8	C2p C2d	LS	m	vfr

Soil Classification: Aquic Arenic Hapludult Relief: back slope

Depth to Limiting Zone: 32" to Redox Features Depth to Freewater: >72"

Comments: Bt had lenses of LS throughout

Soil Scientist: M. John Stalling's



20246 Coastal Highway
 Rehoboth Beach, DE 19971
 PH: (302) 632-7548
 www.scaledengineering.com

Date: 8/21/2020

Tax ID Number: 235-15.00-34.00

Property Owner: Lockhaven Farm, LLC

Project Number: LDCO005

Property Location: Proposed Lot 15, Lockhaven Subdivision, Milton, DE 19968

Profile #: BOR 3 Slope: 1-2% Estimated Permeability: 45 mpi

Profile Type: Soil Boring Test Pit GPS: See Plot

Horizon	Depth (in.)	Colors		Mottles Desc.	Texture	Structure	Consistence
		Matrix	Mottles	Ab. S. Con.			
Ap	0-8	10yr 4/3			LS	m	fr
BE	8-20	10yr 5/4			LS	m	vfr
EandBt	20-36	10yr 5/6	7.5yr 4/6	5% Lamellae	LS	m	vfr
BC	36-44	10yr 7/6	7.5yr 5/8	c2d	LS	m	vfr
C	44-54	2.5yr 7/4	10yr 6/8	c2p	LS	m	vfr
2C	54-72	10yr 6/4	2.5yr 6/1 7.5yr 6/8	m2p m2p	PSL	m	vfi

Soil Classification: Oxyaquic Quartzipsamment Relief: back slope

Depth to Limiting Zone: 36" to Redox Conc. Depth to Freewater: >72"

Comments:

Soil Scientist: M. Josh Stalling's

PARID: 235-15.00-34.00
 LOCKHAVEN FARM LLC

ROLL: RP

Property Information

Property Location:

Unit:

City:

State:

Zip:

Class: AGR-Agriculture
 Use Code (LUC): AG-AG
 Town: 00-None
 Tax District: 235 – BROAD KILL
 School District: 6 - CAPE HENLOPEN
 Council District: 3-Burton
 Fire District: 85-Milton
 Deeded Acres: 125.8000
 Frontage: 0
 Depth: .000
 Irr Lot:
 Zoning 1: AR-1-AGRICULTURAL/RESIDEINTIAL
 Zoning 2: -
 Plot Book Page: 72 36/PB

100% Land Value: \$12,600
 100% Improvement Value
 100% Total Value

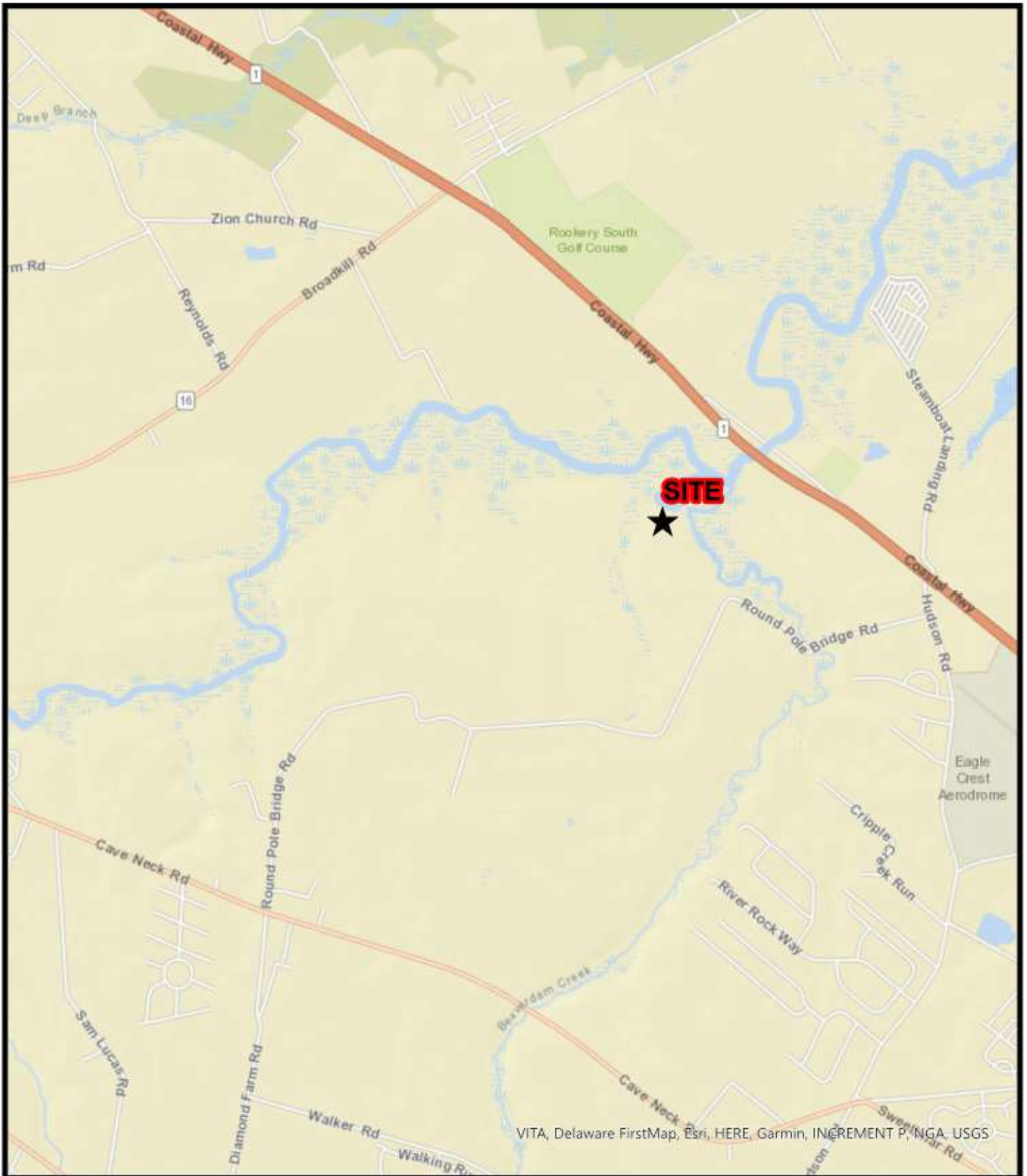
Legal

Legal Description: RD MILTON TO
 DRAWBRIDGE VIA CAVE
 NECK

Owners

Owner	Co-owner	Address	City	State	Zip
LOCKHAVEN FARM LLC		26412 BROADKILL ROAD	MILTON	DE	19968

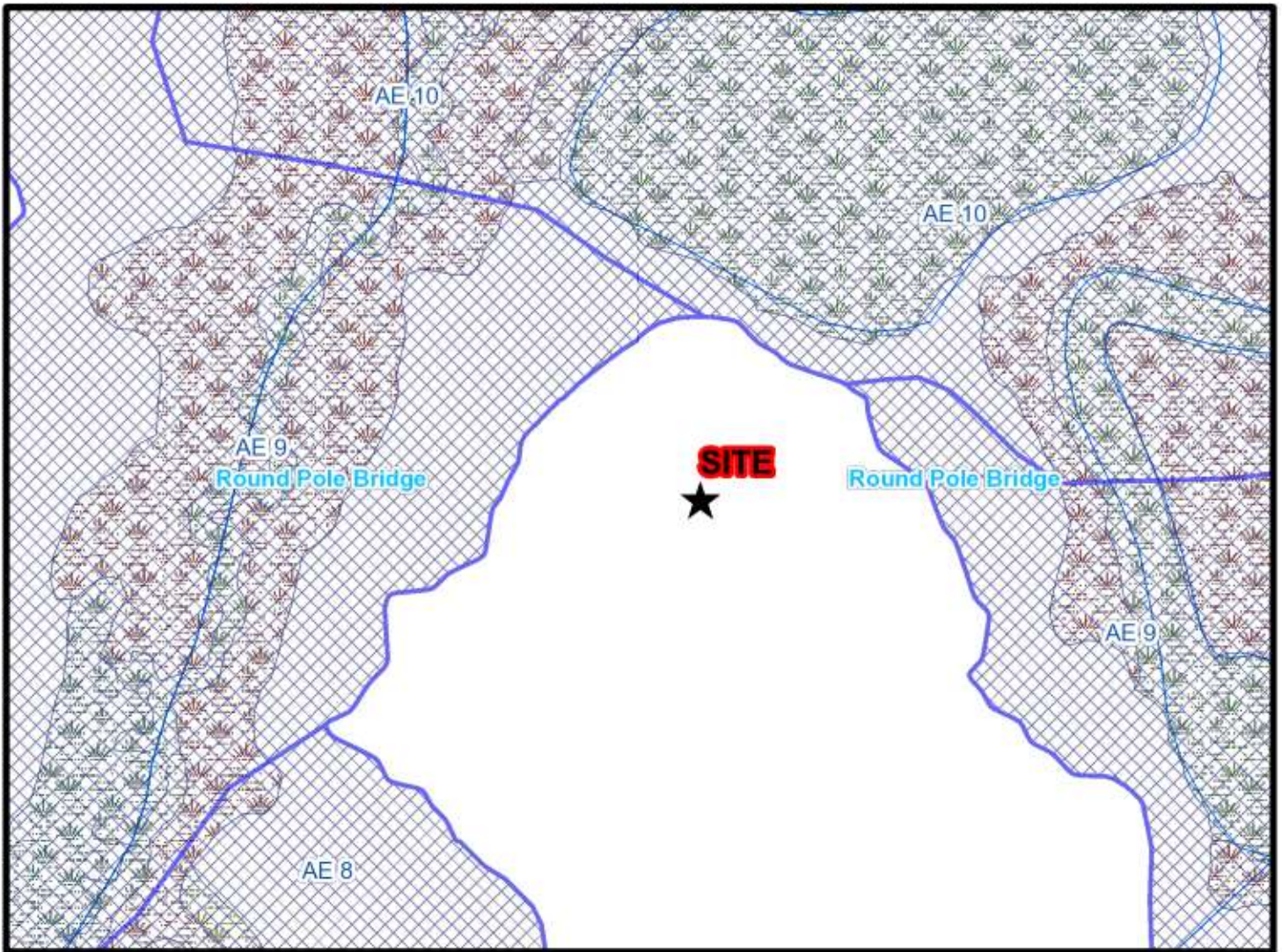
SITE LOCATION



0 0.42 0.85 1.7 Miles



DNREC MAPPING



Legend

DNREC Features

Watersheds



Tax Ditch Segments



1 - 989

990

991 - 993

994 - 999

Bay Building Line



Ocean Building Line



Tax Ditch Maximum ROWs

Extent of Right-of-Way

Tax Ditch Areas

Approx. Watershed Boundary

Groundwater Management Zones

HSCA, 1 Zone

Multiple, Zone A

Multiple, Zone B

SHWMB, 1 Zone

SIRB, 1 Zone

SIRB, Zone A

SIRB, Zone B

SIRB, Zone C

TMB, 1 Zone

TMB, Zone A

TMB, Zone B

GWPB, 1 Zone

FEMA Flood Maps

X 500

A

AE

AO

VE

State Wetlands 2007

Agriculture

Estuarine Non-Vegetated

Estuarine Vegetated

Lacustrine

Marine Non-vegetated

Palustrine Emergent

Palustrine Forested

Palustrine Forested Deciduous

Palustrine Forested Evergreen

Palustrine Open Water/ Flats

Palustrine Open Water/Flats

Palustrine Scrub/Shrub

Palustrine Scrub/shrub

Palustrine Tidal Emergent

Palustrine Tidal Forested

Palustrine Tidal Forested

Palustrine Tidal Scrub/Shrub

Riverine Non-vegetated

Riverine Vegetated

Recharge Areas



Wellhead Protection Areas



Delaware_State_Parcel



TAX MAP AND PARCEL #:
2-35-15.00-34.00
PREPARED BY & RETURN TO:
Young Malmberg, P.A.
30 The Green
Dover, DE 19901
File No. 15RE7367/CFM

No new survey requested or performed.

THIS DEED, made this 13th day of July, 2015,
- BETWEEN -

TAC BEACON I, LLC, a Delaware limited liability company, of PO BOX 1855,
Orange Park, FL 32067, Grantor

- AND -

LOCKHAVEN FARM L.L.C., a Delaware limited liability company, c/o 30 The Green,
Dover, DE 19901, Grantee.

WITNESSETH: That the said Grantor, for and in consideration of the sum of ONE DOLLAR (\$1.00), lawful money of the United States of America, and other good and valuable consideration, the receipt whereof is hereby acknowledged, Grantor hereby grants and conveys unto the Grantee, and its heirs and assigns, in fee simple, the following described lands, situate, lying and being in Sussex County, State of Delaware:

ALL that certain piece, parcel and tract of land, situate, lying and being in Broadkill Hundred, Sussex County, State of Delaware, and being described more particularly:

BEGINNING at an iron pipe (set) on the northeasterly right of way line of Sussex County Road #257 (50' R/W); said pipe being situated a distance of 4,200 feet, more or less from Sussex County Road #258; thence with Sussex County Road #257 and along a curve to the left having a radius of 190.55 feet, the central angle being 19 degrees 49 minutes 01 second, the arc length being 65.91 feet, the chord bearing South 54 degrees 54 minutes 30 seconds West a distance of 65.58 feet to a point; thence continuing with Sussex County Road #257 South 45 degrees 00 minutes 00 seconds West, a distance of 1,360.15 feet to an iron pipe (found); thence with Lands of Wallace C. & Nancy G. Edmanson, now or formerly North 45 degrees 00 minutes 00 seconds West a distance of 1,075.00 feet, more or less, to a point; thence with the centerline of a stream and lands of Francis Reed Dunlap, now or formerly, a distance of 4,141.00 feet to a point;

AP

MS

thence with the low water line of Broadkill River and the low water line of Beaver Dam creek a distance of 4,259.00 feet, more or less, to a point; thence with Lands of Jenny L. Hoch, now or formerly, the following three (3) courses and distances: (1) South 64 degrees 36 minutes 10 seconds West a distance of 207.82 feet to an iron pipe (set); thence continuing the same courses a distance of 162.30 feet to an iron pipe (found); (2) South 08 degrees 53 minutes 42 seconds East a distance of 618.67 feet to an iron pipe (found); (3) South 36 degrees 35 minutes 53 seconds East a distance of 487.13 feet home to the point and place at beginning said to contain 125.8 acres of land, be the same more or less.

BEING part of the same lands and premises which were conveyed unto TAC Beacon I, LLC, by deed of Land-Lock, L.L.C., Bethany Grand, LLC and Darin A. Lockwood and Don Allen Lockwood, dated January 14, 2015, and recorded in the Office of the Recorder of Deeds, in and for Sussex County, Delaware, on January 20, 2015, in Deed Book 4354, Page 301.

TOGETHER with all the rights, title and interest of the Grantor in and all street roads and public places, opened or proposed, adjoining the said Land, and all easements and rights of way, public or private, now or hereafter used in connection with said Land.

SUBJECT to any and all restrictions, reservations, conditions, easements and agreements of record in the Office of the Recorder of Deeds in and for Milton, Sussex County, Delaware.

IN WITNESS WHEREOF, the said TAC Beacon I, LLC, a Delaware limited liability company, has caused its name to be hereunto set under seal by Robert L. Supple Jr., an authorized member of TAC Beacon I, LLC, the day and year first above written.

TAC BEACON I, LLC

By: **Beacon Asset Managers, LLC**
Authorized Member

By: **Pharos Funding, LLC**
Manager

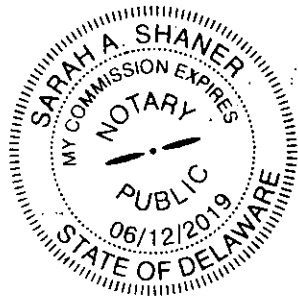
Carah Thomas
Witness

BY: [Signature] (SEAL)
Name: Robert L. Supple Jr
Its: Manager

STATE OF DELAWARE, COUNTY OF SUSSEX: to-wit

BE IT REMEMBERED, that on this 13th day of July, A.D. 2015, personally appeared before me, the Subscriber, a Notary Public in and for the State and County aforesaid, Pharos Funding, LLC, Manager of TAC Beacon I, LLC, a Delaware limited liability company, by Robert L. Spadaro, its Manager party to this Indenture, known to me personally to be such, and acknowledged this Indenture to be his act and deed and the act and deed of said limited liability company; that the signature of the Manager is in his own proper handwriting and by his authority to act; and that the act of signing, sealing, acknowledging and delivering the said Indenture was first duly authorized by a resolution of the limited liability company.

GIVEN under my Hand and Seal of Office the day and year aforesaid.



Sarah A. Shaner
NOTARY PUBLIC
My Commission Expires: 6-12-19

Consideration: 500,000.00

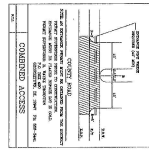
County 7,500.00
State 7,500.00
Town Total 15,000.00
Received: Faith D Jul 21, 2015

RECEIVED

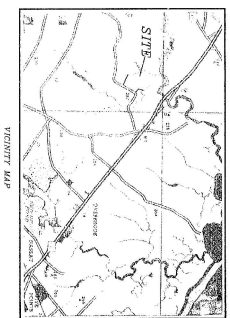
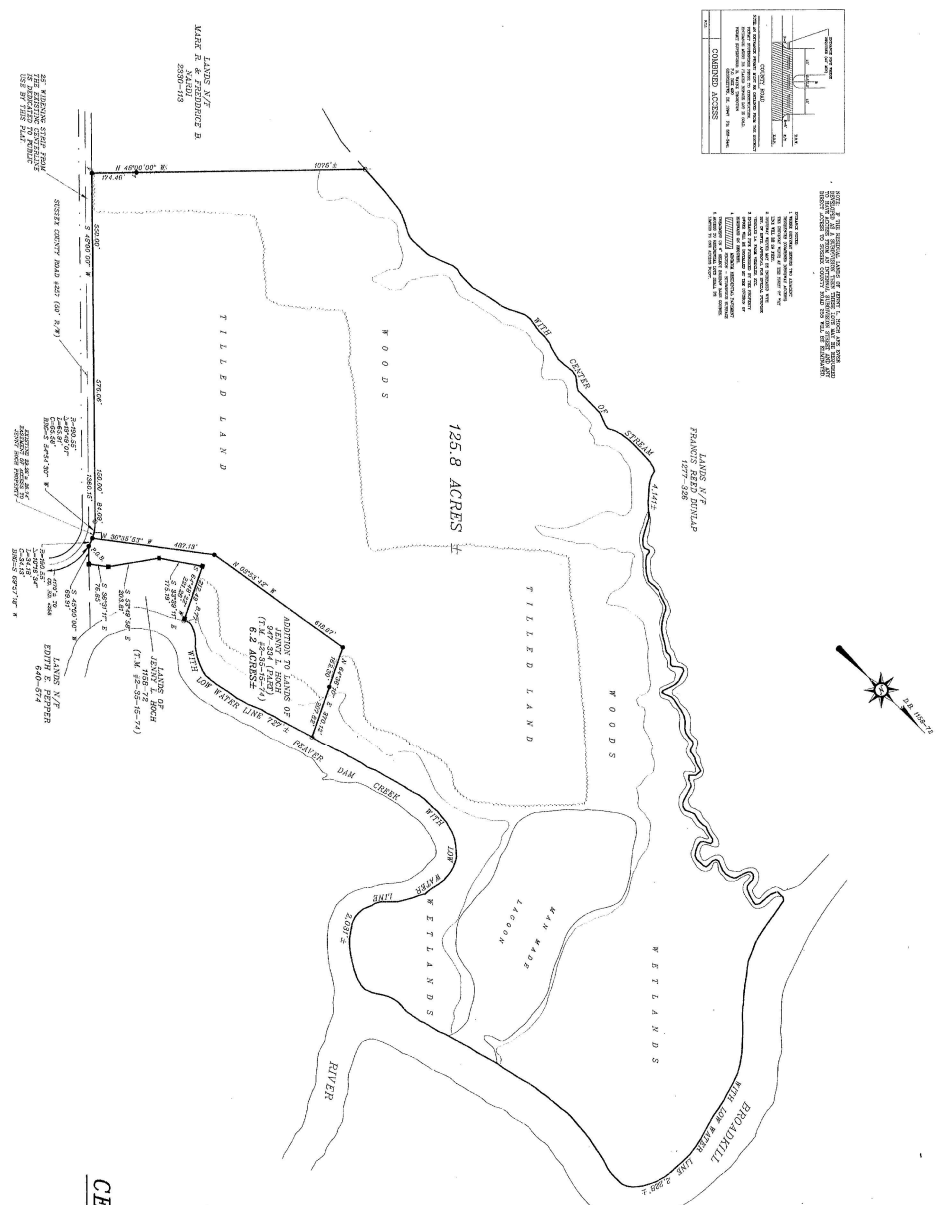
JUL 21 2015

**ASSESSMENT DIVISION
OF SUSSEX COUNTY**

Recorder of Deeds
Scott Dailey
Jul 21, 2015 03:12P
Sussex County
Doc. Surcharge Paid



THESE PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS AND SCHEDULES SHALL BE CONSIDERED TO BE THE ENTIRE AGREEMENT BETWEEN THE PARTIES HERETO. ANY DISCREPANCY BETWEEN THESE PLANS AND ANY OTHER DOCUMENTS SHALL BE RESOLVED BY THE PARTIES HERETO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY EASEMENTS AND RIGHTS OF WAY FROM THE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY UTILITIES AND SERVICES FROM THE APPROPRIATE UTILITIES AND SERVICE PROVIDERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE AND BONDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY EASEMENTS AND RIGHTS OF WAY FROM THE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY UTILITIES AND SERVICES FROM THE APPROPRIATE UTILITIES AND SERVICE PROVIDERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE AND BONDING.



10 AUG 31 PM 2:57
SUSSEX COUNTY
LOC. SURCHARGE PAID

- CONCRETE FOUNDATION (FOOTING)
- CONCRETE FOUNDATION (WALL)
- IRON PIPE (SET)
- POLE



CEDAR KNOLL SUBDIVISION

OWNER: JERRY L. JONES
RTE. 4, BOX 2808-A
WILTON, DE 19888

APPROVED:
D. K. MILLER
DELAWARE REGISTERED PROFESSIONAL ENGINEER
NO. 10324

SCALE: 1" = 200'

MULLEN LEWIS, INC. LAND SURVEYING 1000 N. MARKET STREET SEAFORD, DELAWARE 19778	DATE: 9-7-34	COUNTY: SUSSEX
	MAP: 28, 2001	STATE: DELAWARE
SURVEYOR: JERRY L. JONES	SURVEY NO.: 347-334	DATE: 9-7-34
SURVEYOR: JERRY L. JONES	SURVEY NO.: 347-334	DATE: 9-7-34

MATCHLINE SEE SHEET C-3



MATCHLINE SEE SHEET C-2

MATCHLINE SEE SHEET C-6

MATCHLINE SEE SHEET C-7

MATCHLINE SEE SHEET C-5

C-4	DATE: FEBRUARY 2024
	SCALE: 1" = 50'
	DRAWN BY: JEC
	PROJECT: LOCKHAVEN

LOCKHAVEN
 TM: 235-15.00-34.00
 LIMITLESS DEVELOPMENT CONSULTING, LLC

SCALED ENGINEERING
 Scaled Engineering Inc.
 20249 Coastal Highway
 Rehoboth Beach, DE 19971
 Phone: (302) 235-8000

PRELIMINARY SITE PLAN

BECKER
MORGAN

G R O U P

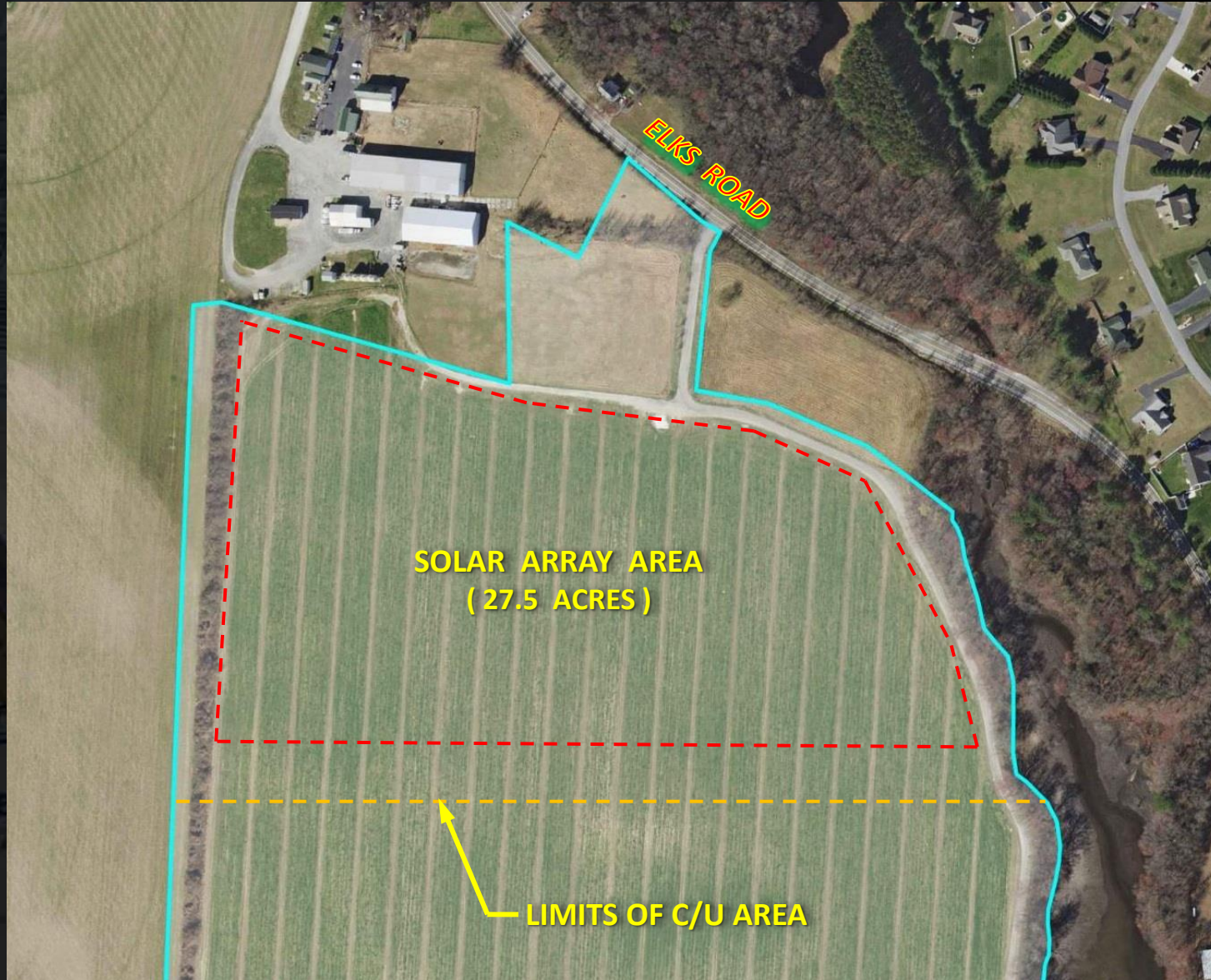
ARCHITECTURE
ENGINEERING

SUSSEX COUNTY - SOLAR ENERGY SYSTEM

PLANNING & ZONING COMMISSION

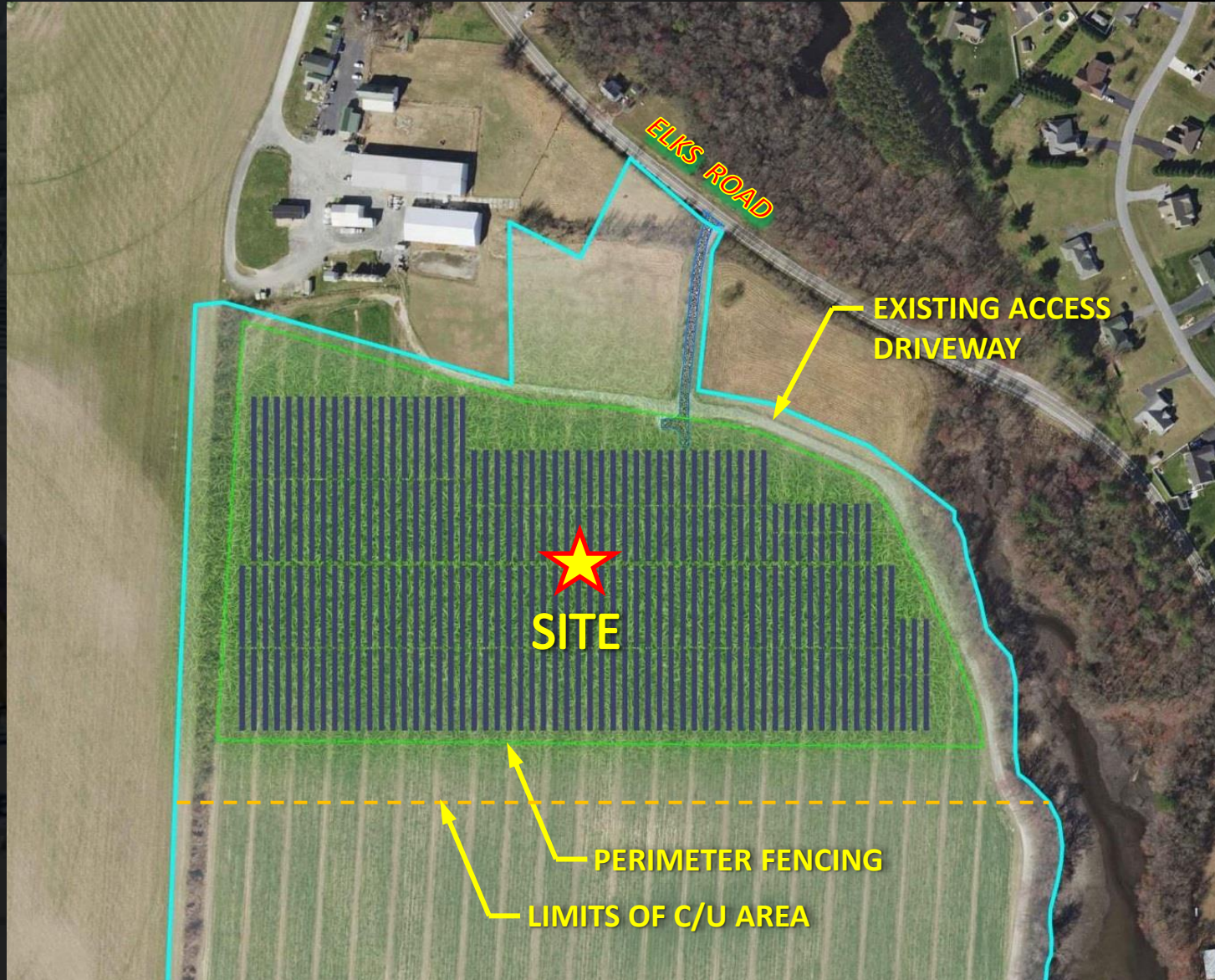
PUBLIC HEARING / TPE DE SU07 / 12.15.2022

PROJECT AREA - EXISTING CONDITIONS



- LOCATION: SEAFORD, DE
- ZONING: AR-1
- EXISTING USE: AGRICULTURE
- PROPOSED USE: SOLAR
- C/U AREA: 27.5 AC.

PROJECT AREA - SOLAR ARRAY



PROJECT OVERVIEW & DESIGN STANDARDS

- COMMUNITY SOLAR FACILITY - GROUND MOUNT TRACKING SYSTEM / 3 MEGAWATT AC
- BENEFITS LOCAL RESIDENTIAL, BUSINESS AND MUNICIPAL SUBSCRIBERS WITH LOWER POWER COSTS
- NO INCREASE IN TRAFFIC (1-2 MAINTENANCE VISITS PER MONTH)
- RENEWABLE ENERGY SOURCE WHICH PRODUCES NO ODORS, DUST, GAS, SMOKE OR FUMES
- LOW TO NO NOISE FROM POWER INVERTERS (65 Dba at 1 Meter)
- GLARE STUDY COMPLETED (NO IMPACTS)
- REDUCED STORMWATER RUNOFF BY PROVIDING POLLINATOR FRIENDLY GROUND COVER AND PLANTINGS
- PERIMETER FENCING WITH EMERGENCY ACCESS PROVISIONS
- COMMUNITY OUTREACH MEETING HELD DECEMBER 5, 2022
- DECOMMISSIONING AT THE END OF OPERATION LIFE OF THE PROJECT

PROJECT SUMMARY

- THE FACILITY IS A PUBLIC UTILITY USE UNDER SUSSEX COUNTY ZONING CODE AND MEETS THE PURPOSES OF A CONDITIONAL USE IN THAT IT IS OF PUBLIC OR SEMI-PUBLIC CHARACTER THAT IS ESSENTIAL AND DESIREABLE FOR THE GENERAL CONVENIENCE AND WELFARE OF SUSSEX COUNTY RESIDENTS.
- THE PROPOSED FACILITY PROMOTES GOAL 7.3 OF THE SUSSEX COUNTY COMPREHENSIVE PLAN, WHICH ENCOURAGES THE USE OF RENEWABLE ENERGY OPTIONS SUCH AS SOLAR FARMS
- THE PROPOSED USE WILL NOT HAVE ANY ADVERSE IMPACT ON THE NEIGHBORING AND ADJACENT PROPERTIES AND PROVIDES ADEQUATE BUFFERING
- THE FACILITY WILL NOT RESULT IN ANY NOTICEABLE INCREASE IN TRAFFIC ON ADJACENT AND NEIGHBORING ROADWAYS. THERE ARE NO REGULAR EMPLOYEES AT THE SITE, ONLY PERIODIC VISITS FOR INSPECTIONS, MAINTENANCE, OR REPAIR OF THE SOLAR PANELS
- NO SIGNIFICANT NOISE, DUST OR ODOR WILL BE GENERATED BY THE FACILITY

CONDITIONAL USE 2342

TURNINGPOINT ENERGY – TPE DE SU07, LLC

DECEMBER 2022



PREPARED BY:

**BECKER MORGAN GROUP, INC.
309 S. GOVERNORS AVE.
DOVER, DE 19904**

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1.0 Project Overview – (C/U 2342 – TPE DE SU07, LLC)

1.1 Executive Summary

The subject property is located on Elks Road in Sussex County Delaware. The existing zoning is AR-1 / Agricultural Residential, per Sussex County Zoning Ordinance. The site is located within the Investment Level 3, per the 2020 Delaware Strategies for State Policies and Spending. The 107.75 acre parcel is located within a Developing Area in accordance with the 2018 Sussex County Comprehensive Plan - 2045 Future Land Use Map.

The property is lying on the west side of Elks Road (Rt. 46), approximately 0.50 miles west of the intersection of Elks Road and Sussex Highway (Rt. 13). The site currently operates as agricultural land. The southern portion of the property adjoins Hearn's Pond and two residential zoned parcels, both which are provided access through the subject parcel and contain residential dwellings. The western portion of the property adjoins lands currently owned by Ray S. Mears Sons Inc., currently agricultural land. The Northern portion of the property adjoins lands currently owned by Baker Farm LLC and several residential outparcels along Elks Rd.

The proposed Solar Energy System will occupy approximately 27.5 +/- Ac. of the parcel and the remaining lands will remain in agricultural use at this time.

1.2 Project Team – (C/U 2342 – TPE DE SU07, LLC)

Applicant / Developer: **TPE DE SU07, LLC**
Contact: Adam Beal
3720 South Dalia Street
Denver, Co 80237
Telephone: (617) 312-6553
e-mail: jbelknap@tpoint-e.com

Attorney: **Young Conaway Stargatt & Taylor, LLP**
Contact: John E. Tracey
Rodney Square, 1000 N. King St.
Wilmington, DE 19801
Telephone: (302) 571-6740
e-mail: jtracey@ycst.com

Architect /
Civil Engineer /
Surveyor: **Becker Morgan Group**
Contact: Jon Falkowski, P.E.
309 South Governors Avenue
Dover, DE 19904
Jon Falkowski, P.E.
Telephone: (302) 734-7950
Fax: (302) 734-7965
e-mail: jfalkowski@beckermogan.com

1.3 Project Data – (C/U 2342 – TPE DE SU07, LLC)

Total Site Area: 107.75 +/- Acres
Current Zoning District: AR-1 (Agricultural Residential)
Proposed Zoning: AR-1 (Agricultural Residential)
Proposed Use: Community Solar Energy System
Tax Parcel: 331-1.00-15.01

Woodlands: Existing: 0.00 + / - Acres
To Remain: 0.00 + / - Acres

Setbacks: **AR-1**
Front: 70 ft
Side: 15 ft
Rear: 20 ft

Maximum Building Height: AR-1 42 ft

Utilities:
Sewer: N/A

Water: N/A
Electric: Delmarva Power
Telephone: N/A

Access roads: Elks Road – (Local Road)
Floodplain: Zone X & AE are within the subject site.

1.4 Existing Conditions – (C/U 2342 – TPE DE SU07, LLC)

Overview of Current Site Conditions:

The subject property currently consists of all agricultural land. A copy of the aerial photograph taken from Delaware DEMAC 2017 has been provided.

The existing topography indicates that the site has a highpoint to the Northeastern portion of the site. Overall existing drainage of the site indicates that the majority of the runoff flows towards the edges of the site where the runoff eventually spills into Hearn's Pond. The greatest overall elevation change on the site is about 10 feet.

The USDA Soil Survey of Sussex County, Delaware shows the site to be (40.7%) of Woodstown Sandy Loam - 0 to 2 percent slopes, (20.9%) Hambrook Sandy Loam – 0 to 2 percent slopes, (16.9%) Rosedale Loamy Sand – 2 to 5 percent slopes, (9.6%) Rosedale Loamy Sand – 0 to 2 percent slopes, (4.9%) Longmarsh and Indiantown Soils – Frequently Flooded, (2.9%) Water, (2.5%) Hambrook Sandy Loam – 0 to 2 percent slopes, (1.7%) Fallsington Sandy Loams – 0 to 2 percent slopes Northern Tidewater Area, A copy of the USDA soil survey has been provided.

1.5 Landscaping and Screening – (C/U 2342 – TPE DE SU07, LLC)

Landscaping is not proposed for this application, as the adjacent occupancy does not warrant screening. The parcel to the West is an agricultural use, separated by an existing hedgerow. The East is naturally screened by existing vegetation surrounding Hearn's Pond. The parcel to the North is owned and operated by the farming entity who is leasing the Solar Energy System, and does not desire landscape screening.

1.6 Stormwater Management Regulations – (C/U 2342 – TPE DE SU07, LLC)

A Sediment and Stormwater Management Plan review is required through Sussex Conservation District and will include review of drainage, and erosion and sediment controls. Compliance will be demonstrated to meet Delaware's Sediment and Stormwater Regulations (7 DE Admin. Code 5105).

The site currently drains into Hearn's Pond which is part of Clear Brook-Nanticoke River Watershed within the Chesapeake Bay.

1.7 Proposed Finding of Facts – (C/U 2342 – TPE DE SU07, LLC)

1. This is an application for the conditional use of AR-1 - Agricultural Residential per Sussex County, DE zoning code
2. The subject property is a 107.7 acre parcel of land located on Elks Road and owned by Michael R. & Rosemary V. Everton.
3. The applicant is TPE DE SU07, LLC.
4. The development is proposed on existing agricultural land.
5. The 2018 Sussex County Comprehensive Plan designates the subject parcel as Developing Area, as shown on the 2045 Future Land Use Map.
6. The State Strategies for Policies and Spending identifies the area as Investment Level 3. Level 3 areas are in longer-term growth plans, and/or areas within growth areas that have some environmental constraints.
7. The proposed community solar project generates electricity directly to homes and businesses via local electrical distribution lines compared to larger centralized powerplants; that centralized powerplants push power onto high voltage transmission lines which carry electricity hundreds to thousands of miles away; that a key benefit of community solar projects such as this is they generate electricity in the communities where the power is consumed; that this reduces the need for long transmission lines and other costly infrastructure; that by providing clean, renewable power close to the end user, it improves the resiliency of the local distribution grid and delivers the power at an all-end lower cost to the user; that community solar projects allow residences and businesses who are customers of the same electric utility the ability to subscribe to the project and receive a credit on their utility electric bill; that another benefit of community solar projects is the smaller footprint of the projects; that this means a smaller impact; and that the proposed site will occupy tens of acres versus hundreds or even thousands of acres.
8. The project area is currently an agricultural field with no existing structures; that the anticipated project will be less than 30-acres; that the capacity to the proposed project is three megawatts of alternating current; that this is considered a relatively small project; that the project is sized to meet the local distribution system; that this type of project is connecting to the distribution grid as opposed to the electrical transmission system; that the point of interconnection will be at the existing electric line running along Elks Road.
9. The equipment will consist of racking systems, which are mounted on support posts, panels which are installed on top of the racking systems, inverters/transformers, interconnection equipment, which are typical utility poles and a small weather station; that at the end of the proposed access drive there is a turnaround for fire trucks and

emergency personnel; that there is proposed fencing surrounding the array; that they are not proposing any grading onsite; that the project is set back 300 feet from the frontage road; that there were no threatened or endangered species observed on the site; that there is low potential of onsite occurrence due to the history of land cultivation; and that there were no cultural or historic resources previously identified onsite.

10. Stormwater runoff will be tightly controlled in accordance with State and local regulations; that there are no impact to drainage patterns anticipated due to the ability of the arrays to conform to the existing topography, as well as the gaps between panels and space between arrays allow infiltration into the ground's surface.
11. Solar panels are constructed of silicon semiconductors, much like a computer chip; that when the sunlight hits the semiconductor material, it creates a charge, which is a direct current; that the direct current is converted to an alternating current through converters so it can be fed into the distribution grid for use in homes and business; that solar creates clean, renewable electricity without the use of water, creating emissions or producing waste products; that its low visual profile and quiet operations makes for a great neighbor; that solar projects place no demand on County infrastructure or services such as roads, water, sewer, emergency services or schools; that construction consist of minimal grading and disturbance; that there are no regular employees on site, only those attending for periodic visits for inspections, maintenance or repair of the solar panels; that the solar projects are built using steel posts or ground screws to support the solar panels versus concrete or other foundations; and that this allows the land to return to its previous agricultural use at the end of the project; that no significant noise or dust will be generated by this facility..
12. Fencing is proposed around the entire perimeter of the project; that the proposed fencing will be a 7 to 8 ft. high, chainlink fencing; that in the agreement with the property owner it is stated that, should the project no longer be needed, TPE would handle the removing of all equipment where it would then be recycled leaving the property back to agricultural land; that the only noise the project would create would be a slight hum when the panel retracts to the sun; that the inverters, the size of a small duffle bag, will create an occasional slight hum; and that the project will operate in conformance to all local noise ordinances.
13. TPE has completed a glare study which has determined that there is no potential for glare or glint spilling off of the project and onto neighboring properties or roadways.
14. TPE has commissioned Cohn Reznick LLP to perform, and it has completed, an Adjacent Property Value Impact Report which has concluded that the property values of adjacent property will not be impacted by this proposed project.

1.8 Proposed Conditions – (C/U 2342 – TPE DE SU07, LLC)

1. No storage facility shall be constructed on the site.
2. The lighting on the facility shall only consist of lighting needed for security purposes. All lighting shall be downward screened so that it does not shine on neighboring properties or roadways.
3. One unlighted sign not to exceed 32 sq ft in size shall be permitted.
4. This site shall be secure by fencing with a gate with a knockbox or similar device to accommodate emergency access by the local fire company or other emergency responders. The fence shall be shown on the final site plan.
5. Any transformers or similar equipment shall be located on the site away from any nearby residential uses.
6. All of the grounds including the area outside of the fence shall be maintained so that they do not become overgrown.
7. The final site plan shall be subject to the review and approval of the Sussex County Planning and Zoning Commission.

2.0 List of Exhibits – (C/U 2342 – TPE DE SU07, LLC)

- 2.1 *Developer Summary*
- 2.2 *Application for Planning and Zoning Commission*
- 2.3 *Conditional Use Site Plan*
- 2.4 *Aerial Photo & Location*
- 2.5 *Zoning Map*
- 2.6 *Existing Land Use*
- 2.7 *Future Land Use*
- 2.8 *Strategies for State Policies Spending*
- 2.9 *Watersheds Waterways*
- 2.10 *FEMA Flood Insurance Rate Map (FIRM)*
- 2.11 *Soils Map*
- 2.12 *Property Value Impact Report*
- 2.13 *Glare Study*

2.1 Developer Summary



Proposed 3-Megawatt AC Ground-Mount Community Solar Facility
Sussex County, Delaware

TPE DE SU07, LLC
c/o TurningPoint Energy, LLC
3720 South Dahlia Street
Denver, CO 80237

November 30, 2022

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1.0 INTRODUCTION

1.1 Project Overview

TurningPoint Energy, LLC d/b/a TPE Development through its affiliated entity TPE DE SU07, LLC (the “Applicant”) proposes the development of a 3-megawatt AC solar photovoltaic system on parcel 331-1.00-15.01 south of Elks Road, Seaford DE 19973 (the “Project”). The Project will consist of a single axis tracking ground-mounted solar array, associated electrical equipment, an access driveway and fence covering approximately 25.7 acres of parcel (ID 331-1.00-15.01). The Project intends to participate in the Delaware Community Solar Program and will power the equivalent of approximately 500-550 homes. Community Solar allows residents of Delaware to purchase locally generated clean electricity at a discount to current electric rates without having to install panels on their roof.

If approved, the Project would bring significant and consistent benefits to Sussex County and the community surrounding the Project. The Project would create approximately 30-50 jobs during the approximately 4 to 6-month construction period. Unlike nearly all other forms of development (residential, commercial, or industrial), the Project would benefit the community without stressing community infrastructure – no new children in schools, no use of water and sewer systems, extremely limited use of roads, and little to no additional burden for police or fire departments.

1.2 About TurningPoint Energy

Formed in 2014, TPE is a privately held, independent company transforming our energy future by creating freedom to choose a smarter, cleaner, more flexible way forward through community solar. As a privately held and independent company, TPE customizes projects to the unique needs of each client. Our team has financed and/or built over 2 Gigawatts (GW) of the solar projects operating in the U.S. today. Since 2017, TPE has focused these services on the expanding community solar market in states including Delaware, Maine, Maryland, Illinois, Pennsylvania, Texas, and Rhode Island. TPE’s development and investment portfolio now includes over 60MW of community solar projects in construction or operation, with more than 600MW under development.

TPE is a “triple bottom line” company; we believe that our business should create financial, environmental, and community value in every project we create. Our intent is to be long term community members. Upon successful permitting and utility interconnection, TPE typically makes donations to local charities and non-profits doing good work in the communities we work in.

2.0 SITE LOCATION & EXISTING CONDITIONS

TPE, in coordination with its engineering consultant, Becker Morgan Group, Inc, has prepared and compiled information from many sources to form the basis of design for the proposed Project. A summary of existing conditions and the design elements that avoid and or minimize impact to the environment and surrounding community is presented below.

2.1 Existing Conditions

The subject property currently consists of all agricultural land. The existing topography indicates that the site is generally flat.

2.2 Natural Resources

2.2.1 Wetlands and Floodplain

The Project will be designed to avoid impacts to USACE jurisdictional waters.

Per FEMA FIRM Map Panel 10005C0253K, the solar array and equipment will be installed in Zone X, which is considered an area of minimal flood hazard.

2.2.2 Wildlife

The Project will be designed such that no federally listed species will be significantly impacted. There are no critical habitats at the project location.

2.3 Community Outreach & Benefits

TPE plans to hold an in-person informational meeting to inform the public and answer any questions from concerned citizens.

On September 17, 2021, the Governor of the State of Delaware signed into law Senate Bill 2, which amended the Renewable Energy Portfolio Standards Act and the Electric Utility Restructuring Act of 1999 to accelerate the adoption of community-owned solar photovoltaic systems in Delaware.

Community Solar projects such as SU07 enable members of the Sussex County community to receive savings on their electric bills. Residential, commercial, and municipal customers of Delmarva Power can subscribe to solar energy projects to achieve savings on their electric bill. The community solar model allows customers who may not have suitable roofs for solar to participate in the renewable energy economy and purchase green energy at a discount to the utility service offering. Subscribers can participate with no upfront costs or investment in personal infrastructure. This program is especially appealing to renters, low-income households, businesses, and any Delmarva customer who does not have an adequate rooftop to install a solar energy system.

The Project would create approximately 30-50 jobs during the approximate 4 to 6-month construction process. A regional operations and maintenance firm will service the facility over its working life cycle.

Unlike nearly all other forms of development (residential, commercial, or industrial), the community would benefit from the significant economic benefits mentioned above without stressing community

infrastructure – no new children in schools, no use of water and sewer systems, limited use of roads, and little to no additional burden for police or fire departments.

3.0 PERFORMANCE STANDARDS AND SOLAR SITING ORDINANCE REQUIREMENTS

3.1 Project Description & Design Standards

The Project will consist of a ground-mounted solar array. The solar array will consist of solar panels attached to single axis trackers structures attached to driven steel pier foundations or ground screw foundations, depending on the subsurface composition. A Delaware licensed engineer will certify the foundation and design of the solar racking system is suitable to meet local soil and climate conditions.

The Project will be constructed by a licensed Engineering Procurement and Construction (“EPC”) Contractor. The design and construction process will comply with all National, State and local applicable building, electrical and fire codes, as well as the National Electrical Code (“NEC”). The EPC Contractor shall also possess all professional and trade licenses required by the state and local authorities.

The EPC Contractor will create and maintain a health and safety manual in accordance with OSHA requirements which establishes appropriate rules and procedures concerning workplace safety.

Noise from construction activities will be in accordance with all applicable local and state regulations.

The inverter and transformers will be located on one or more concrete pads or piles. Utility poles at the point of interconnection will be above ground.

The panels will be surrounded by a 7-foot-high fence for safety and security purposes. Entry into the fenced areas will be through gates with Knox Boxes for emergency access.

The Project design and planning has focused on minimizing any potential impacts to the surrounding neighborhood. The Project will produce electricity without requiring any combustion of materials; as a result, the community solar array will not cause or emit odors, dust, gas, smoke, or fumes. In addition, the Project will have very few moving parts and will generate electricity primarily in a passive manner – collecting the sun’s rays and converting energy associated with the rays into electricity – so the Project will not produce vibrations, none of which would impact surrounding properties. The array was designed to meet all required setbacks from neighboring properties and incorporate vegetative screening that will grow in over time for the benefit of nearby residences.

A warning sign shall be provided at the facility entrance and along the perimeter fence including the facilities 911 address and a 24-hour emergency contact number. No outdoor storage is planned for the Project at this time.

The scope of work includes but is not limited to:

- Construction of 16-ft wide gravel access roads
- Construction of project equipment pads
- Construction of a temporary staging areas
- Installation of solar panels and associated support equipment and structures
- Installation of buried and overhead collector lines

3.2 Noise

The Project will operate in accordance with the applicable local noise standards. The inverters are rated at 65 dBA at 1 meter. Sound waves diminish with distance in accordance with mathematical principles of sound level drop.

3.3 Air pollution including (a) Visual emissions, (b) Particulate matter emissions; (c) Fugitive particulate matter emissions; (d) Odorous matter; (e) Airborne toxic matter.

The Project will not emit any air pollution of any of the kinds identified in the performance standards. It will in fact provide a net environmental carbon benefit. According to the EPA Clean Energy Equivalencies Calculator the Project will avoid the environmental equivalent of 4,925 metric tons of carbon annually, which is comparable to:

- Carbon sequestered by 5,828 acres of forest
- 554.139 gallons of gasoline consumed each year
- 1,061 passenger vehicles removed from our streets

A commitment to wildlife-sensitive building and management practices during and after construction will allow for increased local biodiversity. TPE proposes to use pollinator friendly ground cover underneath the Project and native plantings around the perimeter. Clover and grass species that promote the establishment and long-term health of bee populations will give bee and small mammal populations a new pollinator friendly habitat.

3.4 Toxic substances

There are no toxic substances in the panels. The Project will incorporate Tier 1 silicon-based PV panels, which have been analyzed as follows by North Carolina State University:

Well over 80% (by weight) of the content of a PV panel is the tempered glass front and the aluminum frame, both of which are common building materials. Most of the remaining portion are common plastics, including polyethylene terephthalate in the back sheet, EVA encapsulation of the PV cells, polyphenol ether in the junction box, and polyethylene insulation on the wire leads. The active, working components of the system are the silicon photovoltaic cells, the small electrical leads connecting them together, and to the wires coming out of the back of the panel. The electricity generating and conducting components makeup less than 5% of the weight of most panels. The PV cell itself is nearly 100% silicon, and silicon is the second most common element in the Earth's crust. The silicon for PV cells is obtained by high-temperature processing of quartz sand (SiO₂) that removes its oxygen molecules. The refined silicon is converted to a PV cell by adding extremely small amounts of boron and phosphorus, both of which are common and of very low toxicity.

3.5 Fire and explosive hazards

The solar panels and racking, which comprise most of the Project's equipment, are not flammable. Tempered glass offers protection from heat and the elements, and the panels are designed to absorb heat as solar energy. From a study by North Carolina State University:

...Concern over solar fire hazards should be limited because only a small portion of materials in the panels are flammable, and those components cannot self-support a significant fire. Flammable components of PV panels include the thin layers of polymer encapsulates surrounding the PV cells, polymer back sheets (framed panels only), plastic junction boxes on rear of panel, and insulation on wiring. The rest of the panel is composed of non-flammable components, notably including one or two layers of protective glass that make up over three quarters of the panel's weight.

3.6 Glare and heat

As explained in the fire and explosive hazards **Section 3.5**, there is no heat generated by the Project.

A glare study was performed by TPE using ForgeSolar software to assess the possible effects of reflectivity created by the Project. ForgeSolar software incorporates GlareGauge, the leading solar glare analysis tool which meets Federal Aviation Administration ("FAA") standards and is used globally for glare analysis. It is based on the Solar Glare Hazard Analysis Tool licensed from Sandia National Laboratories.

A model of the Project was input to the software, Route Receptors were created along roadways in vicinity of the site. Height was measured at 5' above ground to emulate passengers in cars. Further, Observation Receptors were modeled at specific dwellings located around the perimeter of the solar array. Heights were modeled at 5' above ground to emulate residents on the 1st floor of dwellings and evaluate the glare impact.

A direct line of sight between the Project and the designated Route Receptors and Observation Receptors is required to produce any discernible glint/glare, so if there is existing or proposed vegetation between the receptor and the project, any glint/glare would be eliminated.

The model assumes the sun is shining 100% of the time it is above the horizon (during laylight hours). That is, it does not account for cloudy or overcast conditions when the sun is not shining. The results, therefore, would be the maximum expected glint and glare during any single year. Existing topography is considered in the simulation based on LIDAR ("Light Detection and Ranging") data. Existing and planned vegetation are not considered in the simulation. The model assumed zero vegetation that may screen the Project, so this must be considered when interpreting the study results.

To reduce glare in the east and west directions during low sun periods, a 5-degree tracker resting angle was implemented during these times, which eliminates the main source of glare for solar projects. This lower angle will position the panels in a near flat position, so they face upwards and do not reflect light from the rising or setting sun towards nearby buildings or cars.

Based on the above inputs/assumptions, no potential for glint or glare was identified in the analysis at any of the Route Receptors or neighboring Observation Receptors. While excluded from the analysis, existing and planned vegetation will further shield the view of the project from nearby properties and roadways.

No additional mitigation measures are recommended since no glint or glare is anticipated based on the ForgeSolar Glare results.

3.7 Setback Compliance, Landscape & Buffering Plan

The Project proposes to conform with all applicable County setbacks from neighboring properties and public rights-of-way. The Project is surrounded by natural vegetation which provides screening from neighboring residential properties.

3.8 Safety and Security

The solar arrays will be enclosed by a 7-foot-high security fence and locked gates, as required by the Ordinance and the National Electrical Code (NEC). Emergency access to the fenced areas will be through Knox-Boxes to provide the required 24-hour access. The gravel drives have been designed to allow emergency vehicle access, including fire trucks. There will be a visible “High Voltage” warning sign at the site entrance. The name(s) and phone number(s) for the electric utility provider, site operator, as well as the facility’s 911 address and GPS coordinates will be provided at the site entrance.

Emergency responders will be provided with the key/code for the Knox-Boxes.

3.9 Interconnection

The proposed Project will interconnect to Delmarva Power’s distribution network on Gravel Hill Road. A new service will be installed by Delmarva power to connect the Project to the network at the project site.

3.10 Operation and Maintenance

Preventive maintenance will be conducted on a schedule based on manufacturer’s recommendations and industry best practices and standards of care. Regular maintenance will include vegetation control, fence inspection and physical inspection of all system components. A mowing schedule shall be established based on the plant species in the seed mix that is properly timed to balance avoiding the disturbance of wildlife and native pollinator-friendly vegetation with the need to avoid the establishment of weeds. Vegetation underneath and between the solar panels should be well maintained in the defined lease area to keep vegetation below the low edge of the solar panels at maximum tilt angle. Management should comply with any local ordinances or conditions of approval. Mowing and weed whacking schedules will be adjusted from time to time to allow for flexibility based on rainfall and vegetation growth. Chemical control shall be used in accordance with Delaware noxious weed regulations. The Project will be monitored continuously for system failures via a Supervisory Control and Data Acquisition (SCADA) system. Qualified and insured technicians will be dispatched to address any system failures, including inverter, transformer, or tracker motor malfunctions.

3.11 Decommissioning

At the end of operational life of the Project, the Project will be safely dismantled using conventional construction equipment. The Project consists of numerous materials that can be resold or recycled for significant scrap value, including steel, aluminum, glass, copper and plastics. The solar panels are not

considered hazardous waste. The panels used in the Project will contain silicon, glass, and aluminum, which have value for recycling.

The site will be restored and reclaimed to approximately the pre-construction condition in conformance with the site lease agreement. It is assumed that the site will be returned to agricultural use after decommissioning, and appropriate measures will be implemented to achieve said use.

2.2 Application for Planning and Zoning Commission

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**

Elks Road, 1347' SE/RT 18 Intersection

Type of Conditional Use Requested:

Solar Energy System

* Project to constructed on maximum of 60 acre northern section of Parcel 331-1.00-15.01

Tax Map #: 331-1.00-15.01

Size of Parcel(s): 104.48 ac (project max 60)

Current Zoning: AR-1

Proposed Zoning: AR-1

Size of Building: _____

Land Use Classification: FG0

Water Provider: N/A

Sewer Provider: N/A

Applicant Information

Applicant Name: TPE DE SU07, LLC c/o Adam Beal

Applicant Address: 3720 South Dalia Street

City: Denver

State: CO

Zip Code: 80237

Phone #: (617) 312-6553

E-mail: jbelknap@tpoint-e.com

Owner Information

Owner Name: Michael R. & Rosemary V. Everton

Owner Address: 8578 Elks Road

City: Seaford

State: DE

Zip Code: 19973

Phone #: _____

E-mail: _____

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: Becker Morgan Group

Agent/Attorney/Engineer Address: 309 South Governors Avenue

City: Dover

State: DE

Zip Code: 19904

Phone #: (302) 734-7950

E-mail: jfalkowski@beckermorgan.com



Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

✓ **Completed Application**

✓ **Provide ^{four (4)} ~~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**

FUTURE 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.**

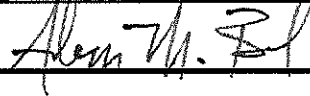
✓ **DeIDOT Service Level Evaluation Request Response**

N/A **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.

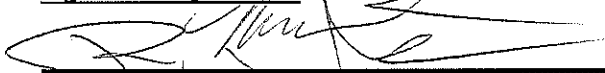
I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future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

Signature of Applicant/Agent/Attorney



Date: 1/4/22

Signature of Owner



Date: 1/13/2022

For office use only:

Date Submitted: _____

Fee: \$500.00 Check #: _____

Staff accepting application: _____

Application & Case #: _____

Location of property: _____

Subdivision: _____

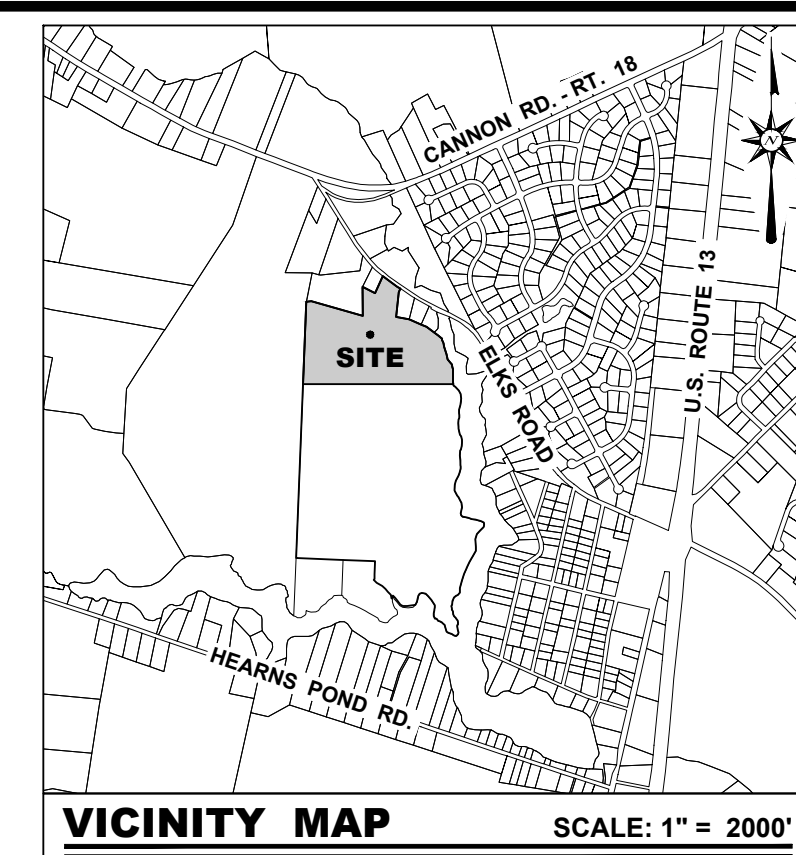
Date of PC Hearing: _____

Recommendation of PC Commission: _____

Date of CC Hearing: _____

Decision of CC: _____

2.3 Conditional Use Site Plan



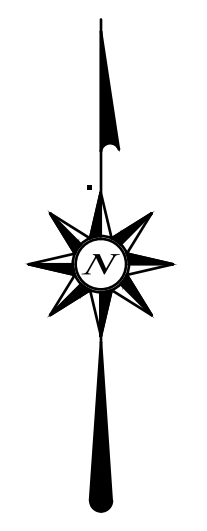
SITE DATA

1. OWNER OF RECORD:	MICHAEL R. & ROSEMARY V. EVERTON 8578 ELKS ROAD SEAFORD, DE 19973
2. EQUITABLE OWNER:	TPE DE SU07, LLC 3720 SOUTH DALIA STREET DENVER, CO 80237 (817) 312-6553
3. ENGINEER / SURVEYOR:	BECKER MORGAN GROUP INC. 309 SOUTH GOVERNORS AVE DOVER, DE 19904 (302) 734-7950
4. PROPERTY MAP NUMBER:	331-1.00-15.01
5. ZONING CLASSIFICATION:	EXISTING: AR-1 - AGRICULTURAL RESIDENTIAL PROPOSED: AR-1 - AGRICULTURAL RESIDENTIAL
6. PLAT REFERENCE:	PB: 125, PG. 76
7. PRESENT USE:	AGRICULTURAL
8. PROPOSED USE:	COMMUNITY SOLAR ENERGY SYSTEM
9. TOTAL SITE AREA:	107.75 ACRES±
10. TOTAL COND. USE AREA:	27.5 ACRES±
11. SETBACKS:	FRONT: 70 FT. FROM CENTERLINE OF R.O.W. SIDE: 15 FT. REAR: 20 FT.
12. LANDSCAPE REQUIREMENT:	SEE SHEET L-101.

GENERAL NOTES:

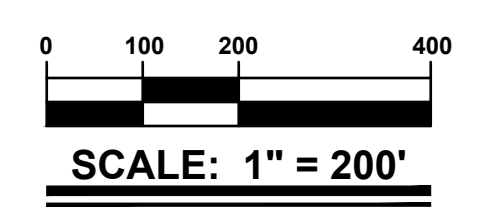
- A PORTION OF THE SITE IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN AS SHOWN ON FIRMS 10005CO253K AND 10005CO261K, DATED JUNE 20, 2018.
- THE EXISTING WETLANDS SHOWN ON THE PLAN WERE LOCATED BY WATERSHED ECO IN DECEMBER 2021. FIELD AREAS ARE CLASSIFIED AS PEM1E (PALUSTRINE, EMERGENT, PERSISTENT, SEASONALLY FLOODED/SATURATED) THE DITCHES ARE CLASSIFIED AS R4SBC (RIVERINE, INTERMITTENT, STREAMBED, SEASONALLY FLOODED) WITH NO REQUIRED BUFFERS.
- ALL ROADS, PARKING AND OTHER PAVED AREAS WILL BE PRIVATELY OWNED AND MAINTAINED AND ARE NOT INTENDED FOR DEDICATION.
- DELAWARE REGULATIONS PROHIBIT THE BURIAL OF CONSTRUCTION DEMOLITION DEBRIS, INCLUDING TREES AND STUMPS ON CONSTRUCTION SITES. ANY SOLID WASTE FOUND DURING EXCAVATION MUST BE REMOVED AND PROPERLY DISCARDED. THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENT FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- BEFORE THE CONTRACTOR CAN BEGIN CONSTRUCTION HE MUST OBTAIN THE PROPER PERMITS AND/OR APPROVALS FROM SUSSEX CONSERVATION DISTRICT (S.C.D.), DELAWARE DEPARTMENT OF TRANSPORTATION (DELDOT), AND APPROPRIATE STATE AND COUNTY AGENCIES.
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO THE STATE OF DELAWARE STANDARDS.

BECKER MORGAN GROUP
 ARCHITECTURE
 ENGINEERING
 Delaware
 309 South Governors Avenue
 Dover, DE 19904
 302.734.7950
 The Tower at STAR Campus
 100 Discovery Boulevard, Suite 102
 Newark, DE 19713
 302.369.3700
 Maryland
 312 West Main Street, Suite 300
 Salisbury, MD 21801
 410.546.9100
 North Carolina
 3333 Jaeckle Drive, Suite 120
 Wilmington, NC 28403
 910.341.7600
 www.beckermorgan.com



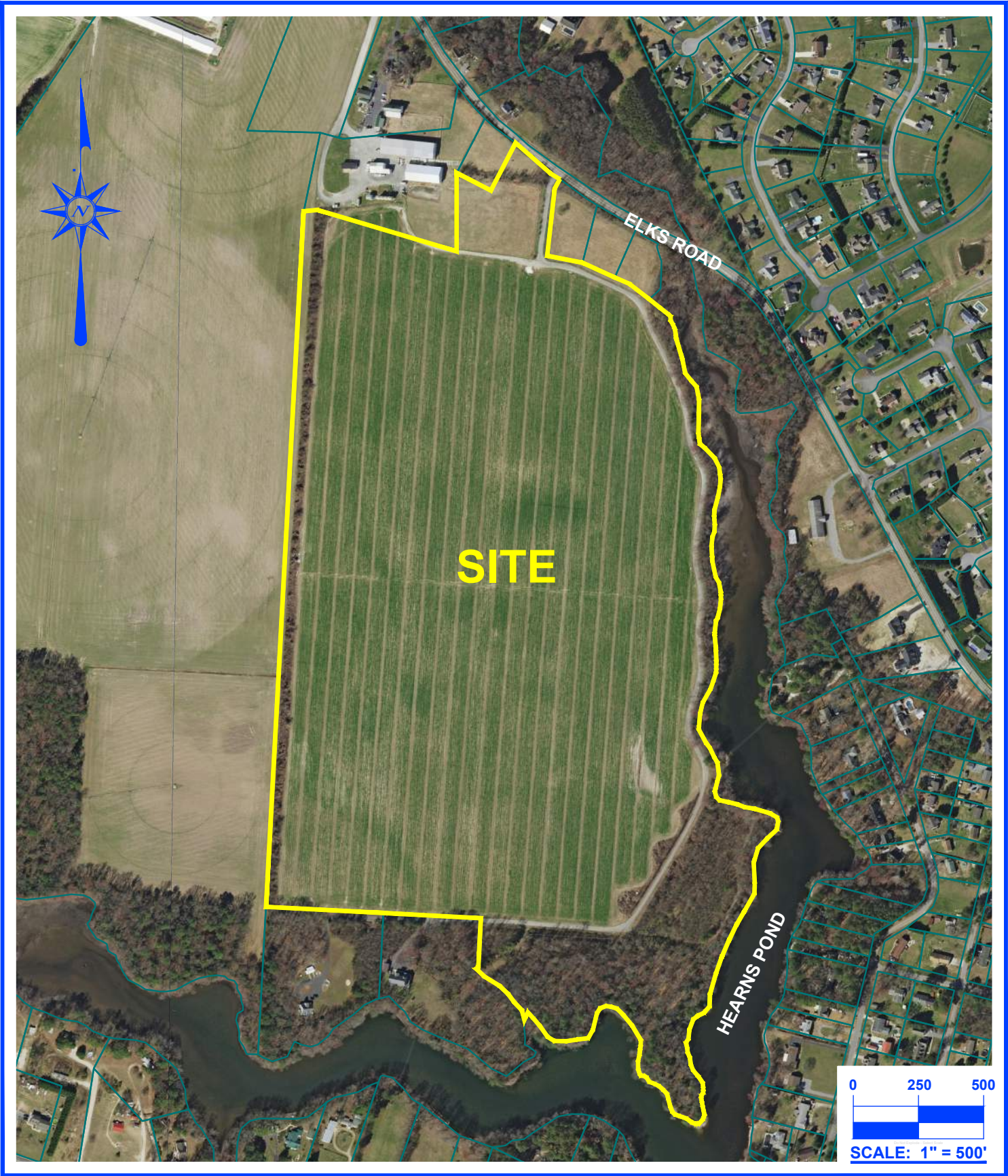
PROJECT TITLE
SEAFORD SU07

SHEET TITLE
CONDITIONAL USE SITE PLAN



MARK	DATE	DESCRIPTION
LAYER STATE: 007-SEAFORD		
PROJECT NO.:		2021294.00
DATE:		02/22/2022
SCALE:		1" = 200'
DRAWN BY:		M.W. PROJ. MGR.: J.S.F.
SHEET		
C-001		
<small>COPYRIGHT: 2021</small>		

2.4 Aerial Photo and Location



LAYER STATE: Aerial Map

AERIAL MAP - SITE LOCATION
SEAFORD SU07
CONCEPT
 CITY OF SEAFORD
 SUSSEX COUNTY / DELAWARE

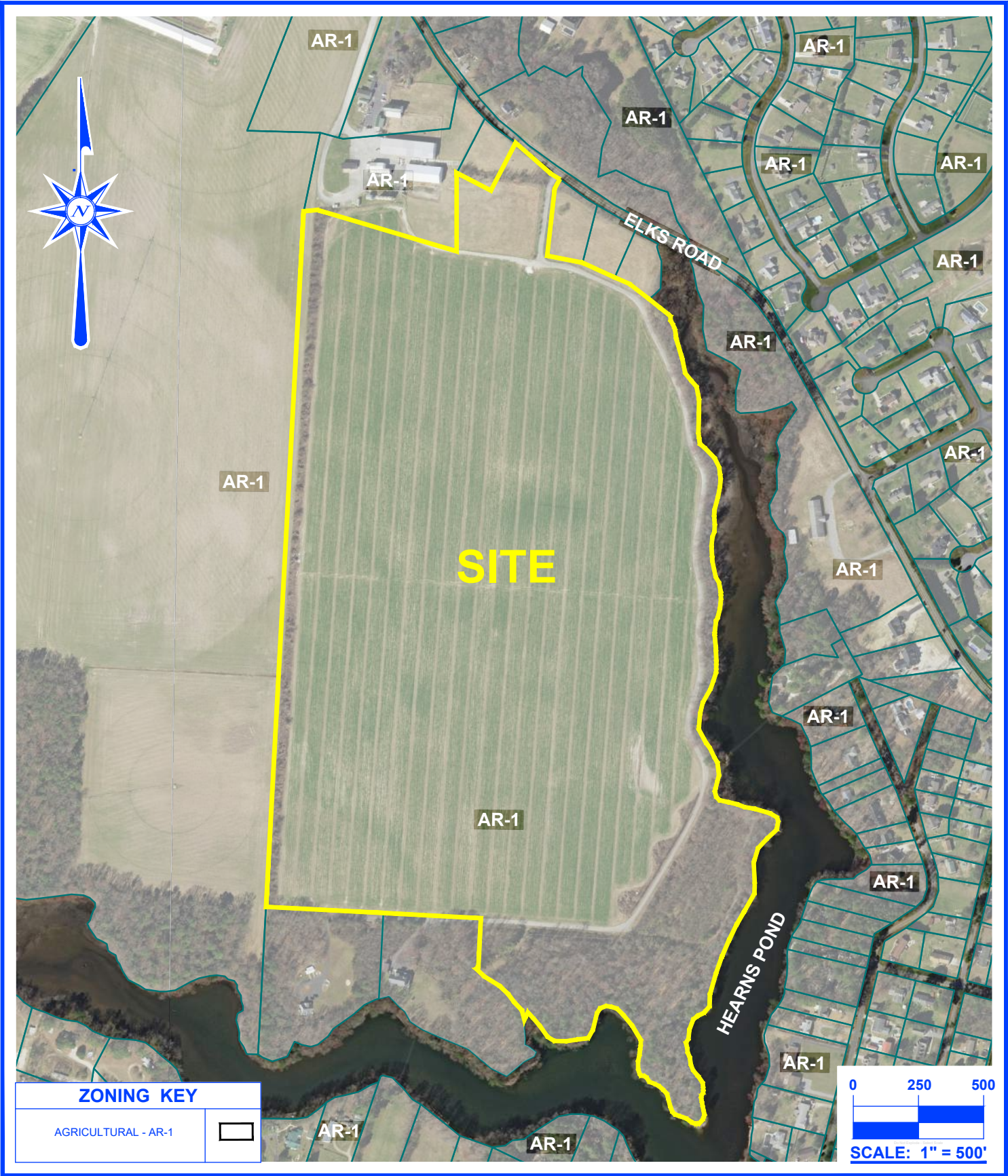
BECKER
MORGAN
 GROUP

ARCHITECTURE
 ENGINEERING
Dover, DE
 309 S. Governors Ave.
 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

BMG: 2021294.00
 SCALE: 1" = 500'
 DATE: 11/21/2022
 DRAWN BY: J.A.M.

AERIAL

2.5 Zoning Map



ZONING KEY

AGRICULTURAL - AR-1



0 250 500



SCALE: 1" = 500'

LAYER STATE: Zoning Map

SUSSEX COUNTY ZONING - SITE LOCATION
SEAFORD SU07
CONCEPT
 CITY OF SEAFORD
 SUSSEX COUNTY / DELAWARE

BECKER
MORGAN
 GROUP

ARCHITECTURE
 ENGINEERING
Dover, DE
 309 S. Governors Ave.
 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

BMG: 2021294.00
 SCALE: 1" = 500'
 DATE: 11/21/2022
 DRAWN BY: J.A.M.

ZONING

2.6 Existing Land Use



LAYER STATE: Existing Land Use

EXISTING LAND USE - SITE LOCATION
SEAFORD SU07
CONCEPT

CITY OF SEAFORD
 SUSSEX COUNTY / DELAWARE



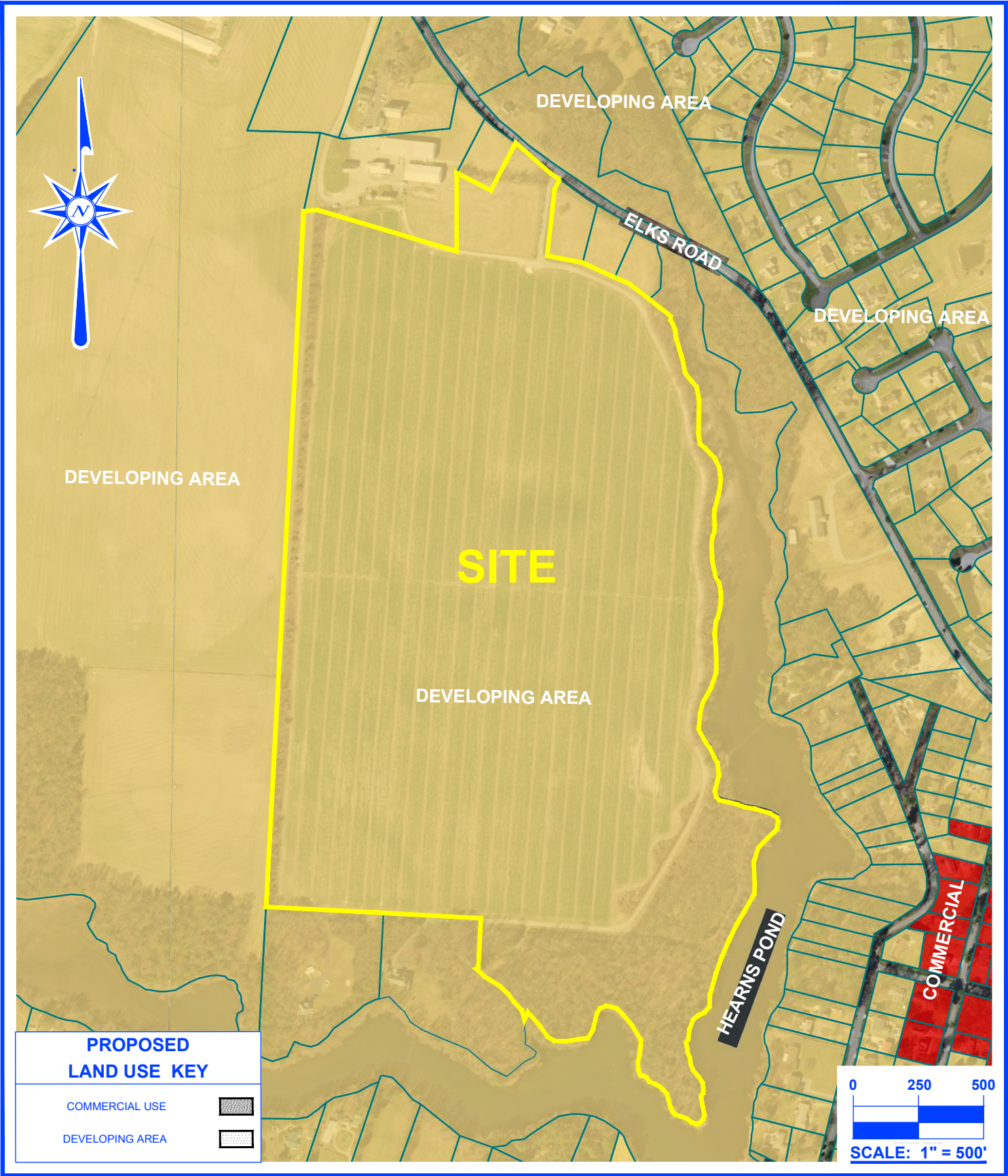
ARCHITECTURE
 ENGINEERING
Dover, DE

309 S. Governors Ave.
 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

BMG: 2021294.00
 SCALE: 1" = 500'
 DATE: 11/21/2022
 DRAWN BY: J.A.M.

EXISTING

2.7 Future Land Use



PROPOSED LAND USE KEY	
COMMERCIAL USE	
DEVELOPING AREA	

LAYER STATE: Proposed Land Use

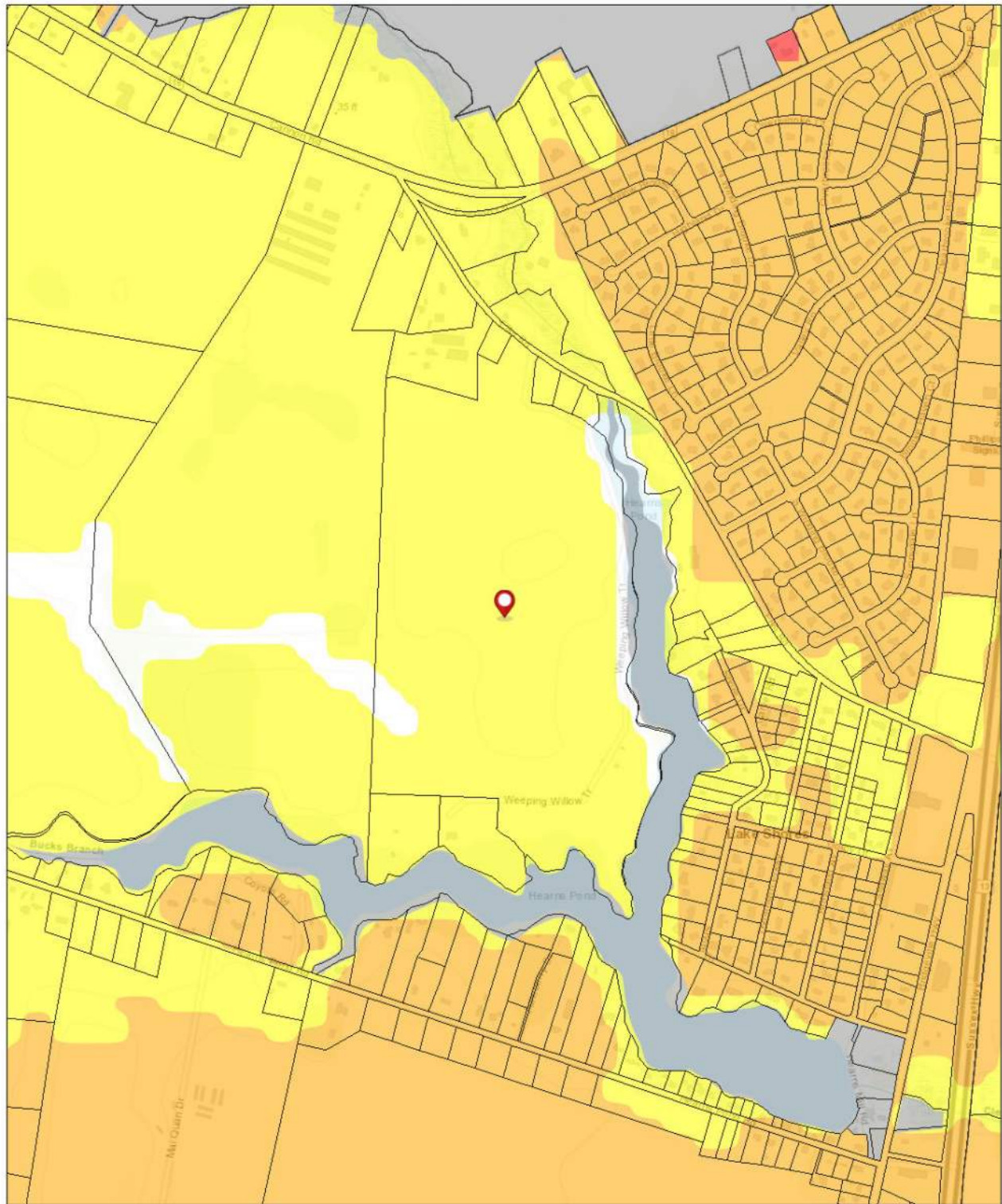
PROPOSED LAND USE - SITE LOCATION
SEAFORD SU07
CONCEPT
 CITY OF SEAFORD
 SUSSEX COUNTY / DELAWARE

BECKER
MORGAN
 GROUP

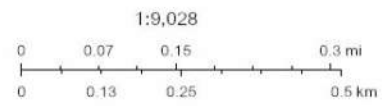
ARCHITECTURE
 ENGINEERING
Dover, DE
 309 S. Governors Ave.
 Dover, DE 19904
 Ph. 302.734.7950
 Fax 302.734.7965

BMG: 2021294.00
 SCALE: 1" = 500'
 DATE: 11/21/2022
 DRAWN BY: J.A.M.
FUTURE

2.8 Strategies for State Policies Spending



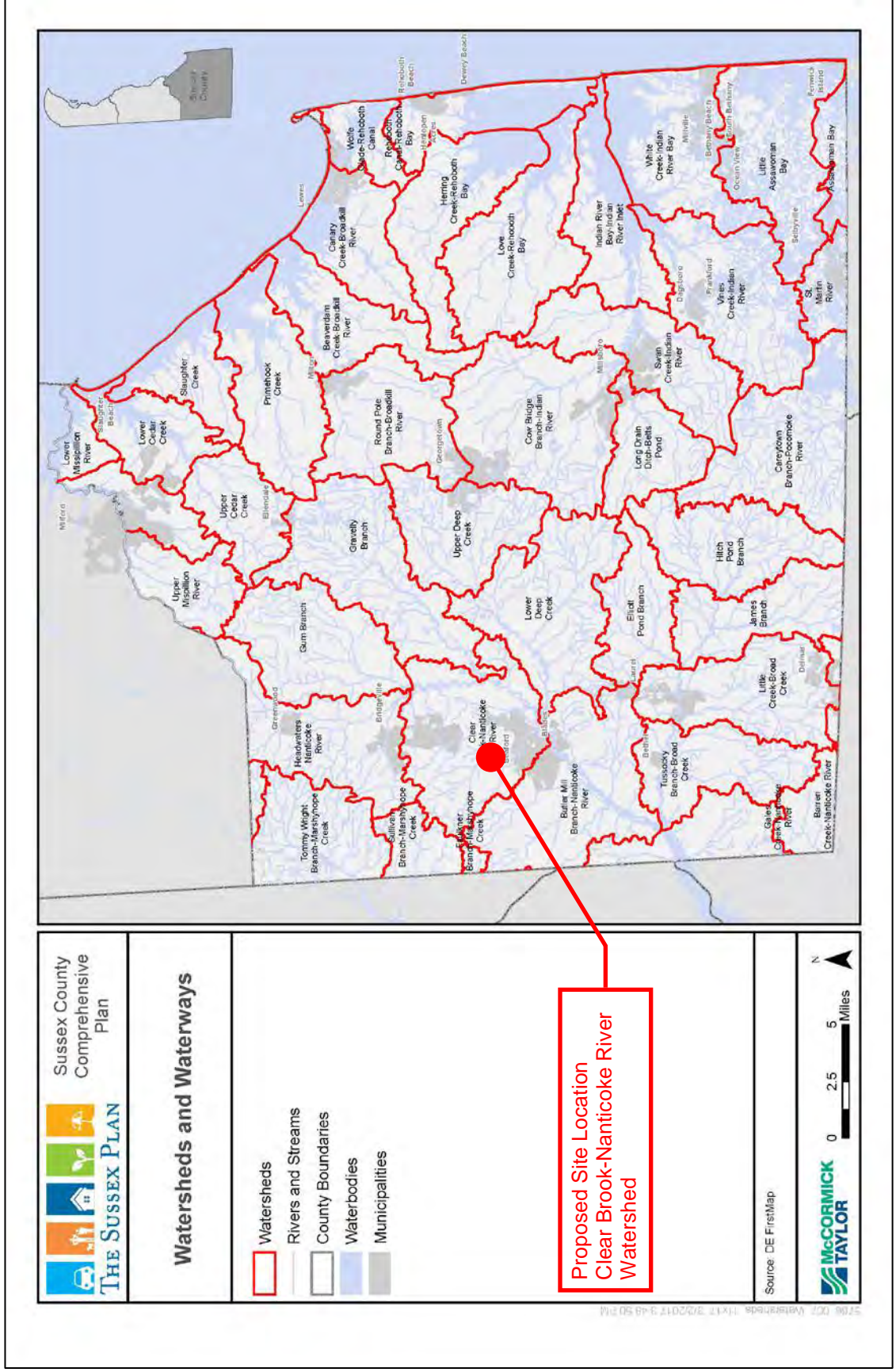
- Municipalities
- DE_StateParcels - State Parcels
- 2020 State Strategies
- 1
- 2
- 3
- 4
- Out of Play



Delaware State Office of Planning Coordination, County of Sussex, DE, Delaware FirstMap, VITA, Esri, HERE, Garmin, GeoTechnologies, Inc., Intermap, USGS, METI/ NASA, EPA, USDA

2.9 Watersheds / Waterways

Figure 5.2-3 Watersheds and Waterways



2.10 FEMA Flood Insurance Rate Map (FIRM)

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It shows the Special Flood Hazard Areas (SFHAs) for the Town of Bridgetown, Delaware, and is intended to be used in conjunction with the Flood Insurance Rate Map (FIRM) for the same area. The community may wish to consider the possibility of additional flood risk information.

This map was prepared in accordance with the National Flood Insurance Act of 1968, the Flood Insurance Reform Act of 1994, and the Flood Insurance Reform Act of 2004. The map was prepared by the National Flood Insurance Program (NFIP) and the Federal Emergency Management Agency (FEMA).

General Flood Hazard Information

The map shows Special Flood Hazard Areas (SFHAs) for the Town of Bridgetown, Delaware. The SFHAs are defined as areas where flood depths of 1 to 3 feet (locally may be as deep as 6 feet) are expected to occur on average during a 1% annual chance flood. The SFHAs are shown as Zone AE (Special Flood Hazard Area - 1% Annual Chance Flood). Other flood hazard zones shown on the map include Zone X (Unshaded Flood Hazard Area - 1% Annual Chance Flood), Zone X1 (Shaded Flood Hazard Area - 1% Annual Chance Flood), Zone X2 (Unshaded Flood Hazard Area - 0.2% Annual Chance Flood), Zone X3 (Shaded Flood Hazard Area - 0.2% Annual Chance Flood), Zone X4 (Unshaded Flood Hazard Area - 0.02% Annual Chance Flood), and Zone X5 (Shaded Flood Hazard Area - 0.02% Annual Chance Flood).

Map Accuracy

The map was prepared using the best available data at the time of publication. The map is intended to provide a general indication of the location and extent of the SFHAs. It is not intended to be used as a legal document. The map is subject to change without notice. The map is intended to be used in conjunction with the Flood Insurance Rate Map (FIRM) for the same area.

Disclaimer

The map is provided for informational purposes only. It is not intended to be used as a legal document. The map is subject to change without notice. The map is intended to be used in conjunction with the Flood Insurance Rate Map (FIRM) for the same area.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

- Zone AE: Special Flood Hazard Area - 1% Annual Chance Flood
- Zone X: Unshaded Flood Hazard Area - 1% Annual Chance Flood
- Zone X1: Shaded Flood Hazard Area - 1% Annual Chance Flood
- Zone X2: Unshaded Flood Hazard Area - 0.2% Annual Chance Flood
- Zone X3: Shaded Flood Hazard Area - 0.2% Annual Chance Flood
- Zone X4: Unshaded Flood Hazard Area - 0.02% Annual Chance Flood
- Zone X5: Shaded Flood Hazard Area - 0.02% Annual Chance Flood

OTHER FLOOD AREAS

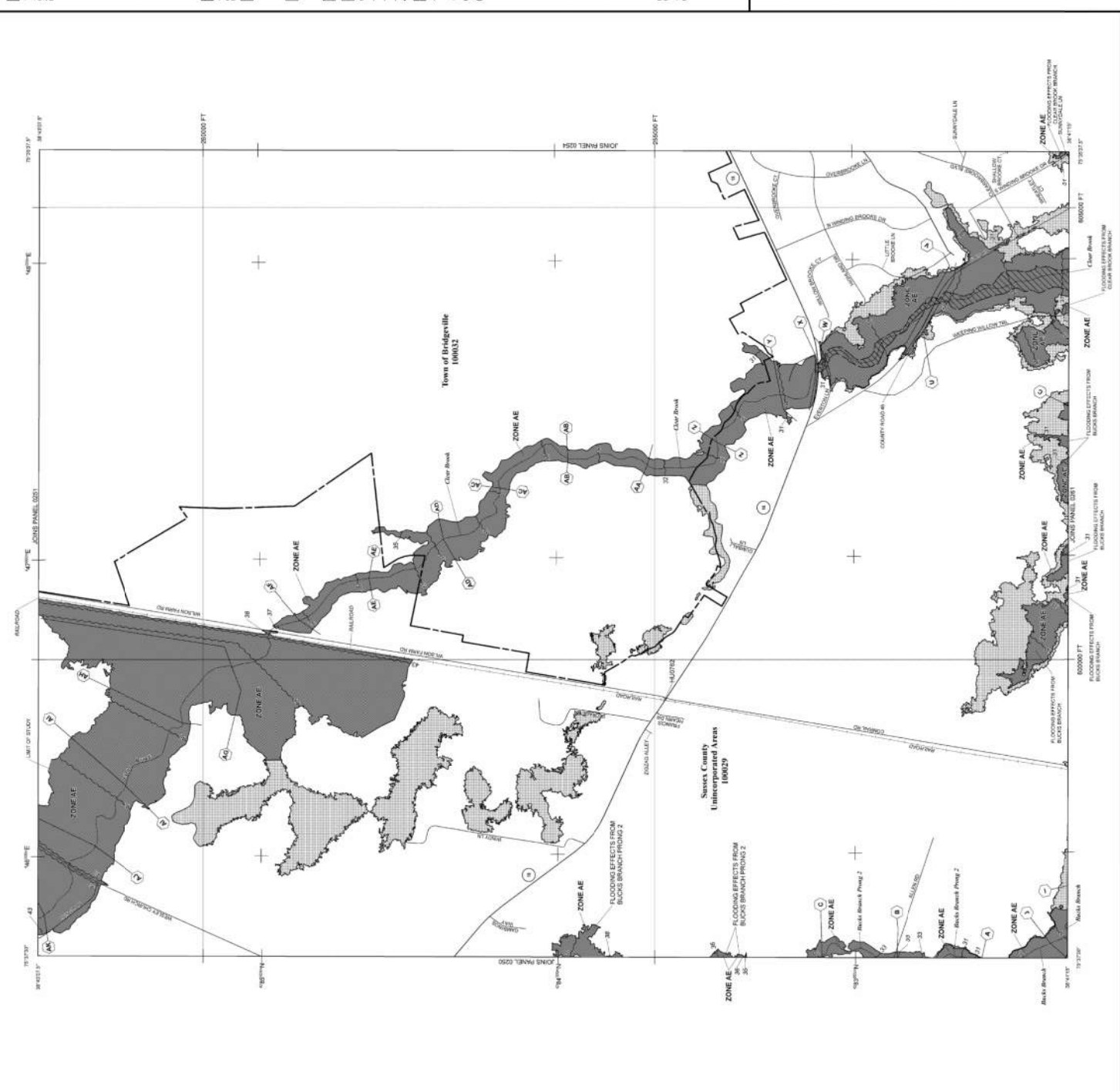
- Zone D: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone I: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone O: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone P: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone Q: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone R: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone S: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone T: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone U: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone V: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone W: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone Y: Other Flood Hazard Area - 1% Annual Chance Flood
- Zone Z: Other Flood Hazard Area - 1% Annual Chance Flood

OTHER AREAS

- Zone A: Other Area - 1% Annual Chance Flood
- Zone B: Other Area - 1% Annual Chance Flood
- Zone C: Other Area - 1% Annual Chance Flood
- Zone E: Other Area - 1% Annual Chance Flood
- Zone F: Other Area - 1% Annual Chance Flood
- Zone G: Other Area - 1% Annual Chance Flood
- Zone H: Other Area - 1% Annual Chance Flood
- Zone J: Other Area - 1% Annual Chance Flood
- Zone K: Other Area - 1% Annual Chance Flood
- Zone L: Other Area - 1% Annual Chance Flood
- Zone M: Other Area - 1% Annual Chance Flood
- Zone N: Other Area - 1% Annual Chance Flood
- Zone P: Other Area - 1% Annual Chance Flood
- Zone Q: Other Area - 1% Annual Chance Flood
- Zone R: Other Area - 1% Annual Chance Flood
- Zone S: Other Area - 1% Annual Chance Flood
- Zone T: Other Area - 1% Annual Chance Flood
- Zone U: Other Area - 1% Annual Chance Flood
- Zone V: Other Area - 1% Annual Chance Flood
- Zone W: Other Area - 1% Annual Chance Flood
- Zone Y: Other Area - 1% Annual Chance Flood
- Zone Z: Other Area - 1% Annual Chance Flood

OTHER FEATURES

- Zone AA: Other Feature - 1% Annual Chance Flood
- Zone AB: Other Feature - 1% Annual Chance Flood
- Zone AC: Other Feature - 1% Annual Chance Flood
- Zone AD: Other Feature - 1% Annual Chance Flood
- Zone AE: Other Feature - 1% Annual Chance Flood
- Zone AF: Other Feature - 1% Annual Chance Flood
- Zone AG: Other Feature - 1% Annual Chance Flood
- Zone AH: Other Feature - 1% Annual Chance Flood
- Zone AI: Other Feature - 1% Annual Chance Flood
- Zone AJ: Other Feature - 1% Annual Chance Flood
- Zone AK: Other Feature - 1% Annual Chance Flood
- Zone AL: Other Feature - 1% Annual Chance Flood
- Zone AM: Other Feature - 1% Annual Chance Flood
- Zone AN: Other Feature - 1% Annual Chance Flood
- Zone AO: Other Feature - 1% Annual Chance Flood
- Zone AP: Other Feature - 1% Annual Chance Flood
- Zone AQ: Other Feature - 1% Annual Chance Flood
- Zone AR: Other Feature - 1% Annual Chance Flood
- Zone AS: Other Feature - 1% Annual Chance Flood
- Zone AT: Other Feature - 1% Annual Chance Flood
- Zone AU: Other Feature - 1% Annual Chance Flood
- Zone AV: Other Feature - 1% Annual Chance Flood
- Zone AW: Other Feature - 1% Annual Chance Flood
- Zone AX: Other Feature - 1% Annual Chance Flood
- Zone AY: Other Feature - 1% Annual Chance Flood
- Zone AZ: Other Feature - 1% Annual Chance Flood



NFIP

FIRM

FLOOD INSURANCE RATE MAP

SUSSEX COUNTY, DELAWARE AND INCORPORATED AREAS

PANEL 0253K

MAP NUMBER 10060253K

MAP REVISION DATE JUNE 20, 2018

FEDERAL EMERGENCY MANAGEMENT AGENCY

US DEPARTMENT OF HOMELAND SECURITY

US DEPARTMENT OF COMMERCE

US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

US DEPARTMENT OF JUSTICE

US DEPARTMENT OF TRANSPORTATION

US DEPARTMENT OF AGRICULTURE

US DEPARTMENT OF ENERGY

US DEPARTMENT OF HEALTH AND HUMAN SERVICES

US DEPARTMENT OF THE INTERIOR

US DEPARTMENT OF LABOR

US DEPARTMENT OF JUSTICE

US DEPARTMENT OF ENVIRONMENTAL PROTECTION

US DEPARTMENT OF EDUCATION

US DEPARTMENT OF AGRICULTURE

US DEPARTMENT OF HEALTH AND HUMAN SERVICES

US DEPARTMENT OF THE INTERIOR

US DEPARTMENT OF LABOR

US DEPARTMENT OF JUSTICE

US DEPARTMENT OF ENVIRONMENTAL PROTECTION

US DEPARTMENT OF EDUCATION

NOTES TO USERS

This map is for use in determining the Flood Insurance Program. It does not constitute a warranty of any kind. The information shown on this map is for informational purposes only and should not be used for any other purpose. The information shown on this map is for informational purposes only and should not be used for any other purpose. The information shown on this map is for informational purposes only and should not be used for any other purpose.

NOTES TO USERS
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LEGEND

- SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
- ZONE AE** Special Flood Hazard Areas subject to inundation by the 1% Annual Chance Flood.
- ZONE A1** Areas of high ground with a base flood elevation (BFE) that is 1 to 3 feet (0.3 to 0.9 m) above the BFE of the adjacent Zone AE.
- ZONE A2** Areas of high ground with a BFE that is 3 to 6 feet (0.9 to 1.8 m) above the BFE of the adjacent Zone AE.
- ZONE A3** Areas of high ground with a BFE that is 6 to 9 feet (1.8 to 2.7 m) above the BFE of the adjacent Zone AE.
- ZONE A4** Areas of high ground with a BFE that is 9 to 12 feet (2.7 to 3.7 m) above the BFE of the adjacent Zone AE.
- ZONE A5** Areas of high ground with a BFE that is 12 to 15 feet (3.7 to 4.6 m) above the BFE of the adjacent Zone AE.
- ZONE A6** Areas of high ground with a BFE that is 15 to 18 feet (4.6 to 5.5 m) above the BFE of the adjacent Zone AE.
- ZONE A7** Areas of high ground with a BFE that is 18 to 21 feet (5.5 to 6.4 m) above the BFE of the adjacent Zone AE.
- ZONE A8** Areas of high ground with a BFE that is 21 to 24 feet (6.4 to 7.3 m) above the BFE of the adjacent Zone AE.
- ZONE A9** Areas of high ground with a BFE that is 24 to 27 feet (7.3 to 8.2 m) above the BFE of the adjacent Zone AE.
- ZONE A10** Areas of high ground with a BFE that is 27 to 30 feet (8.2 to 9.1 m) above the BFE of the adjacent Zone AE.
- ZONE A11** Areas of high ground with a BFE that is 30 to 33 feet (9.1 to 10.0 m) above the BFE of the adjacent Zone AE.
- ZONE A12** Areas of high ground with a BFE that is 33 to 36 feet (10.0 to 10.9 m) above the BFE of the adjacent Zone AE.
- ZONE A13** Areas of high ground with a BFE that is 36 to 39 feet (10.9 to 11.8 m) above the BFE of the adjacent Zone AE.
- ZONE A14** Areas of high ground with a BFE that is 39 to 42 feet (11.8 to 12.7 m) above the BFE of the adjacent Zone AE.
- ZONE A15** Areas of high ground with a BFE that is 42 to 45 feet (12.7 to 13.7 m) above the BFE of the adjacent Zone AE.
- ZONE A16** Areas of high ground with a BFE that is 45 to 48 feet (13.7 to 14.6 m) above the BFE of the adjacent Zone AE.
- ZONE A17** Areas of high ground with a BFE that is 48 to 51 feet (14.6 to 15.5 m) above the BFE of the adjacent Zone AE.
- ZONE A18** Areas of high ground with a BFE that is 51 to 54 feet (15.5 to 16.4 m) above the BFE of the adjacent Zone AE.
- ZONE A19** Areas of high ground with a BFE that is 54 to 57 feet (16.4 to 17.3 m) above the BFE of the adjacent Zone AE.
- ZONE A20** Areas of high ground with a BFE that is 57 to 60 feet (17.3 to 18.2 m) above the BFE of the adjacent Zone AE.
- ZONE A21** Areas of high ground with a BFE that is 60 to 63 feet (18.2 to 19.1 m) above the BFE of the adjacent Zone AE.
- ZONE A22** Areas of high ground with a BFE that is 63 to 66 feet (19.1 to 20.0 m) above the BFE of the adjacent Zone AE.
- ZONE A23** Areas of high ground with a BFE that is 66 to 69 feet (20.0 to 20.9 m) above the BFE of the adjacent Zone AE.
- ZONE A24** Areas of high ground with a BFE that is 69 to 72 feet (20.9 to 21.8 m) above the BFE of the adjacent Zone AE.
- ZONE A25** Areas of high ground with a BFE that is 72 to 75 feet (21.8 to 22.7 m) above the BFE of the adjacent Zone AE.
- ZONE A26** Areas of high ground with a BFE that is 75 to 78 feet (22.7 to 23.6 m) above the BFE of the adjacent Zone AE.
- ZONE A27** Areas of high ground with a BFE that is 78 to 81 feet (23.6 to 24.5 m) above the BFE of the adjacent Zone AE.
- ZONE A28** Areas of high ground with a BFE that is 81 to 84 feet (24.5 to 25.4 m) above the BFE of the adjacent Zone AE.
- ZONE A29** Areas of high ground with a BFE that is 84 to 87 feet (25.4 to 26.3 m) above the BFE of the adjacent Zone AE.
- ZONE A30** Areas of high ground with a BFE that is 87 to 90 feet (26.3 to 27.2 m) above the BFE of the adjacent Zone AE.
- ZONE A31** Areas of high ground with a BFE that is 90 to 93 feet (27.2 to 28.1 m) above the BFE of the adjacent Zone AE.
- ZONE A32** Areas of high ground with a BFE that is 93 to 96 feet (28.1 to 29.0 m) above the BFE of the adjacent Zone AE.
- ZONE A33** Areas of high ground with a BFE that is 96 to 99 feet (29.0 to 29.9 m) above the BFE of the adjacent Zone AE.
- ZONE A34** Areas of high ground with a BFE that is 99 to 102 feet (29.9 to 30.8 m) above the BFE of the adjacent Zone AE.
- ZONE A35** Areas of high ground with a BFE that is 102 to 105 feet (30.8 to 31.7 m) above the BFE of the adjacent Zone AE.
- ZONE A36** Areas of high ground with a BFE that is 105 to 108 feet (31.7 to 32.6 m) above the BFE of the adjacent Zone AE.
- ZONE A37** Areas of high ground with a BFE that is 108 to 111 feet (32.6 to 33.5 m) above the BFE of the adjacent Zone AE.
- ZONE A38** Areas of high ground with a BFE that is 111 to 114 feet (33.5 to 34.4 m) above the BFE of the adjacent Zone AE.
- ZONE A39** Areas of high ground with a BFE that is 114 to 117 feet (34.4 to 35.3 m) above the BFE of the adjacent Zone AE.
- ZONE A40** Areas of high ground with a BFE that is 117 to 120 feet (35.3 to 36.2 m) above the BFE of the adjacent Zone AE.
- ZONE A41** Areas of high ground with a BFE that is 120 to 123 feet (36.2 to 37.1 m) above the BFE of the adjacent Zone AE.
- ZONE A42** Areas of high ground with a BFE that is 123 to 126 feet (37.1 to 38.0 m) above the BFE of the adjacent Zone AE.
- ZONE A43** Areas of high ground with a BFE that is 126 to 129 feet (38.0 to 38.9 m) above the BFE of the adjacent Zone AE.
- ZONE A44** Areas of high ground with a BFE that is 129 to 132 feet (38.9 to 39.8 m) above the BFE of the adjacent Zone AE.
- ZONE A45** Areas of high ground with a BFE that is 132 to 135 feet (39.8 to 40.7 m) above the BFE of the adjacent Zone AE.
- ZONE A46** Areas of high ground with a BFE that is 135 to 138 feet (40.7 to 41.6 m) above the BFE of the adjacent Zone AE.
- ZONE A47** Areas of high ground with a BFE that is 138 to 141 feet (41.6 to 42.5 m) above the BFE of the adjacent Zone AE.
- ZONE A48** Areas of high ground with a BFE that is 141 to 144 feet (42.5 to 43.4 m) above the BFE of the adjacent Zone AE.
- ZONE A49** Areas of high ground with a BFE that is 144 to 147 feet (43.4 to 44.3 m) above the BFE of the adjacent Zone AE.
- ZONE A50** Areas of high ground with a BFE that is 147 to 150 feet (44.3 to 45.2 m) above the BFE of the adjacent Zone AE.
- ZONE A51** Areas of high ground with a BFE that is 150 to 153 feet (45.2 to 46.1 m) above the BFE of the adjacent Zone AE.
- ZONE A52** Areas of high ground with a BFE that is 153 to 156 feet (46.1 to 47.0 m) above the BFE of the adjacent Zone AE.
- ZONE A53** Areas of high ground with a BFE that is 156 to 159 feet (47.0 to 47.9 m) above the BFE of the adjacent Zone AE.
- ZONE A54** Areas of high ground with a BFE that is 159 to 162 feet (47.9 to 48.8 m) above the BFE of the adjacent Zone AE.
- ZONE A55** Areas of high ground with a BFE that is 162 to 165 feet (48.8 to 49.7 m) above the BFE of the adjacent Zone AE.
- ZONE A56** Areas of high ground with a BFE that is 165 to 168 feet (49.7 to 50.6 m) above the BFE of the adjacent Zone AE.
- ZONE A57** Areas of high ground with a BFE that is 168 to 171 feet (50.6 to 51.5 m) above the BFE of the adjacent Zone AE.
- ZONE A58** Areas of high ground with a BFE that is 171 to 174 feet (51.5 to 52.4 m) above the BFE of the adjacent Zone AE.
- ZONE A59** Areas of high ground with a BFE that is 174 to 177 feet (52.4 to 53.3 m) above the BFE of the adjacent Zone AE.
- ZONE A60** Areas of high ground with a BFE that is 177 to 180 feet (53.3 to 54.2 m) above the BFE of the adjacent Zone AE.
- ZONE A61** Areas of high ground with a BFE that is 180 to 183 feet (54.2 to 55.1 m) above the BFE of the adjacent Zone AE.
- ZONE A62** Areas of high ground with a BFE that is 183 to 186 feet (55.1 to 56.0 m) above the BFE of the adjacent Zone AE.
- ZONE A63** Areas of high ground with a BFE that is 186 to 189 feet (56.0 to 56.9 m) above the BFE of the adjacent Zone AE.
- ZONE A64** Areas of high ground with a BFE that is 189 to 192 feet (56.9 to 57.8 m) above the BFE of the adjacent Zone AE.
- ZONE A65** Areas of high ground with a BFE that is 192 to 195 feet (57.8 to 58.7 m) above the BFE of the adjacent Zone AE.
- ZONE A66** Areas of high ground with a BFE that is 195 to 198 feet (58.7 to 59.6 m) above the BFE of the adjacent Zone AE.
- ZONE A67** Areas of high ground with a BFE that is 198 to 201 feet (59.6 to 60.5 m) above the BFE of the adjacent Zone AE.
- ZONE A68** Areas of high ground with a BFE that is 201 to 204 feet (60.5 to 61.4 m) above the BFE of the adjacent Zone AE.
- ZONE A69** Areas of high ground with a BFE that is 204 to 207 feet (61.4 to 62.3 m) above the BFE of the adjacent Zone AE.
- ZONE A70** Areas of high ground with a BFE that is 207 to 210 feet (62.3 to 63.2 m) above the BFE of the adjacent Zone AE.
- ZONE A71** Areas of high ground with a BFE that is 210 to 213 feet (63.2 to 64.1 m) above the BFE of the adjacent Zone AE.
- ZONE A72** Areas of high ground with a BFE that is 213 to 216 feet (64.1 to 65.0 m) above the BFE of the adjacent Zone AE.
- ZONE A73** Areas of high ground with a BFE that is 216 to 219 feet (65.0 to 65.9 m) above the BFE of the adjacent Zone AE.
- ZONE A74** Areas of high ground with a BFE that is 219 to 222 feet (65.9 to 66.8 m) above the BFE of the adjacent Zone AE.
- ZONE A75** Areas of high ground with a BFE that is 222 to 225 feet (66.8 to 67.7 m) above the BFE of the adjacent Zone AE.
- ZONE A76** Areas of high ground with a BFE that is 225 to 228 feet (67.7 to 68.6 m) above the BFE of the adjacent Zone AE.
- ZONE A77** Areas of high ground with a BFE that is 228 to 231 feet (68.6 to 69.5 m) above the BFE of the adjacent Zone AE.
- ZONE A78** Areas of high ground with a BFE that is 231 to 234 feet (69.5 to 70.4 m) above the BFE of the adjacent Zone AE.
- ZONE A79** Areas of high ground with a BFE that is 234 to 237 feet (70.4 to 71.3 m) above the BFE of the adjacent Zone AE.
- ZONE A80** Areas of high ground with a BFE that is 237 to 240 feet (71.3 to 72.2 m) above the BFE of the adjacent Zone AE.
- ZONE A81** Areas of high ground with a BFE that is 240 to 243 feet (72.2 to 73.1 m) above the BFE of the adjacent Zone AE.
- ZONE A82** Areas of high ground with a BFE that is 243 to 246 feet (73.1 to 74.0 m) above the BFE of the adjacent Zone AE.
- ZONE A83** Areas of high ground with a BFE that is 246 to 249 feet (74.0 to 74.9 m) above the BFE of the adjacent Zone AE.
- ZONE A84** Areas of high ground with a BFE that is 249 to 252 feet (74.9 to 75.8 m) above the BFE of the adjacent Zone AE.
- ZONE A85** Areas of high ground with a BFE that is 252 to 255 feet (75.8 to 76.7 m) above the BFE of the adjacent Zone AE.
- ZONE A86** Areas of high ground with a BFE that is 255 to 258 feet (76.7 to 77.6 m) above the BFE of the adjacent Zone AE.
- ZONE A87** Areas of high ground with a BFE that is 258 to 261 feet (77.6 to 78.5 m) above the BFE of the adjacent Zone AE.
- ZONE A88** Areas of high ground with a BFE that is 261 to 264 feet (78.5 to 79.4 m) above the BFE of the adjacent Zone AE.
- ZONE A89** Areas of high ground with a BFE that is 264 to 267 feet (79.4 to 80.3 m) above the BFE of the adjacent Zone AE.
- ZONE A90** Areas of high ground with a BFE that is 267 to 270 feet (80.3 to 81.2 m) above the BFE of the adjacent Zone AE.
- ZONE A91** Areas of high ground with a BFE that is 270 to 273 feet (81.2 to 82.1 m) above the BFE of the adjacent Zone AE.
- ZONE A92** Areas of high ground with a BFE that is 273 to 276 feet (82.1 to 83.0 m) above the BFE of the adjacent Zone AE.
- ZONE A93** Areas of high ground with a BFE that is 276 to 279 feet (83.0 to 83.9 m) above the BFE of the adjacent Zone AE.
- ZONE A94** Areas of high ground with a BFE that is 279 to 282 feet (83.9 to 84.8 m) above the BFE of the adjacent Zone AE.
- ZONE A95** Areas of high ground with a BFE that is 282 to 285 feet (84.8 to 85.7 m) above the BFE of the adjacent Zone AE.
- ZONE A96** Areas of high ground with a BFE that is 285 to 288 feet (85.7 to 86.6 m) above the BFE of the adjacent Zone AE.
- ZONE A97** Areas of high ground with a BFE that is 288 to 291 feet (86.6 to 87.5 m) above the BFE of the adjacent Zone AE.
- ZONE A98** Areas of high ground with a BFE that is 291 to 294 feet (87.5 to 88.4 m) above the BFE of the adjacent Zone AE.
- ZONE A99** Areas of high ground with a BFE that is 294 to 297 feet (88.4 to 89.3 m) above the BFE of the adjacent Zone AE.
- ZONE A100** Areas of high ground with a BFE that is 297 to 300 feet (89.3 to 90.2 m) above the BFE of the adjacent Zone AE.

NFIP **FIRM** **PANEL 0251K**

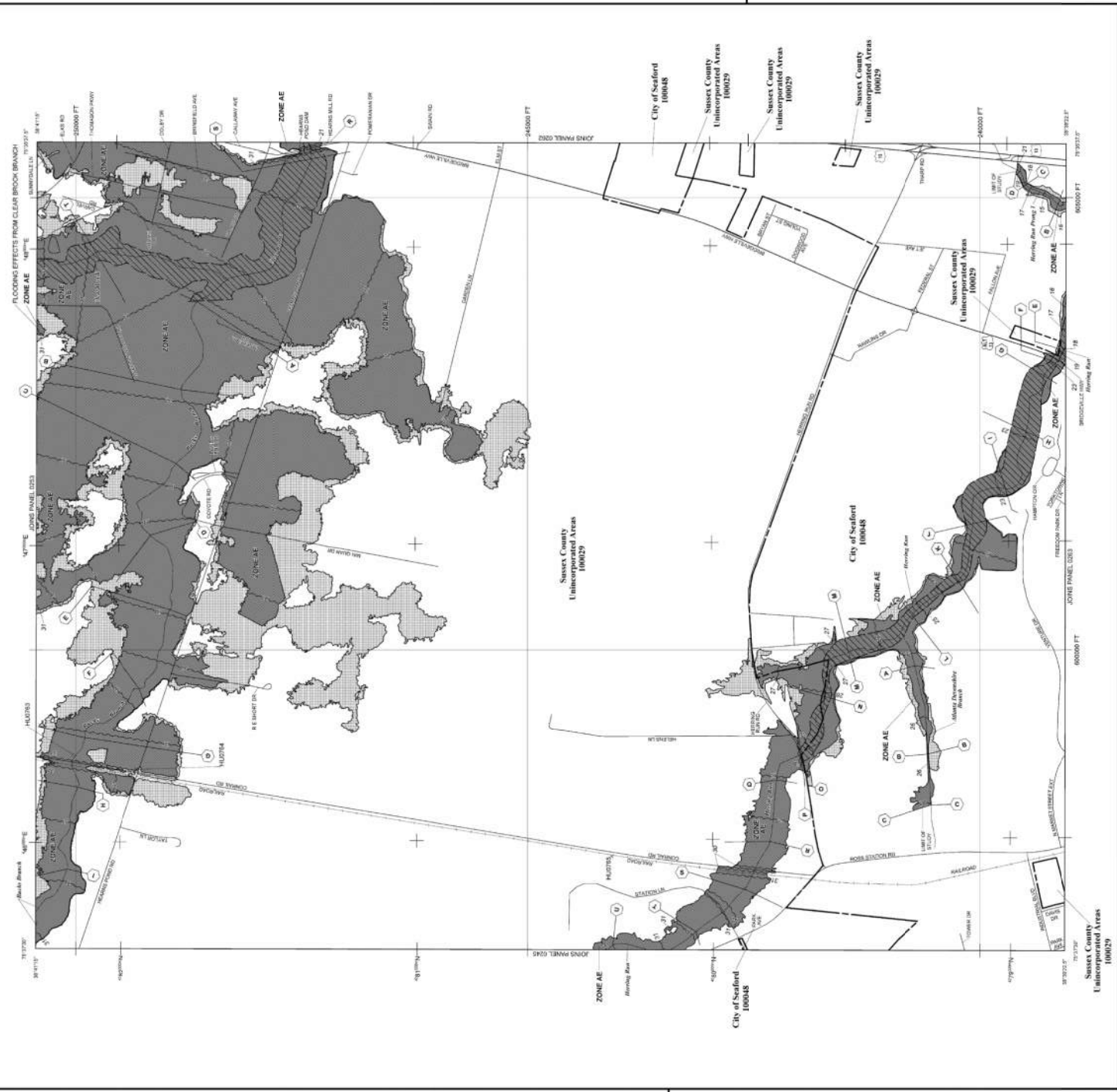
FLOOD INSURANCE RATE MAP
SUSSEX COUNTY,
DELAWARE
AND INCORPORATED AREAS

PANEL 261 OF 680
 (SEE MAP INDEX FOR PANEL LOCATION)

DATE: 06/20/2018
 DRAWN BY: J. B. BROWN
 CHECKED BY: J. B. BROWN
 APPROVED BY: J. B. BROWN

NATIONAL FLOOD INSURANCE PROGRAM

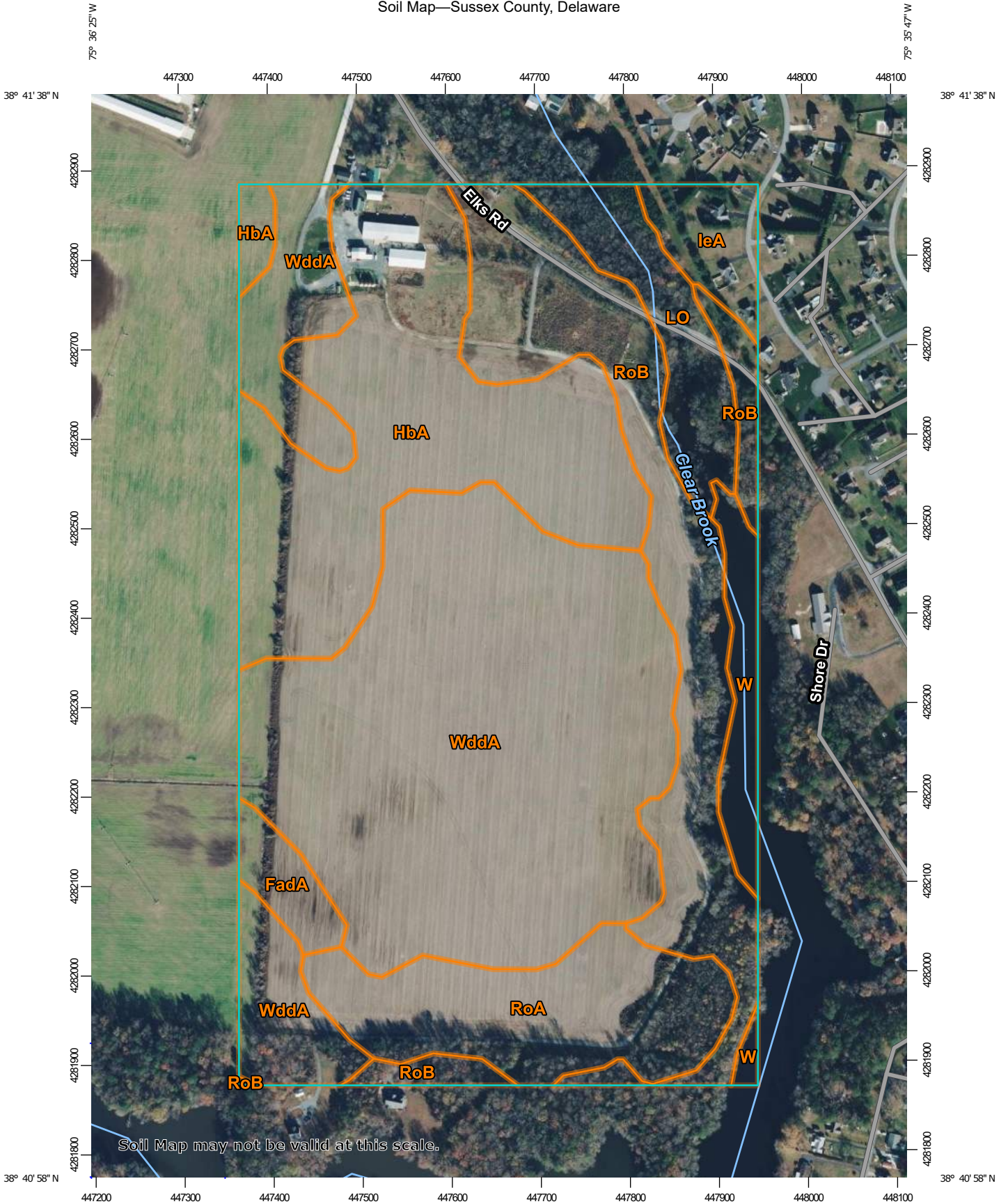
MAP NUMBER 10050261K
 MAP REVISED JUNE 20, 2018
 Federal Emergency Management Agency



NOTES TO USERS
 This map is for use in determining the Flood Insurance Program. It does not constitute a warranty of any kind. The information shown on this map is for informational purposes only and should not be used for any other purpose. The information shown on this map is for informational purposes only and should not be used for any other purpose.

2.11 Soils Map

Soil Map—Sussex County, Delaware



Map Scale: 1:5,900 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84






MAP LEGEND




















Area of Interest (AOI)







Area of Interest (AOI)

Soils


-  Soil Map Unit Polygons
-  Soil Map Unit Lines
-  Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Sussex County, Delaware
 Survey Area Data: Version 23, Sep 14, 2022

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

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FadA	Fallsington sandy loams, 0 to 2 percent slopes, Northern Tidewater Area	2.5	1.7%
HbA	Hambrook sandy loam, 0 to 2 percent slopes	30.4	20.9%
IeA	Ingleside loamy sand, 0 to 2 percent slopes	3.6	2.5%
LO	Longmarsh and Indiantown soils, frequently flooded	7.1	4.9%
RoA	Rosedale loamy sand, 0 to 2 percent slopes	13.9	9.6%
RoB	Rosedale loamy sand, 2 to 5 percent slopes	24.7	16.9%
W	Water	4.2	2.9%
WddA	Woodstown sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	59.2	40.7%
Totals for Area of Interest		145.6	100.0%

2.12 Property Value Impact Report

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:

TPE Development, LLC

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
Erin C. Bowen, MAI

October 5, 2022



LETTER OF TRANSMITTAL

October 5, 2022

Adam Beal
Executive Vice President of Development
TPE Development, LLC
3720 South Dahlia Street
Denver, CO 80237

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 the Mid Atlantic. 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 on 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 TPE Development, LLC ("Turning Point"). Additional intended users of our findings include Turning Point's designated project companies, all relevant permitting authorities for Turning Point's proposed solar projects in Delaware, Maryland and New Jersey. 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:

Disclaimer: This report is limited to the intended use, intended users (TPE Development, LLC, and its designated project companies and others stated in the report as it relates to the evaluation of a proposed solar energy generating facility in Delaware, Maryland and New Jersey), 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.

FINDINGS

- I. Academic Studies (*pages 21-23*): 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 24-76*): Further, CohnReznick has performed 29 studies in over 15 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 8 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	Location	Site Area (Acres)	Power Output (MW AC)	Date Project Completed	Impact on Surrounding Property Values
1	Upper Marlboro	Prince George's County, MD	31	2.0	Dec-19	No Impact
2	Lapeer (Demille & Turrill Solar)	Lapeer County, MI	270	48.0	May-17	No Impact
3	Woodland Solar	Isle of Wight County, VA	204	19.0	Dec-16	No Impact
4	Sunfish Farm Solar	Wake County, NC	50	2.0	Dec-15	No Impact
5	Call Farms 3 Solar	Genesee County, NY	82	2.0	Jul-18	No Impact
6	Jefferson County Community	Jefferson County, CO	13	1.2	May-16	No Impact
7	Whitetail	Franklin County, PA	130	13.5	Dec-19	No Impact
8	New Road Solar	Middlesex County, NJ	8	10.0	Jun-18	No Impact

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 two "Before and After" analysis, 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.

- III. Market Participant Interviews (*pages 77-80*): 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.

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With regards to the Project, we specifically interviewed Assessors in Delaware, New Jersey and Maryland:

- 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.
- Braxton McNeil, a supervisor in the Howard County, Maryland tax assessor's office, said that they have not had appeals or complaints filed due to the recently constructed solar farms, Nautilus Solar farm and Snowden River Solar farm, from nearby residential homeowners. Additionally, they have not seen an impact on sales prices of residential property surrounding solar farms in the County.
- Shannon Porter, a supervisor in the Prince George's County, Maryland tax assessor's office, reported that they have not received complaints or appeals to lower assessed values on homes near the Synergen Panorama Solar farm. They have also noted that their has not been a negative impact on sales prices of residential property surrounding solar farms in the county.

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 81-87*): 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.

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



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SCOPE OF WORK

CLIENT AND INTENDED USERS

The client and intended user of this report is TPE Development, LLC and its designated project companies; 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 Turning Point's proposed solar projects in Delaware, New Jersey and Maryland.

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]

EFFECTIVE DATE & DATE OF REPORT

October 5, 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, and is not evaluating a specific subject site. In this instance, there is no “subject property” to disclose.

INSPECTION

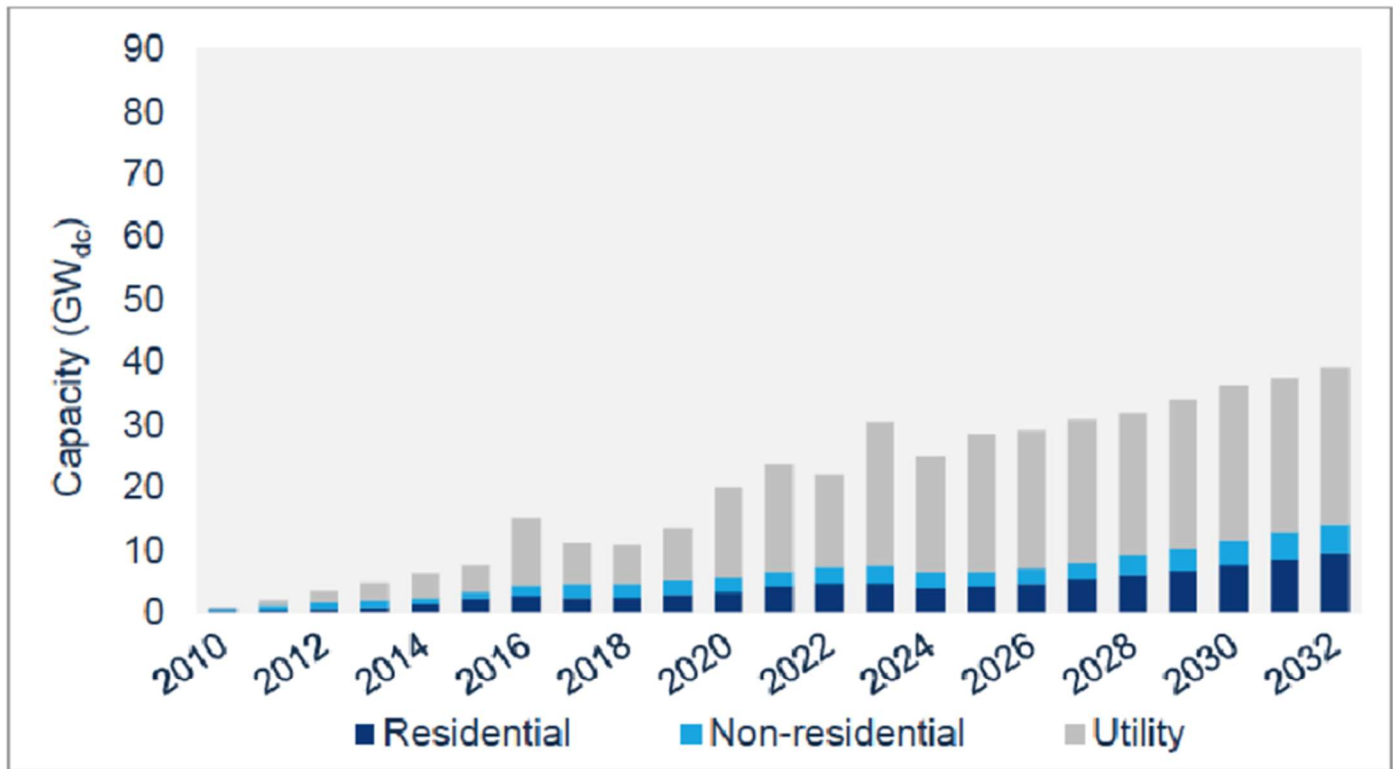
Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Erin C. Bowen, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.

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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 ten years through 2032, with the largest percentage of installations attributed to utility-scale projects.

US PV installation historical data and forecast, 2010-2032





©2022

The United States installed 3.9 Gigawatts (GW) DC of solar photovoltaic capacity for all the sectors, residential, commercial, community solar and utility-scale solar projects in Q1 2021, a 24 percent decrease from Q1 2021 and a 52 percent decrease from Q4 2021, representing the weakest quarter for United States solar installations in two years. Due to the anti-circumvention investigation instigated by Auxin Solar’s petition to the Department

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of Commerce, most manufacturers have simply stopped shipping equipment to the United States to avoid tariff risk. As a result of the uncertainty created by the anti-circumvention investigation, expectations for 2022 solar installations have been reduced to 15.6 GWdc, a 29 percent reduction from the previous quarter, which had already been reduced due to supply chain constraints. Most of the reduction comes from the utility-scale solar segment, which had decreased by more than 40 percent from the previous quarter's outlook.

The beginning dates for operation of multiple gigawatts of projects have been pushed from 2022 into 2023 or later. The projects likely to come online in 2022 already have secured equipment, as of the end of 2021.

However, solar power generation still accounted for 50 percent of all new electricity-generating capacity additions in Q1 2022 and continues to make up the largest share of new generating capacity in the U.S.

As of August 12, 2022, the Inflation Reduction Act was passed in the Senate and The House of Representatives, which includes long-term solar incentives and investment in domestic solar manufacturing. Included in the bill, a 10-year extension and expansion of the Investment Tax Credit (ITC) and Production Tax Credit (PTC) will provide tax credits for solar manufacturing and direct payment options for tax credits. While the uncertainty of the anti-circumvention investigation remains present, the passage of the Inflation Reduction Act gives the solar industry long-term market certainty.

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.²

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. A majority of tax revenue is funneled back into the local area, and as much as 50 percent of increased 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 does 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 rejuvenate 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

² "Electromagnetic Field and Public Health." Media Centre (2013): 1-4. World Health Organization.

year after year. 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.³

³ NC State Extension. (May 2016). Landowner Solar Leasing: Contract Terms Explained. Retrieved from: <https://content.ces.ncsu.edu/landowner-solar-leasing-contract-terms-explained>

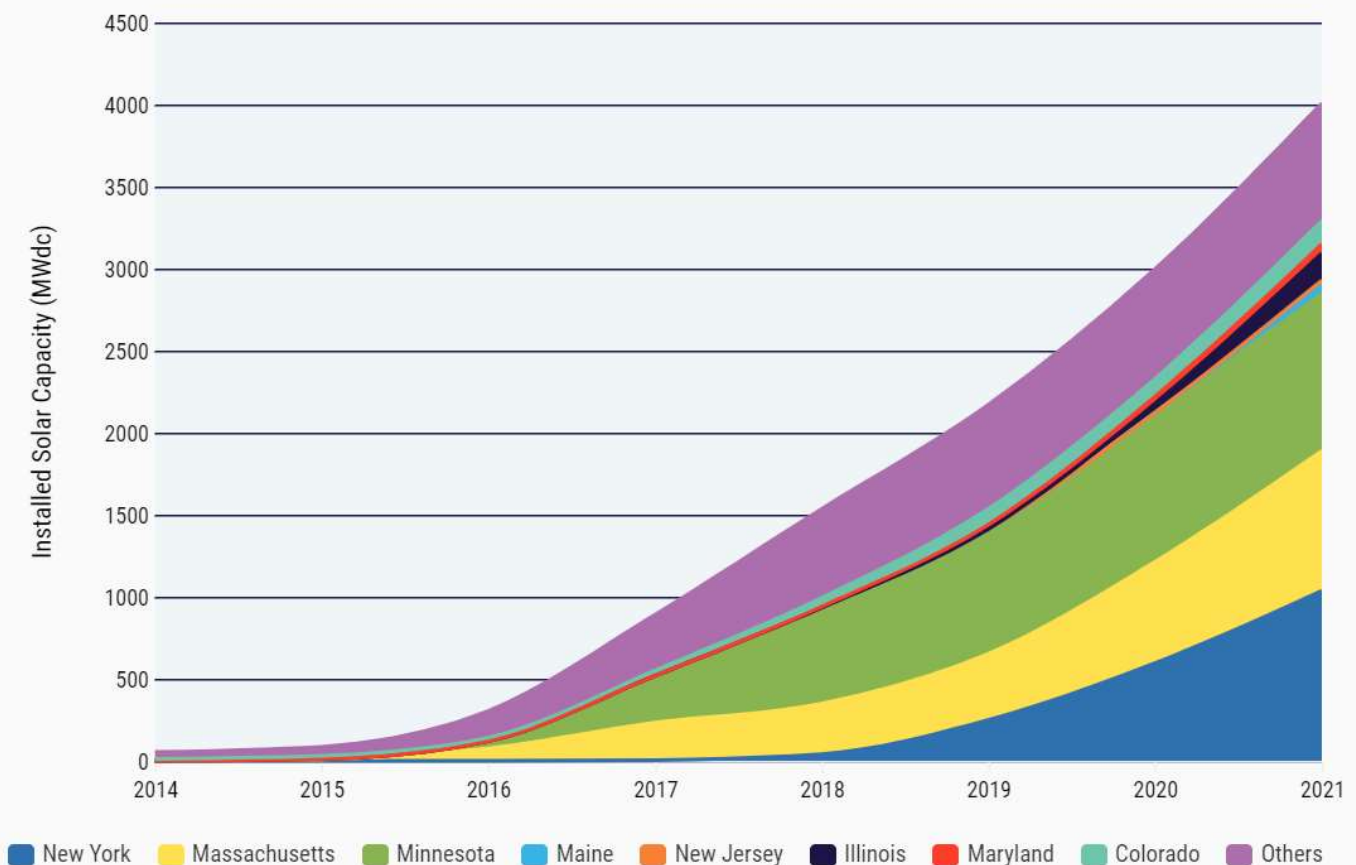
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NATIONAL COMMUNITY SOLAR ENERGY PRODUCTION

Community solar projects (facilities that generate 5 MW AC or less of power) account for 4,900 MWdc of installed power in the U.S. as of the second quarter 2022, according to SEIA data. The community solar industry had a record setting year in 2021 with 957 MWdc installed, according to SEIA data. According to the U.S. Energy Information Administration (EIA) through June 2022, there are over 4,133 community solar facilities in operation across the country.

Community solar installations significantly grew year-over-year as of first quarter 2022, however, installations are down 59 percent from the fourth quarter 2021. Due to uncertainty around the anti-circumvention investigation, supply chain issues, and long timelines for new community solar policies, community solar installations are expected to contract in 2022. The growth of community solar installations from 2014 to 2021 is presented in the chart below.

Cumulative U.S. Community Solar Installations



Source: SEIA/Wood Mackenzie Power & Renewables U.S. Solar Market Insight Q2 2022



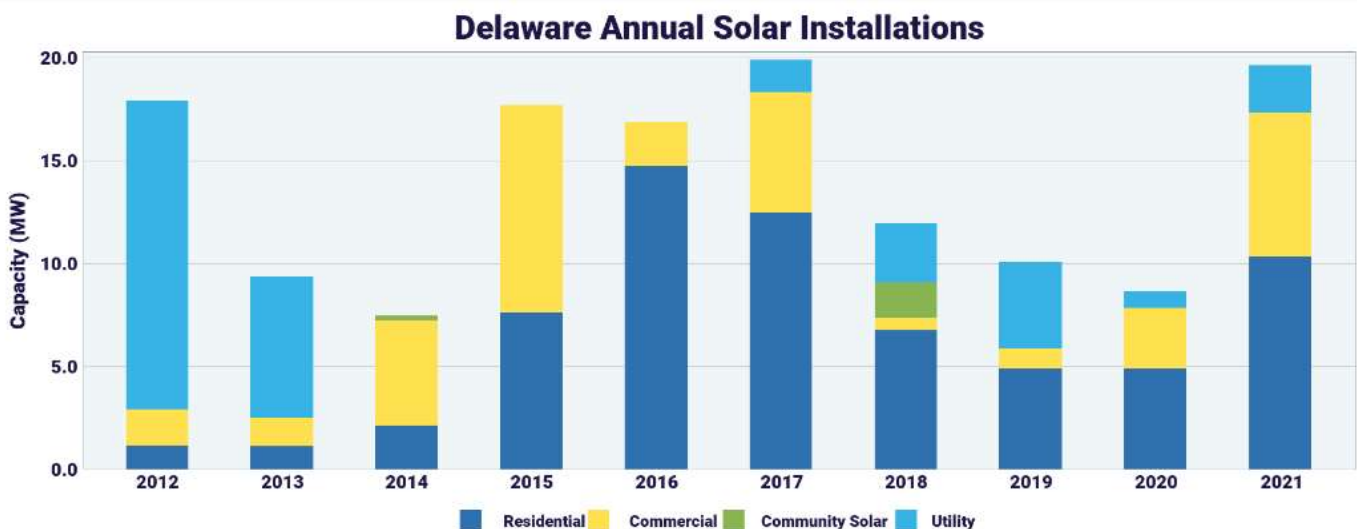
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While early growth for community solar installations was led primarily by three key markets - New York, Minnesota, and Massachusetts - a growing list of states with community solar programs have helped diversify the market, creating large pipelines set to come to fruition over the next several years.

SOLAR ENERGY PRODUCTION IN DELAWARE

As of the end of the first quarter of 2022, Delaware had 171 MW AC of power overall, ranking forty-first in the U.S. for the capacity of solar installed. There have been only 9.8 MW of solar power installed in the state since 2015. However, significantly more utility investments in clean energy are on the horizon, with 341 MW AC of solar power planned for installation over the next five years. The largest new solar facility in Delaware will be a 114 MW AC utility scale installation projected to become operational in December 2024 in New Castle County, that is being developed by Cedar Creek Solar. The total planned solar facilities will increase solar power generation in the state by approximately 199 percent.



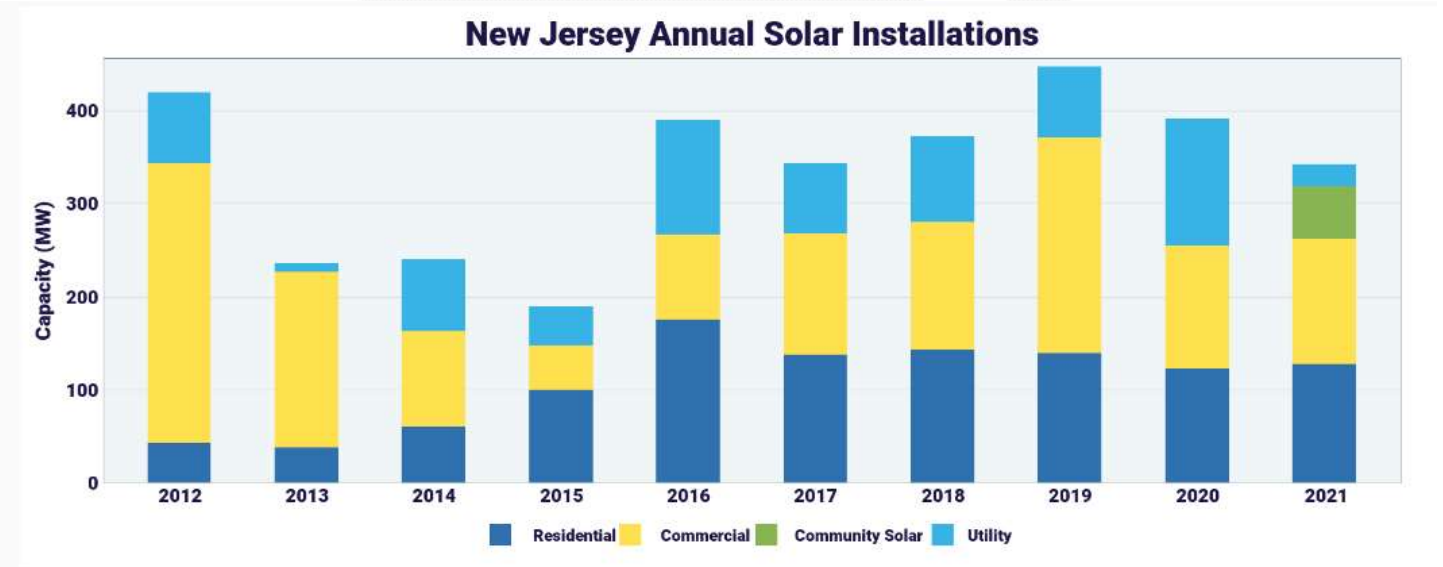
Delaware currently has 12 non-residential solar facilities in service and two generate over 5 MW, totaling 21.8 MW of power in utility-scale facilities. Milford Solar Farm in Kent County generates the most power at 11.8 MW and was developed in 2012. The most recent facility to be developed became operational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

SOLAR ENERGY PRODUCTION IN NEW JERSEY

As of the end of the first quarter of 2022, New Jersey had 3,992 MW AC of power overall, ranking eighth in the U.S. for the capacity of solar installed. There have been 502.9 MW of solar power installed in the state since 2015 and significantly more investments in clean energy are on the horizon, with 1,963 MW AC of solar power

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planned for installation over the next five years. The largest new solar facility in Delaware will be a 19.8 MW AC utility scale installation projected to become operational in November 2022 in Morris County, that is being developed by NJR Clean Energy Ventures Corporation. The total planned solar facilities will increase solar power generation in the state by approximately 190 percent.

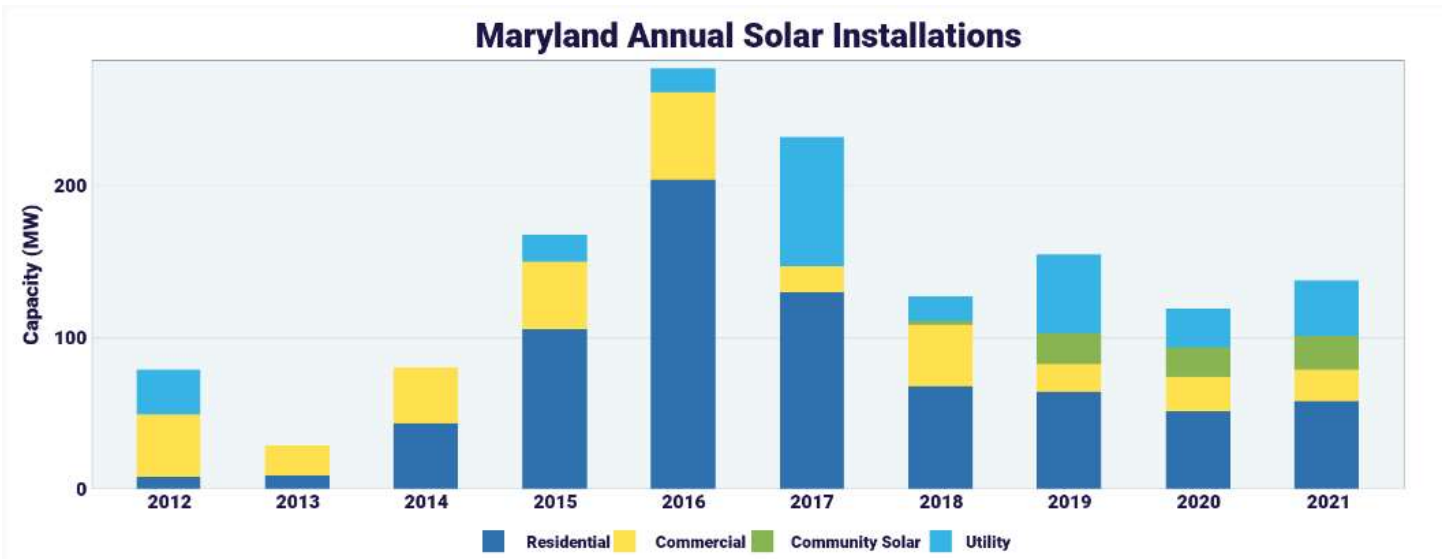


New Jersey currently has 61 non-residential solar facilities in service and two generate over 20 MW, totaling 545.9 MW of power in utility-scale facilities. EDF Phase 1 Toms River in Ocean County generates the most power at 21.3 MW and was developed in 2021. The most recent facility to be developed became operational in March 2022 with 10.5 MW in Mercer County.

SOLAR ENERGY PRODUCTION IN MARYLAND

As of the end of the first quarter of 2022, Maryland had 1,459 MW AC of power overall, ranking eighteenth in the U.S. for the capacity of solar installed. There have been 298.3 MW of solar power installed in the state since 2015. However, significantly more utility investments in clean energy are on the horizon, with 1,050 MW AC of solar power planned for installation over the next five years. The largest new solar facility in Maryland will be an 80 MW AC utility scale installation projected to become operational in October 2022 in Queen Annes County, that is being developed by Bluegrass Solar. The total planned solar facilities will increase solar power generation in the state by approximately 256 percent.

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Maryland currently has 15 non-residential solar facilities in service and two generate over 20 MW, totaling 241.3 MW of power in utility-scale facilities. Great Bay Solar 1 in Somerset County generates the most power at 75 MW and was developed in 2018. The most recent facility to be developed became operational in December 2021, which generates 6 MW of power and is located in Carroll County.

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APPRAISAL THEORY – ADJACENT 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.⁴ 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.”⁵

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.⁶ CohnReznick implemented the scientific method⁷ to determine if a detrimental condition of proximity to a solar farm exists, further described in the next section.

⁴ Bell, Randall, PhD, MAI. *Real Estate Damages*. Third ed. Chicago, IL: Appraisal Institute, 2016. (Pages 1-2)

⁵ Ibid, Page 314

⁶ Ibid, Pages 7-8

⁷ 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)

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.”⁸*

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.”⁹ 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,¹⁰ to determine if a detrimental impact has occurred.

⁸ Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Page 33)

⁹ *The Appraisal of Real Estate 14th Edition.* Chicago, IL: Appraisal Institute, 2013.

¹⁰ 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)

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 community solar projects that qualified for study in the state of Illinois, we have incorporated some regional utility scale projects and community solar 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.

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- 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 methodology remains objective, and the only adjustment required is for market conditions;¹¹ 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”)¹² 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.

¹¹ 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.”

¹² 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.

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 2018.¹³ 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 assessors 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.*”¹⁴ 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

¹³ 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.lbj.gov/sites/default/files/property-value_impacts_near_utility-scale_solar_installations.pdf.

¹⁴ 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/>.

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.”¹⁵ 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 land owners 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

¹⁵ 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.

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.”¹⁶

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.

¹⁶ Chisago County Press: County Board Real Estate Update Shows No “Solar Effects” (11/03/2017)

TECHNIQUE 2: PAIRED SALE ANALYSIS

SOLAR FARM 1: UPPER MARLBORO 1 CSG SOLAR FARM, PRINCE GEORGES COUNTY, MD

Coordinates: Latitude 38.789216, Longitude -76.800910

PIN: 0109-00E2-0036

Total Land Size: 31.16 acres

Date Project Announced: April 2018

Date Project Completed: December 2019

Output: 2.0 MW AC



The Upper Marlboro 1 CSG Solar use is located in Upper Marlboro, Maryland at 7420 South Osborne Road. The current owner of the solar farm is Nautilus Solar Solutions while Turning Point Energy and Cypress Creek Renewables developed the solar facility. The owner, Nautilus Solar Energy, has a 25-year lease on the solar

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farm site with a possible 5-year extension. The solar farm went into operation November/December 2019 and is comprised of 6,000 panels held up by 1,000 I-beams and more than 4,000 feet of perimeter fencing.

The Surrounding Area: The Upper Marlboro 1 CSG solar installation is located in Upper Marlboro, in the central portion of Prince George’s County, Maryland. Prince George’s County is located just east of Washington D.C. and the State of Virginia. The Upper Marlboro 1 CSG Solar Farm is approximately 17 miles southeast of Washington D.C. and approximately 8 miles southeast of the U.S. Military’s Joint Base Andrews.

The Upper Marlboro 1 CSG solar installation is one of sixteen solar farms located within Prince George’s County, the largest of which, Synergen Panorama solar farm, generates 5 MW AC and was completed in July 2019.

The Immediate Area: The solar installation is located on the northern side of South Osborne Road. The immediate area is primarily single-family residential and agricultural with supporting commercial uses nearby. Surrounding the solar farm to the north, south and west are single-family residential uses, a day care center to the south and a shopping center anchored by Safeway to the east.

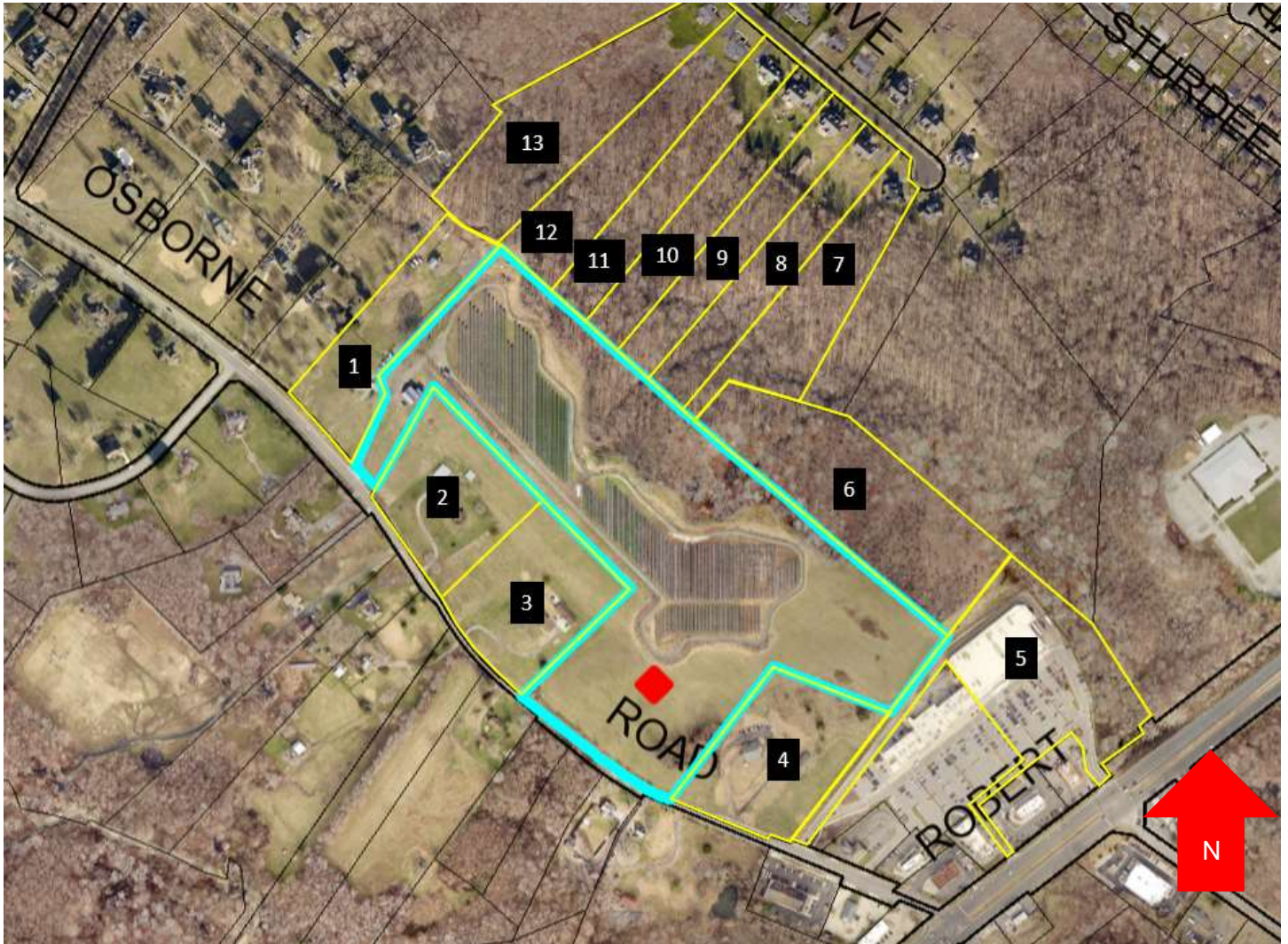
A fence and native pollinating plants line the perimeter of the solar farm. A dense tree line to the north and east of the solar farm blocks visibility from adjacent properties. Additionally, the solar farm is located on higher elevation land from the South Osborne Road and is only visible from directly adjacent single-family residential properties to the west and south.

Real Estate Tax Info: Prior to the development of the solar, the land under the Upper Marlboro 1 CSG solar installation was assessed at \$7,600 and paid real estate taxes of \$110 in the 2019-2020 fiscal year. After the solar farm was developed, in late 2019, real estate taxes increased to \$6,049, a 5,412 percent increase in tax revenue for the site. The assessed value of the underlying land the panels sit on increased by 5,412 percent to \$418,000 after the solar farm was completed in late 2019.

Pin	Acres	2019/20 Taxes Paid	2020/21 Taxes Paid	Tax Increase	2019/20 Assessed Value	2020/21 Assessed Value	Value Increase
Prince Georges County, MD							
0109-00E2-0036	31.16	\$110	\$6,049	5,412.05%	\$7,600	\$418,900	5,411.84%
Total	31.16	\$110	\$6,049		\$7,600	\$418,900	

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The following map displays the parcels within the solar farm is located (outlined in blue). Properties adjoining the solar parcels (outlined in yellow) are numbered for subsequent analysis.



Upper Marlboro CSG 1 Solar – Adjoining Properties

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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 primarily on location and date sold. The first group comprises the one sale at 7400 South Osborne Road that occurred after the completion of the solar farm. We also identified a transaction that occurred during the project construction, 7304 South Osborne Road which sold in August 2019, and comprises Group 2.

Group 1 – Improved Single-Family Residential Properties

Adjoining Property 2 to the Upper Marlboro CSG 1 Solar project was considered for a paired sales analysis. We have analyzed Adjoining Property 2 as single-family home use in Group 1. The improvements on this property are located 265 feet to the nearest solar panel. Adjoining Property 2 is located along South Osborne Road, along the southwestern boundary of the solar farm.

SUMMARY OF TEST AREA SALE										
Group 1 - Upper Marlboro										
Adj. Property #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price / SF	Sale Date
2	7400 South Osborne Road	\$550,000	4	3	1979	1,300	Single-Family Home	5.07	\$423.08	4/26/2022

We analyzed ten Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, that 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 single-family homes with two to four bedrooms and two to three baths, consist of between 936 square feet and 1,704 square feet of gross living area above grade, built between 1955 and 1978 with finished basements and with lot sizes ranging from 1.0 to 5.29 acres. Additionally, the Control Area Sales for Group 1 are all located within the Prince George's County School District.

The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The result of our analysis for the Upper Marlboro Solar Project – Group 1 is presented below.

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CohnReznick Paired Sale Analysis Upper Marlboro 1 CSG Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	\$423.08
Control Area Sales (10)	No: Not adjoining solar farm	\$384.46
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		10.04%

We note that the relative size of the subject's acreage is a bit larger than the typical estate home lot in the Test Area Sale's area; the larger differential is likely due to the Test Area Sale's slightly larger than average acreage.

Noting no negative price differential, it does not appear that the Upper Marlboro Solar use impacted the sale price of the Test Area Sale, Adjoining Property 2.

Group 2 – Improved Single-Family Residential Properties

Adjoining Property 1 to the Upper Marlboro CSG 1 Solar project was considered for a paired sales analysis. We have analyzed Adjoining Property 1 as single-family home use in Group 2. The improvements on this property is located 307 feet to the nearest solar panel. Adjoining Property 1 is located along South Osborne Road, along the southwestern boundary of the solar farm.

SUMMARY OF TEST AREA SALE Group 2 - Upper Marlboro										
Property #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price / SF	Sale Date
1	7304 South Osborne Road	\$386,375	3	2.5	2004	1,916	Single-Family Home	4.58	\$201.66	Aug-19

We analyzed eight Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, that sold within a reasonable time frame from the median sale date of the Test Area Sale in Group 2. The Control Area Sales for Group 1 are single-family homes with two to four bedrooms and two to three baths, consist of between 1,980 square feet and 2,472 square feet of gross living area above grade, built between 1990 and 2007 and with lot sizes ranging from 1.0 to 6.18 acres. Additionally, the Control Area Sales for Group 2 are all located within the Prince Georges County School District.

The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or

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refinancing of the same properties. The result of our analysis for the Upper Marlboro Solar Project – Group 2 is presented below.

CohnReznick Paired Sale Analysis Upper Marlboro 1 CSG Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	\$201.66
Control Area Sales (8)	No: Not adjoining solar farm	\$189.75
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		5.91%

We note that the relative size of the subject's acreage is a bit larger than the typical estate home lot in the Test Area Sale's area; the larger differential is likely due to the Test Area Sale's slightly larger than average acreage.

Noting no negative price differential, it does not appear that the Upper Marlboro Solar use impacted the sale price of the Test Area Sale, Adjoining Property 1.

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SOLAR FARM 2: SUNSHINE FARMS SOLAR FARM, CURRITUCK COUNTY, NC**Coordinates:** Latitude 36.234042, Longitude -75.880074**PINs:** 0108000095H0000, 0108000095G0000**Total Land Size:** 121.44 acres**Date Project Announced:** January 2016**Date Project Completed:** February 2020**Output:** 20 MW AC

The Sunshine Farms Solar use is located in Grandy, North Carolina at 180 Uncle Graham Road and 6562 Caratoke Highway. The current owner of the solar farm is Paloma Solar & Wind, LLC while Exoplexus Incorporated developed the solar facility. The solar farm went into operation in February 2020 and can generate power for approximately 2,900 homes. Nearly 55,000 panels comprise the farm.

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The Surrounding Area: The Sunshine Farms solar installation is located in Grandy Township, in the southern portion of Currituck County, North Carolina. Currituck County is located in the northeast corner of North Carolina. Sunshine Farms is one of four solar farms located within Currituck County and the only solar farm within the town of Grandy. Sunshine Farms is the smallest solar farm in the county at 20 MW, along with Shawboro Solar which also produces an output capacity of 20 MW AC and is located Crawford Township, approximately 20 miles north of Sunshine Farms.

The two larger solar farms in Currituck County are adjacent to one another in Moyock Township, approximately 25 miles north of Sunshine Farms, producing a combined output of 124.4 MW AC and are adjacent to residential homes and agricultural use land.

The Immediate Area: Surrounding land uses consist of residential homes and vacant residential lots to the north, west, and south; and commercial uses and vacant commercial lots to the east. The project site was previously the site of the Goose Creek Golf and Country Club and sits just south of the Carolina Club Community.

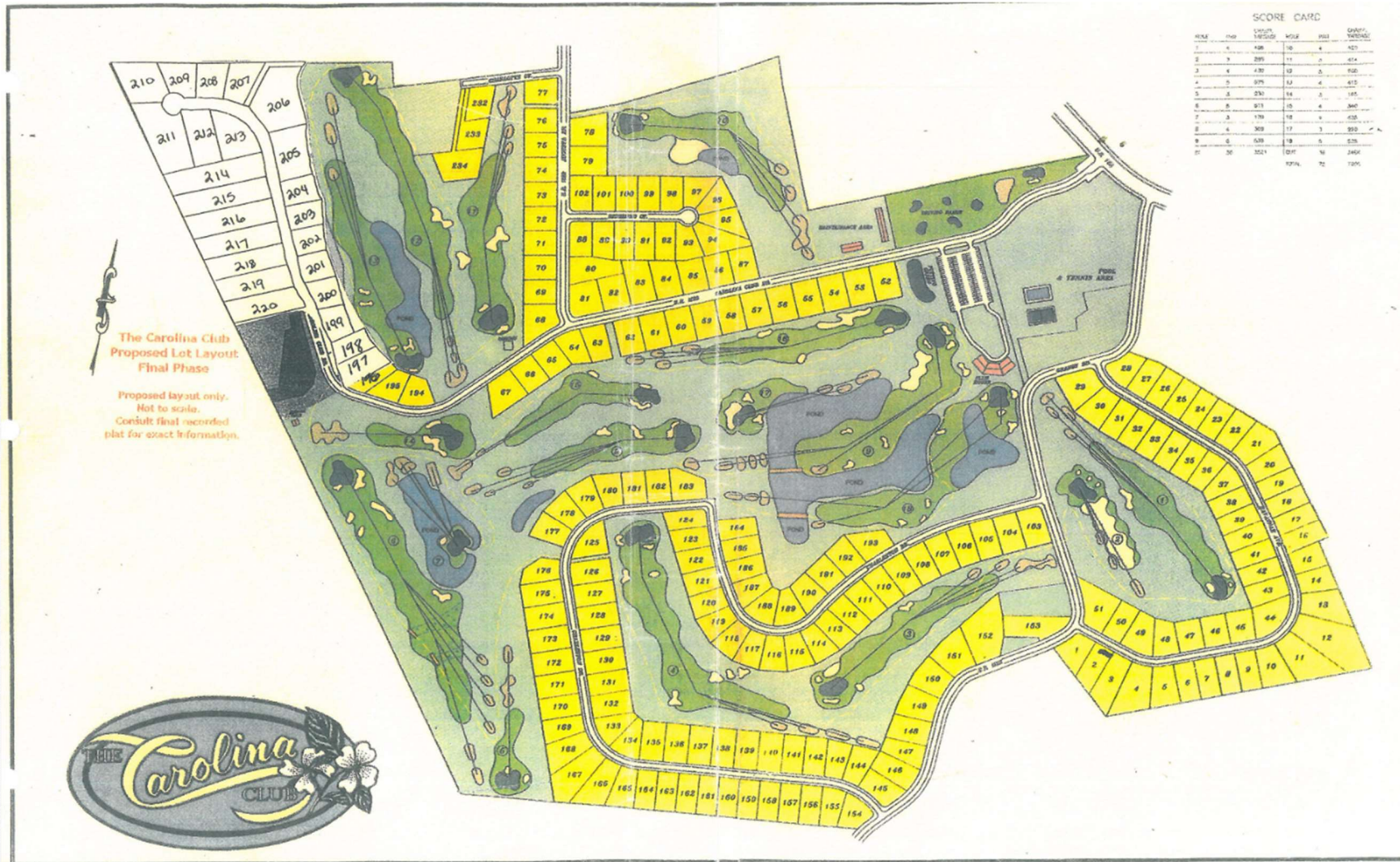
The solar farm is surrounded by landscaped buffers, with a denser landscaped buffer along the north, west, and south borders of the site adjacent to residential uses.

Carolina Club Community: The Carolina Club Community is comprised of 220 single-family residential lots and residences surrounding an 18-hole golf course and amenities including a swimming pool, tennis courts, a clubhouse, and a community boat ramp. While the golf course within the community is open to the public, all other amenities in the Carolina Club Community are only available to Carolina Club Association Property Owners and their families and guests.

The Carolina Club is operated by The Carolina Club Owners Association, Inc. and every person or entity who is a record owner of a fee simple interest in any lot in the community are subject to architectural control and homeowner's association dues every quarter. The homeowner's association dues are determined annually with the minimum annual assessment being between \$350 and \$500 per year. However, "special assessments" for capital improvements to the Association's common properties allows annual dues to exceed \$500 per year.

Property owners are limited to construct one single-family dwelling per lot that may not cover more than 25 percent of the total lot size. The minimum required living area for dwellings in the community is 1,500 square feet for one-story dwellings and 1,800 square feet for two-story dwellings. Additionally, dwellings must have setbacks of 25 feet in the front yard, 15 feet on the side yards, and 25 feet in the rear yard.

A map of the Carolina Club Community is presented on the following page.



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Real Estate Tax Info: In Currituck County, North Carolina, real property is assessed every 8 years, with the two most recent reassessments in 2013 and 2021. However, the parcel on which Sunshine Farms is constructed on has been split, merged and subdivided several times since 2013, therefore, we have presented historical real estate tax assessments and payments for the parcel dating back to only 2019. The parcel has not been split, merged or subdivided since this time.

Solar farms in North Carolina are assessed as personal property, separate from the land assessment. After the solar farm was placed into service, there was an increase of 628.65 percent in total assessed value, and a 597.99 percent increase in total taxes paid.

In 2019, prior to the property being assessed as a solar farm, the assessed value of the land was \$517,200 and ownership paid \$2,483 in real estate taxes. In 2021, the assessed value increased to \$708,100 and the real estate tax increased to \$3,257, an increase in tax revenue of 31.17 percent.

Pin	Acres	2019 Taxes Paid	2021 Taxes Paid	Tax Increase	2019 Assessed Value	2021 Assessed Value	Value Increase
Currituck County, NC 0108000095H0000	118.02	\$2,483	\$3,257	31.17%	\$517,200	\$708,100	36.91%
Personal Property Tax		\$0	\$14,074		\$0	\$3,059,520	
Total	118.02	\$2,483	\$17,331	597.99%	\$517,200	\$3,767,620	628.65%

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The following map displays the parcels developed with the solar farm (outlined in red). Properties immediately adjoining the solar parcels (outlined in yellow) are numbered for subsequent analysis.



Sunshine Farms Solar – Adjoining Properties

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PAIRED SALES ANALYSIS

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 seven Adjoining Properties that sold since the solar farm started operation in February 2020: Three single-family residential properties have sold since the solar farm started operation, Adjoining Properties 4, 9, and 12. We have not included the sale of Adjoining Property 12 in our analysis as it sold between related parties. Additionally, four vacant land parcels that can be developed with single-family homes, Adjoining Properties 1, 21, 29, and 35, have sold since the solar farm started operation. We have not included the sale of Adjoining Property 29 as it was an off-market transaction, per the Currituck County Assessor's Office. Additionally, we have not included the sale of Adjoining properties 21 and 35 due to a lack of comparable transactions in the local market. Adjoining properties 21 and 35 are located along Grandy Road and Uncle Graham Road, respectively, and do not have community clubhouse, swimming pool, tennis courts, or community boat ramp privileges. In our search of comparable vacant lot sales, other lots that have sold in the area during the same time frame either have those privileges or are waterfront properties. Therefore, there was insufficient comparable control transactions.

Group 1 – Improved Single-Family Residential Properties

Adjoining Properties 4, 9, and 12 to the Sunshine Farms Solar project were considered for a paired sales analysis. We have not included the sale of Adjoining Property 12 in our analysis as it sold between related parties. We have analyzed Adjoining Properties 4 and 9 as single-family home uses in Group 1. The improvements on these properties are located between 388 and 535 feet to the nearest solar panel. Adjoining Properties 4 and 9 are both located within the Carolina Club Community of Grandy. The Carolina Club Community surrounds The Carolina Club public golf course, with many residences having frontage along the golf course.

SUMMARY OF TEST AREA SALE										
Group 1 - Sunshine Farms										
Adj .Property #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price / SF	Sale Date
4	141 Savannah Avenue	\$433,000	3	4.0	1998	2,481	Single-Family Home	0.46	\$174.53	Mar-22
9	151 Savannah Avenue	\$367,000	3	2.0	1996	1,744	Single-Family Home	0.71	\$210.44	Aug-21

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, that 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 single-family homes with three bedrooms and two to three baths, consist of between 1,500 square feet and 3,000 square feet of gross living area, and built between 1990 and 2005. Additionally, the Control Area Sales for Group 1 are all located within the Carolina Club Community of Grandy.

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The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The result of our analysis for Sunshine Farms Solar Project – Group 1 is presented below.

CohnReznick Paired Sale Analysis Sunshine Farms Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (2)	Adjoining solar farm	\$192.48
Control Area Sales (6)	No: Not adjoining solar farm	\$190.99
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		0.78%

The days on market for the two Test Area Sales had a median of 69 days on market, while the median days on market for the Control Area sales was 86 days (ranging from 56 to 140 days), **and we note no significant marketing time differential.**

Noting no negative price differential, it does not appear that the Sunshine Farms Solar use impacted the sale price of the two Test Area Sales, Adjoining Properties 4 and 9.

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Group 2 – Vacant Residential Lots, Carolina Club Community

Adjoining Properties 1, 21, 29 and 35 to the Sunshine Farms Solar project were considered for a paired sales analysis. We have not included the sale of Adjoining property 29 as it was an off-market transaction. Additionally, we have not included the sale of Adjoining properties 21 and 35 due to a lack of comparable transactions in the local market.

We have analyzed Adjoining Property 1 as a vacant residential lot use in Group 2. The property boundary of Adjoining Property 1 is located 397 feet to the nearest solar panel. Adjoining Property 1 is located within the Carolina Club Community of Grandy which surrounds the Carolina Club public golf course, with many residences having frontage along the golf course.

Bill Hogan, the listing agent of 135 Savannah Avenue (Adjoining Property 1), indicated that vacant lots within the Carolina Club Community are valued predominantly on a per lot basis as the Carolina Club Declaration of Covenants, Conditions, and Restrictions limit owners to one dwelling per lot. It was also noted that larger lots still attract a higher sale price but will reflect a lower sale price per square foot due to economies of scale and the limit on dwelling units per lot to one. Given that the marketplace analyzes the lots on a per lot sale basis, this is the method we will use in determining any differences in sale prices between target and control data.

SUMMARY OF TEST AREA SALE					
Group 2 - Sunshine Farms					
Property #	Address	Sale Price	Improvements	Site Size (AC)	Sale Date
1	135 Savannah Avenue	\$67,500	Vacant Residential Lot	0.99	Mar-22

We analyzed nine Control Area sales of vacant residential lots with similar site size that were not located in close proximity to the solar farm, and that sold within a reasonable time frame from the sale date of the Test Area Sale in Group 2. The Control Area sales for group 2 are vacant residential lots located within the Carolina Club Community, which are subject to homeowner's association fees, and that did not have golf course frontage, similar to the Test Area Sale.

The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The result of our analysis for Sunshine Farms Solar Project – Group 2 is presented below.

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CohnReznick Paired Sale Analysis Sunshine Farms Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per Lot
Test Area Sale (1)	Adjoining solar farm	\$67,500
Control Area Sales (9)	No: Not adjoining solar farm	\$49,900
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		26.07%

The days on market for the Test Area Sale was 69 days, while the median days on market for the Control Area sales was 273 days (ranging from 37 to 358 days), **and we note no significant marketing time differential.**

Noting no negative price differential, it does not appear that the Sunshine Farms Solar use impacted the sale price of the Test Area Sale, Adjoining Property 1. This was confirmed by the real estate agent who marketed and sold this vacant residential lot.

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SOLAR FARM 3: SHOREHAM SOLAR COMMONS, SUFFOLK COUNTY, NY**Coordinates:** Latitude 40.94, Longitude -72.89**PIN:** 0200126000200002001**Recorded Owner:** PHIE Shoreham LLC**Total Land Size:** 149.62 Acres**Date Project Announced:** May 2016**Date Project Completed:** July 2018**Output:** 24.9 MW AC

This solar farm is located on the former “Tallgrass Golf Course” located in an unincorporated area of Suffolk County, in the Hamlet of Brookhaven (The mailing city is “Shoreham”). The solar farm was developed by Invenergy. This solar farm is ground mounted and has the capacity for 24.9 Megawatts (MW) AC of power.

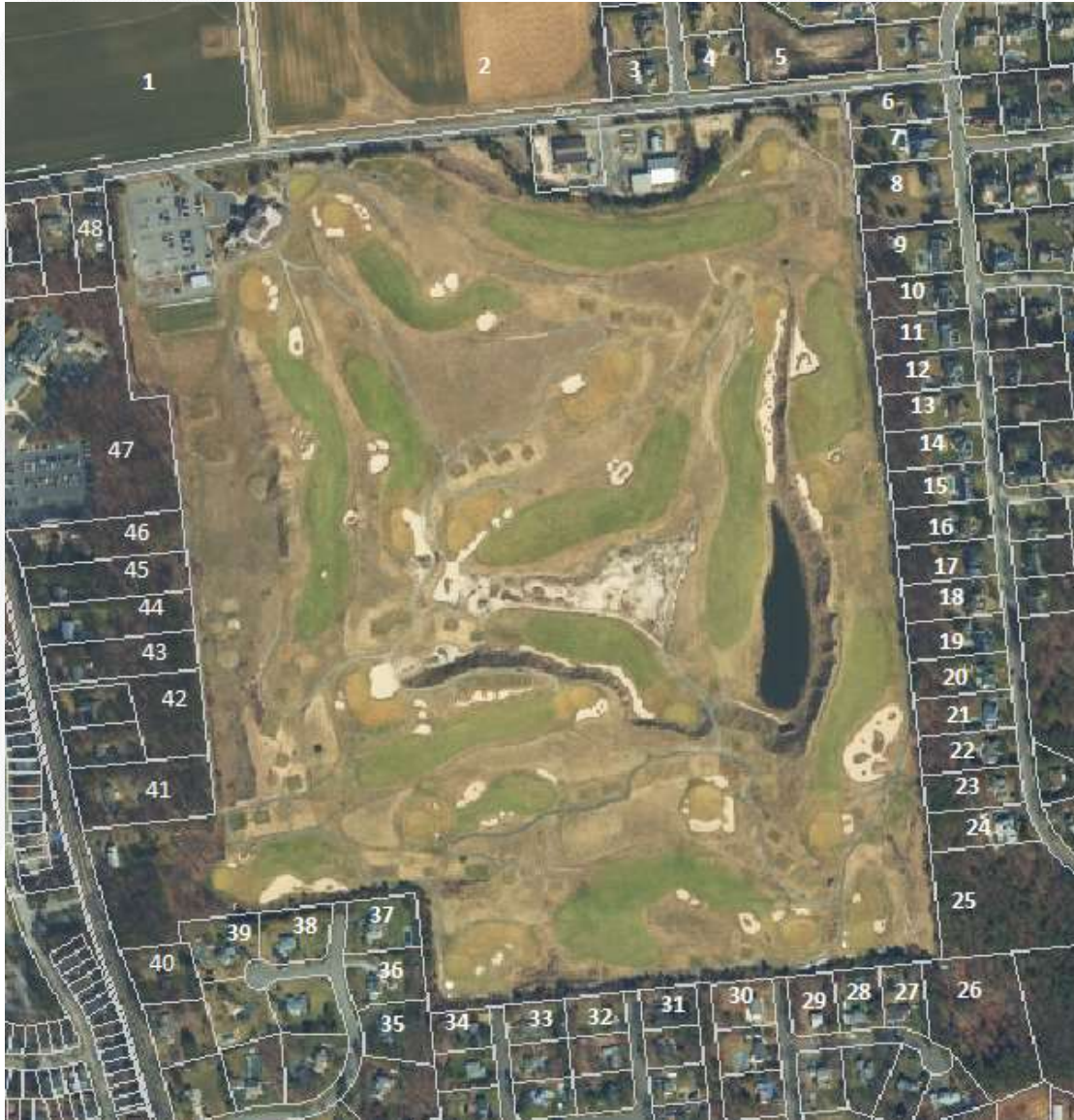
The Surrounding Area: Shoreham is a coastal area just south of the Long Island Sound in the State of New York. Surrounding land uses consist of residential and forest land to the north; forest and agricultural land to the east; vacant, forest, and residential land to the south; and residential, industrial, vacant, and forest land to the west.

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The Immediate Area: It is primarily surrounded by residential homes. The solar farm is situated on a former golf course.

Real Estate Tax Info: Shoreham Solar Commons is located on municipal land which is exempt from property taxes.

The following map identifies the adjacent parcels. This assessor's aerial image was taken prior to the solar farm's construction, reflecting the closed golf course.



Shoreham Solar Commons Adjoining Properties

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Paired Sales Analysis

We have identified Adjoining Property 8 as having sold after announcement of the solar farm. However, the marketing comments advertised the house as backing to a golf course, which indicates that the sale may have transacted without a solar farm external influence factor, and so it was excluded from this analysis. We have also identified Adjoining Properties 19, 32, and 35 as selling during construction of the solar farm. We have reviewed the marketing comments and found no mention of either the golf course or the solar farm. We did analyze these sales and they do not show a negative price differential; however, as these sales occurred prior to the opening and operations of the solar farm, any influence may not have been demonstrated yet, so we have excluded these from the paired sales analysis.

We analyzed five Control Area Sales that sold within a reasonable time frame from the median sale date of Adjoining Property 43, which sold after the solar farm was in operation, in August 2018.

TEST AREA SALE Shoreham Solar Commons										
Adjoining Property #	Address	Sale Price	Bedrooms	Bathrooms	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Price PSF	Sale Date
43	121 Randall Rd	\$400,000	4	2.0	1977	2,400	2-Story SFR	0.57	\$166.67	Aug-18

For Adjoining Property 43, we analyzed six Control Area Sales that sold within a reasonable time frame from the sale date of Adjoining Property 43. All Control Area Sales were adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment.

The Control Area Sales are 1 and 2 story homes with three or four bedrooms, and one to three baths. 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 Shoreham Solar Commons is presented below.

CohnReznick Paired Sales Analysis Shoreham Solar Commons		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (1)	Adjoining solar farm	\$166.67
Control Area Sales (6)	No: Not adjoining solar farm	\$161.08
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		3.47%

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The days on market for the Test Area Sale was 2 days (less than 1 month). The Control Area Sales ranged from 2 to 209 days on market (0-8 months).

Noting no negative price differential, it does not appear that the Shoreham Solar Commons impacted the sales price of the Test Sale, Adjoining Property 43.

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SOLAR FARM 4: SUNFISH FARM SOLAR, WAKE COUNTY, NORTH CAROLINA

Coordinates: Latitude 35 33.457, Longitude 78 44.190

PIN: 675874971

Total Land Size: Approximately 49.6 acres

Date Project Completed: December 2015

Output: 5 MW AC



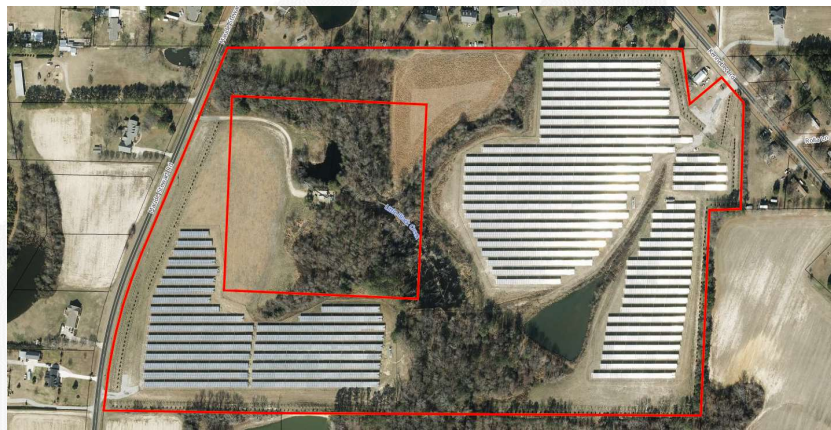
This Sunfish Farm solar facility is located in the southern portion of Wake County, North Carolina, approximately 16 miles south of Raleigh. The solar facility was placed into service in December 2015 and has a power generating capacity of 5 MW AC. The solar facility was developed by Cypress Creek Renewables, which has built several community-scale solar farms in North Carolina.

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The Surrounding Area: The Sunfish Farm solar facility is surrounded by single family homes, some of which are in subdivisions, as well as agricultural and forest land. The local area is accessible from Raleigh via Fayetteville Road (US Hwy 401) and Interstate 40. The Sunfish Farm solar farm is located southwest of the town of Fuquay-Varina, which has experienced considerable population growth over the past 10 years due to the area's proximity to Research Triangle Park (Raleigh, Durham, Chapel Hill).

The Immediate Area: The solar farm is buffered from residences and road frontages by trees and is surrounded by fencing. The solar farm is clearly visible from the roadways. Immediate land uses surrounding the solar farm include residential homes to the north, some residential homes (some that also contain commercial uses) to the west, agricultural land to the south, and agricultural land and residential homes to the east.

There is an 11.25-acre carve-out of land in the original, larger farmland parcel that was split from the parent parcel in 2014, as pictured below. Both the carved out parcel and the solar farm parcel are owned by an individual who leases the land for the solar farm use.

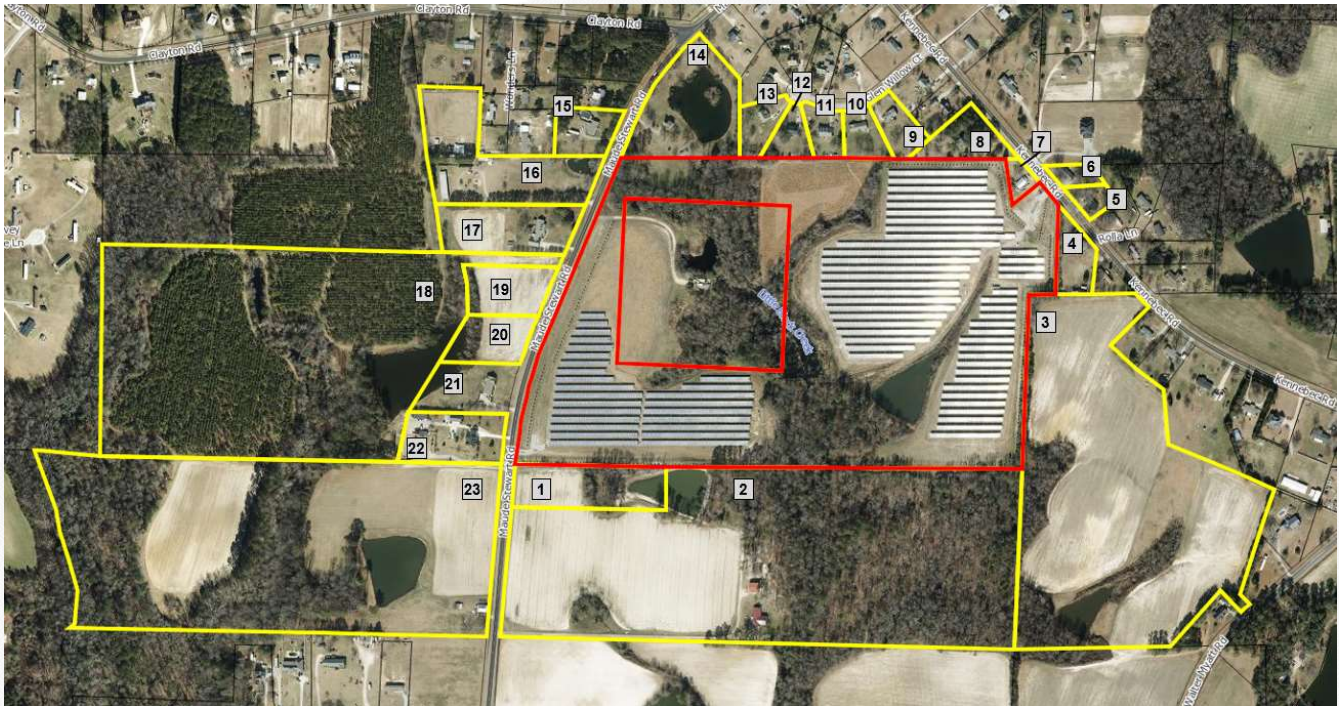


Real Estate Tax Information: Solar farms in North Carolina are assessed as personal property, separate from the land assessment. After the solar farm was placed into service, there was an increase of 180 percent in total assessed value, and 203 percent increase in total taxes paid.

PIN	Acres	2013 Taxes Paid (Per Acre)	2016 Taxes Paid (Per Acre)	Tax Increase	2013 Assessed Value (Per Acre)	2016 Assessed Value (Per Acre)	Value Increase
Wake County, NC 675874971 (Post 2015 Split) Personal Property Tax	49.60	\$ 119.52 \$ -	\$ 105.33 \$ 256.81		\$ 18,589 \$ -	\$ 15,123 \$ 36,871	
TOTAL	49.60	\$ 119.52	\$ 362.14	203%	\$ 18,588.83	\$ 51,994.82	180%

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The map below displays the properties adjoining the solar arrays and are numbered for subsequent analysis (outlined in yellow).



Sunfish Farm Solar - Adjoining Properties

PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, comparing sales of properties not proximate to the solar farm (Control Area Sales) to the sales of adjoining properties (Test Area Sales) after the completion of the solar farm project. We were able to identify two Adjoining Properties to the Sunfish Farm solar facility that sold after the solar installation was placed into service (Adjoining Properties 10 and 15). These sales were analyzed in separate Test Area Sale groups based on home type (conventional single-family home and manufactured single-family home) and sale dates.

We collected Control Area Sale data from the Wake County Real Estate database which summarizes data directly from the Real Estate Assessor website for the county. We have also reviewed other public records and verified marketing information through online sources such as Zillow.com, Redfin.com, Realtor.com and Estately.com. We have 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 bank-owned properties, or those between related parties.

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GROUP 1

Adjoining Property 10 (Test Area Sale 1) was considered for a paired sales analysis, and we analyzed this property as a single-family home use. The property is a single-story 1,470 square foot home located on a 0.79-acre lot that sold in September 2017. This property line is approximately 50 feet from the closest solar panel, and the improvements are approximately 200 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 10.

SUNFISH FARM SOLAR TEST AREA SALE GROUP 1										
Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Home Size (SF)	Improvements	Sale Price/SF	Sale Date
Test Sale 1 Adjoining Property 10	7513 Glen Willow Court	\$188,000	0.79	3	2	1989	1,470	One-Story, No Basement	\$127.89	Sep-17

We have identified 14 single-family home sales in the Control Area Sale group that are located within Wake County, either in Middle Creek Township or Panther Branch Township. They were built generally from 1989 to 1999 and are each similar in square footage and layout, as well as quality of construction, to the Test Area Sale and they sold within a reasonable time frame from the sale date of the Test Area Sale.



Sunfish Farm Solar - Group 1: Test Area Sale Map

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It is informative to note that the marketing time (from list date to closing date) for Control Area Sales ranged from 30 to 127 days on market, and the marketing time for Adjoining Property 10 was 98 days, which is within the range of the Control Area Sales. This is an indication that the marketability of the Test Area Sale was not negatively influenced by proximity to the solar farm.

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 December 2015 to the end of December 2018 (36 months).

When adjusting sales prices for market conditions (time between date of Test Area Sale and Control Area Sales 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 27592 zip code to determine 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.¹⁷

The results of the paired sales analysis for Adjoining Property 10 are presented below.

CohnReznick Paired Sales Analysis Sunfish Farm Solar GROUP 1 - Adjoining Property 10		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Yes: Adjoining solar farm	\$127.89
Control Area Sales (14)	No: Not adjoining solar farm	\$124.86
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		2.43%

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 price differential, it does not appear that the Sunfish Farm solar installation impacted the sale price of the Test Area Sale, Adjoining Property 10.

¹⁷ <https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx>

GROUP 2

Adjoining Property 15 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a manufactured single-family home use, with 1,860 square feet of improvements, on a parcel of 1.24-acres, that sold in October 2019. The property line for this property is approximately 665 feet from the closest solar panel, and the improvements are approximately 760 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 15.

SUNFISH FARM SOLAR TEST AREA SALE GROUP 2										
Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Home Size (SF)	Improvements	Sale Price/SF	Sale Date
Test Sale 1 Adjoining Property 15	7608 Maude Stewart Road	\$125,000	1.24	2	2	1990	1,860	One-Story, Manufactured, No Basement	\$67.20	Oct-19

In Group 2, we have studied only homes on lots between 0.50 and 1.60 acres and homes that are greater than 1,750 square feet, built between 1990 and 2003, so as to be comparable to the Test Area Sale home. The Control Area Sales sold within a reasonable time frame from the sale date of the Test Area Sale and are similar to the Test Area Sale in physical characteristics, that is they are one-story manufactured homes with no basements, that are located in Wake County, either in Middle Creek Township or Panther Branch Township.



Sunfish Farm Solar - Group 2: Test Area Sale Map

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We analyzed the eight 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 December 2018 to December 2020 (24 months).

The results of the paired sales analysis for Adjoining Property 15 are presented below.

CohnReznick Paired Sales Analysis Sunfish Farm Solar GROUP 2 - Adjoining Property 15		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Yes: Adjoining solar farm	\$67.20
Control Area Sales (8)	No: Not adjoining solar farm	\$66.23
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		1.47%

The unit sale price of the Test Area Sale was slightly higher than the median adjusted unit sale price of the Control Area Sales and is considered within the range for a typical market area.

Noting no negative price differential, it does not appear that the Sunfish Farm solar installation impacted the sale price of the Test Area Sale, Adjoining Property 15.

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SOLAR FARM 5: CALL FARMS 3 SOLAR, BATAVIA, GENESSEE COUNTY, NEW YORK**Coordinates:** Latitude 43.02305, Longitude -78.1812**PIN:** 1824004-1-26.111/A**Total Land Size:** ± 81.6 Acres**Date Project Announced:** May 2017**Date Project Completed:** July 2018**Output:** 2 MW AC

This solar facility was put into operation in July 2018 and has a power output capacity of 2 MW AC, enough to power 300 homes. The solar farm is currently owned by AES Distributed Energy. The project was initially being developed by Forefront, and was known as Spring Sun South, until AES acquired it in August 2017 just prior to construction. The facility was built by Expy Energy and features two inverters, fixed tilt ground racking and over 8,700 solar panels.

The Surrounding Area: The Call Farms 3 solar farm is located in the town of Batavia, that surrounds the outskirts of the City of Batavia, in Genesee County, New York. Roughly equidistant from Buffalo to the west and Rochester to the east, the solar farm is centrally located in the county, and the county is in the northwestern tip of the state of New York.

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The Immediate Area: The solar farm is located along State Street Road, near the interchange of the New York State Thruway (I-90) and Oak Orchard Road. The solar farm is immediately surrounded by agricultural land to the north, west, and south. To the northeast of the solar farm are two commercial properties, Battery Systems of Batavia and an Ashley Home Furniture distribution center. To the south there is a landscape company with a parcel that houses equipment storage and parking. To the east there a few residential properties on the east side of State Street Road, across the road from the solar parcel.

Real Estate Tax Information: After development of the solar farm, a sub-parcel number was created for the solar farm and a parent parcel number retained that was taxable at the agricultural land rate. By 2019 the solar parcel started being assessed and taxed separately in addition to the parent land parcel. The addition of the solar farm increased the taxes collected on the land by 18 percent.

PIN	Acres	2017 Taxes Paid	2019 Taxes Paid	Tax Increase	2017 Assessed Value	2019 Assessed Value	Value Increase
Genesee, NY							
1824004-1-26.111 (Parent)		\$ 11,646	\$ 11,540		\$ 327,900	\$ 327,300	
1824004-1-26.111/A (Solar Parcel)	81.60		\$ 2,106			\$ 900,000	
TOTAL	81.60	\$ 11,540	\$ 13,647	18%	\$ 327,300	\$ 1,227,300	275%

The map below displays the parcels containing the solar farm and adjoining properties (outlined in yellow). Properties adjoining this parcel are numbered for subsequent analysis (boxed in red).



Call Farms 3 Solar Farm - Adjoining Properties

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One adjoining residential property, Adjoining Property 4, (300 feet from the house to the nearest solar panel) was sold on April 5, 2018, which was after the solar farm was built and just before the solar farm became operational. We spoke to the selling broker, John Gerace of Gerace Realty, who was under the impression that the solar farm was operational prior to closing because the construction appeared complete prior to the closing date. We note this to illustrate that the market reacted as if the solar farm were operational at the time of sale. Gerace said that interested buyers, including the eventual buyer, expressed relief that the home would no longer face agricultural land with unknown development potential, and that there was no glare from the panels.

In addition to being an active broker in the community, Mr. Gerace previously sat on the zoning board, and he frequently attends town hall meetings. He said that typically a portion of the community expresses concerns about potential solar farms, but he never noticed a decrease in value or marketability for solar farm proximity.

PAIRED SALES ANALYSIS

Adjoining Property 4 was considered for a paired sales analysis, and we analyzed this property as a single family home use. The following table outlines the other important characteristics of Adjoining Property 4.

Call Farms 3 Solar Test Area Sale									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Square Feet	Sale Price per SF	Sale Date
4	8053 State St Rd, Batavia	\$155,000	1.00	5	2.0	1967	2,636	\$58.80	Apr-18

We analyzed five Control Area Sales with similar construction and characteristics that sold within a reasonable time frame relative to the sale date of Adjoining Property 4. We adjusted the Control Area Sales for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment.

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Call Farms 3 Solar Farm – Test Area Sale Map

The result of our analysis for the Call Farms 3 solar farm is presented below.

CohnReznick Paired Sale Analysis Call Farms 3 Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	\$58.80
Control Area Sales (5)	No: Not adjoining solar farm	\$58.62
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		0.31%

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 Call Farms 3 Solar Farm had any negative impact on adjacent property values.

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SOLAR FARM 6: JEFFERSON COUNTY COMMUNITY SOLAR GARDEN, JEFFERSON COUNTY, COLORADO**Coordinates:** Latitude 39.859564, Longitude -105.1497**PIN:** 29-194-01-037**Total Land Size:** 13.63 acres**Date Project Announced:** November 2013**Date Project Completed:** May 2016**Output:** 1.2 MW AC

The Jefferson County Community Solar Garden is adjacent to the Whisper Creek residential subdivision, just outside the City of Arvada, and was developed by SunShare Management. This solar farm has the capacity for 1.2 Megawatts (AC) of power, which is enough to power 300 homes. After two months of operation, the solar farm was 100 percent subscribed and its three largest customers are the cities of Arvada and Northglenn, as well as the Green Mountain Water and Sanitation District.

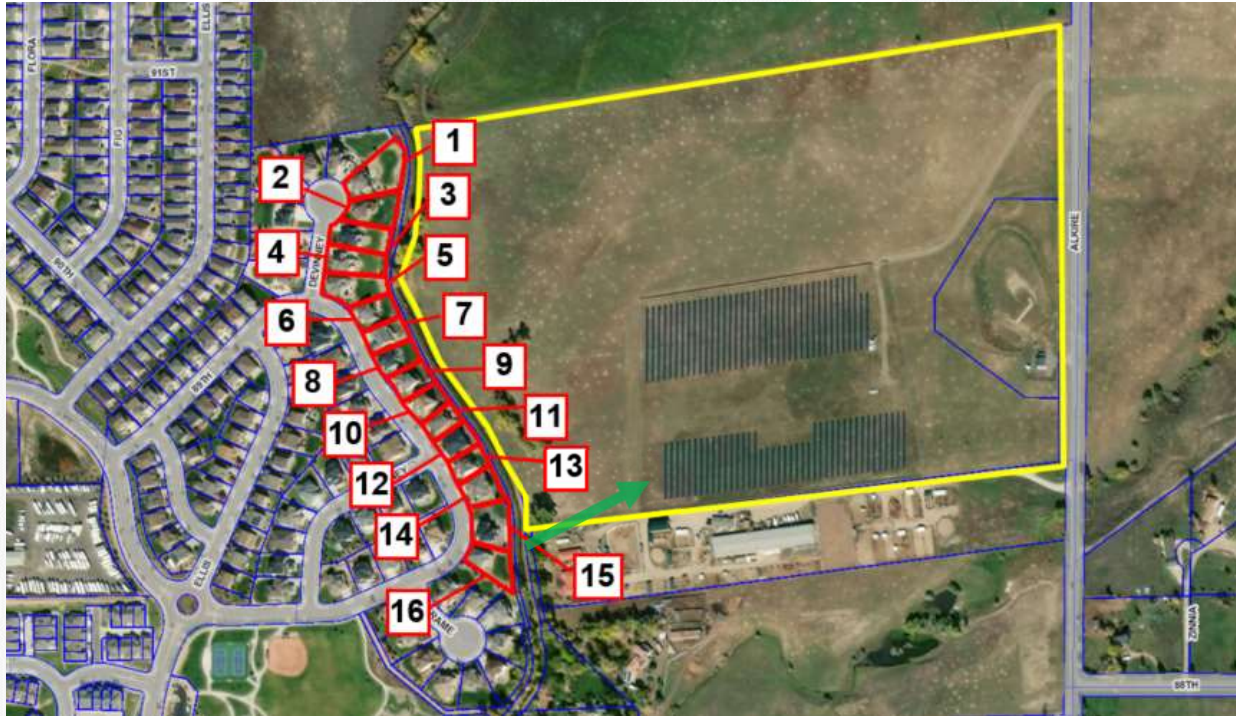
The Surrounding Area: The Whisper Creek subdivision is located between the Welton Reservoir to the west and Standley Lake to the east. To the northwest of the subdivision lies the Colorado Hills Open Space and the Rocky Flats national Wildlife Refuge. The subdivision is primarily in the City of Arvada city limits, but the municipal boundary splits the street the Test Area Sales are located on, West 89th Loop, some are in Arvada and some are in unincorporated Jefferson County. Arvada is a northwestern suburb of the City of Denver and is accessible via Interstate-25 and Interstate-70 and Interstate-76.

The Immediate Area: The immediate area has uses that consist of vacant land to the north and east, a horse and alpaca farm to the south, known as Evening Star Farms, and single-family homes and a municipal police station and vacant land to the west.

Real Estate Tax Information: In 2017, real estate taxes totaled \$79.10 for the entire parcel for the year, which is slightly less than taxes billed in 2016 and 2015.

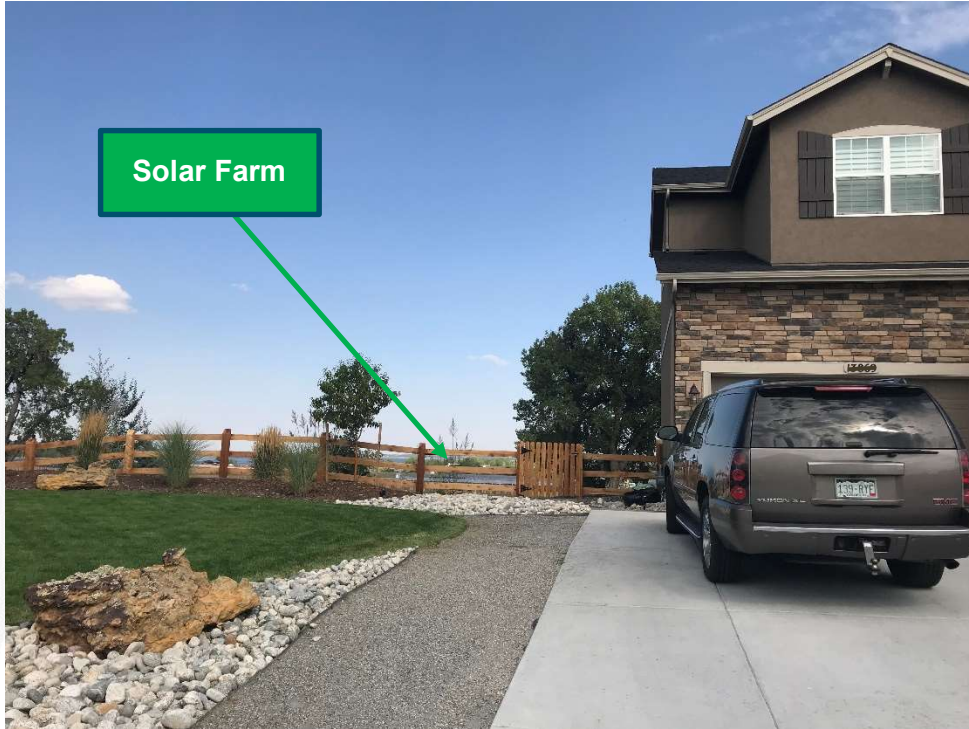
PAIRED SALES ANALYSIS

We found three Adjoining Properties that qualified for a paired sales analysis. The map below displays the solar farm parcel (outlined in yellow) and the Adjoining Properties (outlined in red) are numbered for subsequent analysis



Jefferson County Community Solar Garden - Adjoining Properties
(Q2 2016 imagery date)
(Green Arrow – Direction of Photos on Following Page)

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View from 89th Loop towards Solar Farm at rear of home



View from the rear of a Test Area Sale, towards Solar Farm

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Adjoining Properties 9, 10, and 13 (Test Area Sales 1, 2, and 3, respectively), were considered for a paired sales analysis. The Test Area Sales are two-story, single-family residential homes with four bedrooms and three and a half bathrooms, between 3,000 and 4,000 square feet of gross living area, on less than 0.30 acre of land, and each sold in 2016 as new construction homes.

Jefferson County Community Solar Garden Test Area Sales									
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
9, 10, 13	13929 W 89TH LOOP, 13919 W 89TH LOOP, 13889 W 89TH LOOP	\$635,500	0.23	4	3.5	2016	3,848	Jun-16	\$165.15

The Test Area Sales are located between 595 feet and 720 feet from the house to the solar panels. We analyzed six Control Area Sales of single-family homes that are included in this analysis that sold within a reasonable time frame from the median sale date of the Test Area Sales and are similar to the Test Area Sales in physical characteristics. The Control Area Sales are removed from the solar panels in other areas of the Whisper Creek subdivision.



Jefferson County Community Solar Garden – Test Area Sales Map

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All Control Area Sales were adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment.

The results of our analyses for the Jefferson County Community Solar Garden are presented below.

CohnReznick Paired Sale Analysis Jefferson County Community Solar Garden		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (3)	Adjoining solar farm	\$165.15
Control Area Sales (6)	No: Not Adjoining solar farm	\$164.36
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		0.48%

Noting no negative price differential, it does not appear that the Jefferson County Community Solar Garden had any negative impact on adjacent property values.

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SOLAR FARM 7: WHITETAIL SOLAR 1, FRANKLIN COUNTY, PENNSYLVANIA

Coordinates: Latitude 40.141803, Longitude -77.609787

PINs: 13-0G08.-020, 13-0G08.-032

Population Density (2021): 168 people per square mile (Franklin County)

Total Land Size: approximately 130 acres

Date Project Completed: December 2019

Output: 13.5 MW AC



The Whitetail Solar 1 project is located in the northeast portion of Franklin County, Pennsylvania, in Lurgan Township. The 13.5 MW AC solar facility became operational in December 2019 and sits on approximately 90 acres. The site was previously used as agricultural land. Whitetail Solar 1 is the first of three sites spread across 500 acres built to supply renewable energy for Pennsylvania State University. The project features 50,000 mono-facial solar modules and 617 single-axis trackers. When the three sites are complete, they will provide 25% of Pennsylvania State University's state-wide electricity use.

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The 49,000 solar panels are owned, operated, and maintained by Lightsource bp, a global leader in the development and management of solar energy projects and the project was built in partnership with Penn State University.

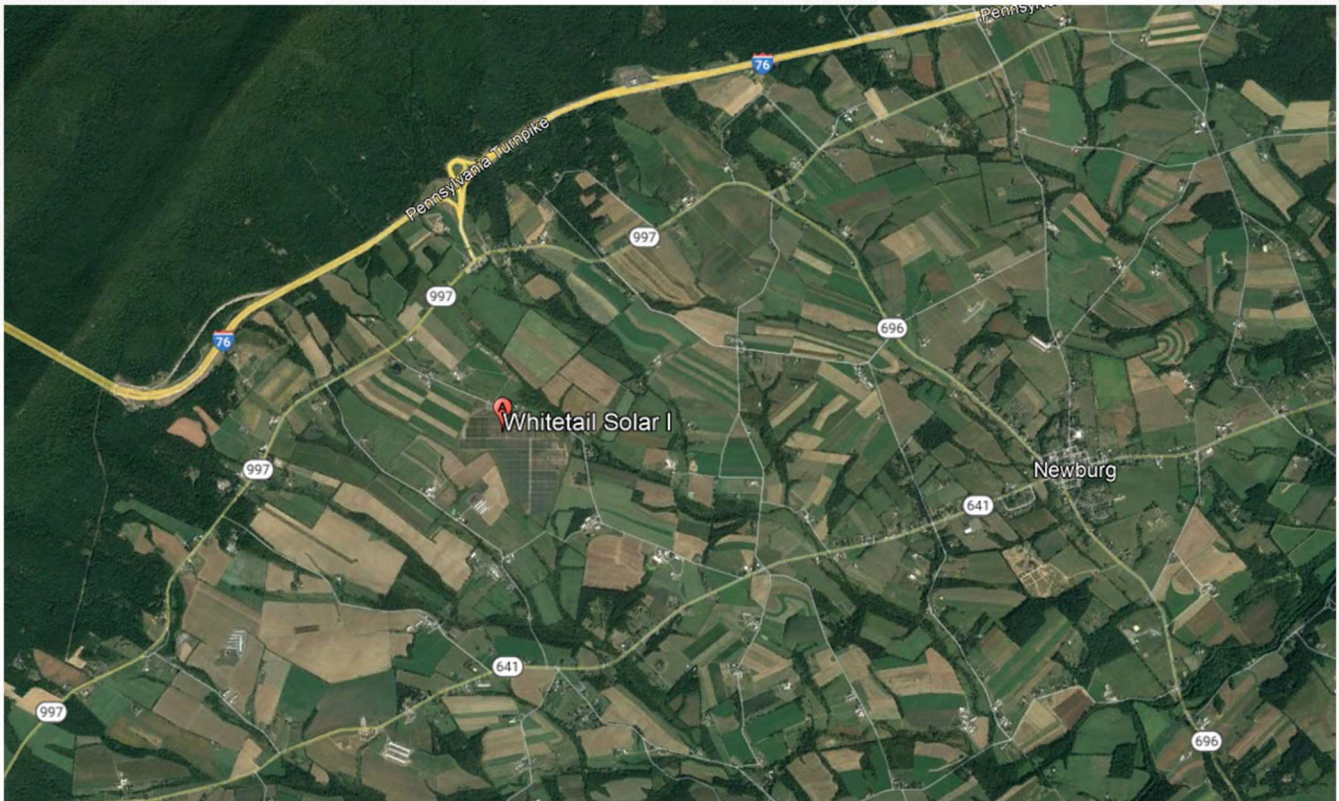
The Surrounding Area: The Whitetail Solar 1 installation is in Lurgan Township, an unincorporated community in northern Franklin County, PA. Much of the township of Lurgan's 32.8 square miles remain undeveloped and there is significant amounts of wetlands, woodlands, and agricultural space within the community.

The solar site is approximately two miles south of I-76 which serves as the Pennsylvania Turnpike, 3.4 miles west of Newburg and 18 miles north of Chambersburg. Shippensburg University is also located 10 miles south of the project.

The Immediate Area: The immediate area is primarily agricultural and single-family residential, with very little commercial use. The nearest commercial area is the town of Newburg.

The solar site is on the west side of Mowersville Road that runs roughly north-south between PA-641 and PA-997 (Cumberland Highway), which connects directly to Interstate 76 at the Blue Mountain Interchange.

The solar site is buffered from neighboring residential uses by farmland, as seen in the image below.



Whitetail Solar 1 – Overview Map of Surrounding Area

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Real Estate Tax Information: The assessed value in Beaver County has not changed for the solar parcel since 1997. Prior to development of the solar installation, in 2011, the owner of this 30.30-acre site paid real estate taxes of \$9,169 annually. In the year following the solar farm development, 2013, real estate taxes increased to approximately \$9,414, an increase of three percent, due to an increase in the millage tax rate that is determined by the local municipality, the school system, and the county.

PIN	Acres	2011 Taxes Paid	2013 Taxes Paid	Tax Increase	2011 Assessed Value	2013 Assessed Value	Value Increase
Beaver County, PA 540070200.000	30.30	\$ 9,169	\$ 9,414	3%	\$ 87,570	\$ 87,570	0%
TOTAL	30.30	\$ 9,169	\$ 9,414	3%	\$ 87,570	\$ 87,570	0%

The map below displays the properties adjoining the solar arrays and are numbered for subsequent analysis in red boxes.



Whitetail Solar 1 –Map of Adjoining Properties

Paired Sales Analysis

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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 and only group comprises the one sale in the at 9824 Mowersville Road that occurred after the completion of the solar farm.

We have excluded one home sale that was initially considered for a Test Area Sale, the home located at 9631 Mowersville Road, Adjoining Property 7. We were unable to confirm the sale details of the home and to the best of our knowledge, the property was not actively marketed for sale. Public records indicate that it is a 0 bedroom and 1 bathroom home. As such, we have excluded the sale from our analysis.

We have found Control Area Sale data through the MLS database which aggregates real estate sales from public records and verified marketing information through the network of listing brokers. 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.

Group 1

Adjoining Property 5 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a single-family home use, a one-story, three bedroom and one bathroom, 1,107 square foot home located on a 0.94- acre parcel that sold in December 2021. The property line is approximately 219 feet from the closest solar panel, and the improvements are approximately 333 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 5.

Whitetail Solar Test Area Sales - Group 1									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	GLA (SF)	Sale Date	Price PSF
5	9824 Mowersville Road	\$196,400	0.94	3	1	1970	1,107	Dec-21	\$177.42

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We have utilized one-story single-family home sales for Control Area Sales also located in Franklin County with similar age, style, and bedroom count as the Test Area Sale.

We analyzed 12 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 2020 to the end of December 2021, the most recent data available, (24 months).

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 Franklin 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.¹⁸

The results of the paired sales analysis for Group 1 - Adjoining Property 5 are presented below.

¹⁸ <https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx>

CohnReznick Paired Sale Analysis Whitetail Solar Group 1		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (1)	Adjoining solar farm	\$177.42
Control Area Sales (12)	No: Not adjoining solar farm	\$168.57
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		5.25%

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.

Noting no negative price differential, it does not appear that the Whitetail Solar 1 installation impacted the sale price of the Test Area Sale, Adjoining Property 5. We note that the distance from the panels to the Test Area Sale is only 219 linear feet and that a tree line slightly interrupts views from the house to the solar panels.

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SOLAR FARM 8: 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.

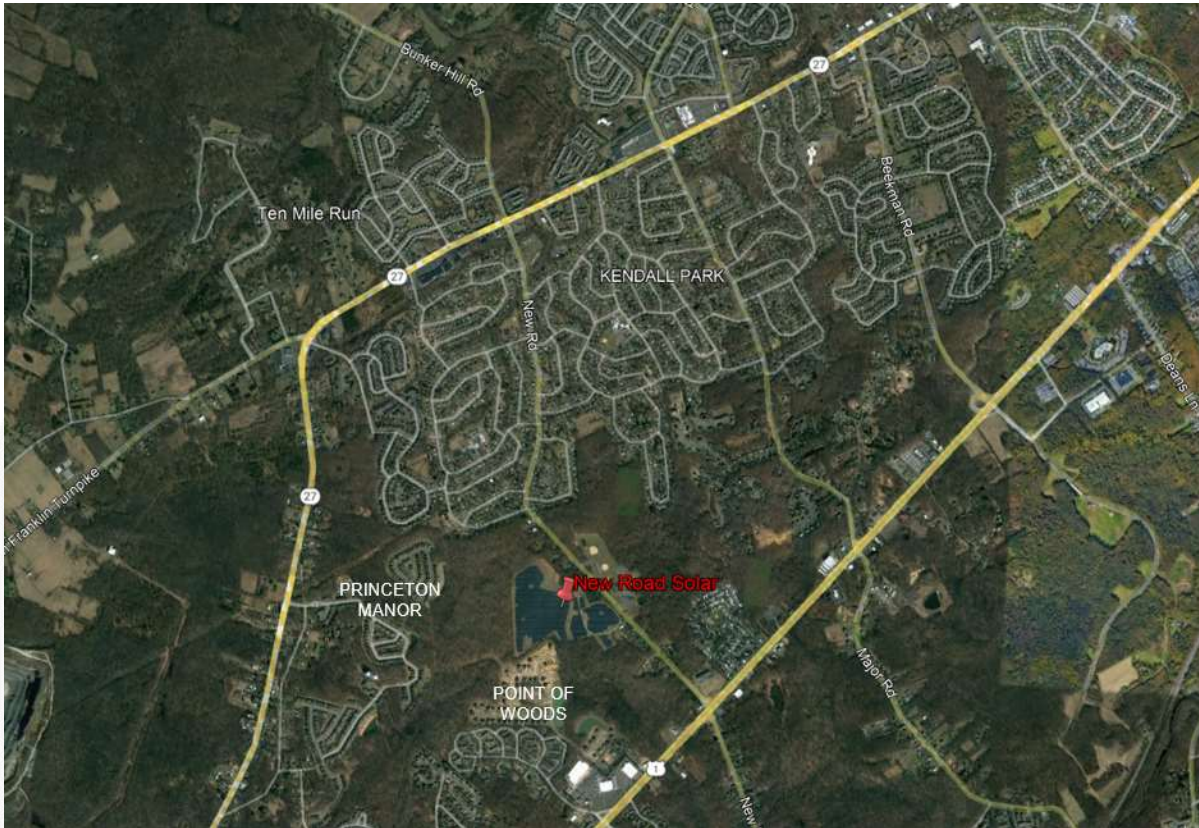
The Surrounding Area: The New Road solar installation is in Kendall Park, a census designated place, in South Brunswick Township. Much of the town of South Brunswick's 42 square miles remain undeveloped and there are still significant amounts of wetlands, woodlands, and open space within the community.

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 below.



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 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.

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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.

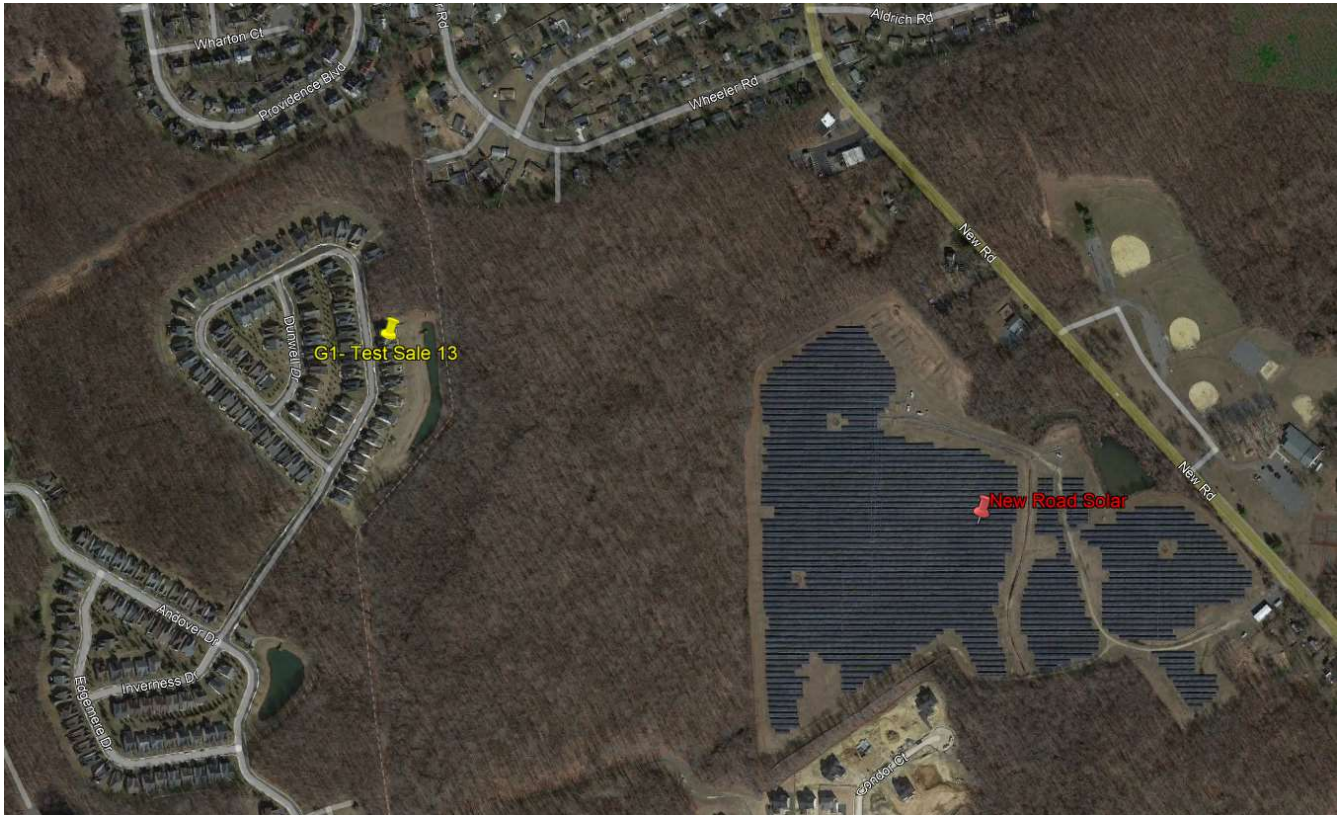
It is important to note that these Control Area Sales are not adjoining to any solar farm, nor do they have a view of one from the property. Therefore, the announcement nor the completion of the solar farm use could not have impacted the sales price of these properties.

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

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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).

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.¹⁹

The results of the paired sales analysis for Group 1 - Adjoining Property 13 are presented below.

¹⁹ <https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx>

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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.

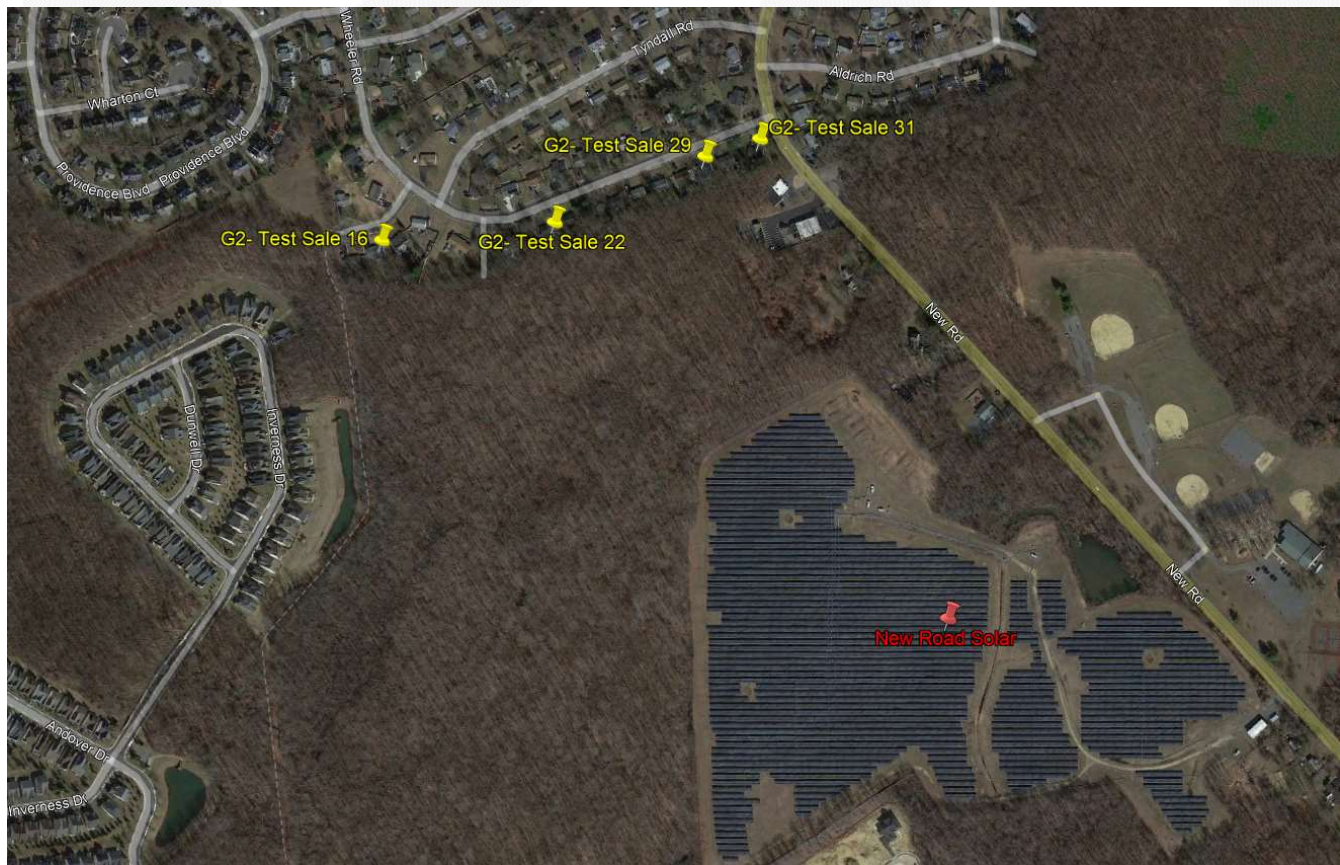
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Group 2

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 Tompkins 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.

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 from 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 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.

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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 farm 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 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.²⁰

²⁰ Chisago County Press: County Board Real Estate Update Shows No "Solar Effects" (11/03/2017)

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.

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., inverters). 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 (CO₂) emissions to fight climate change.

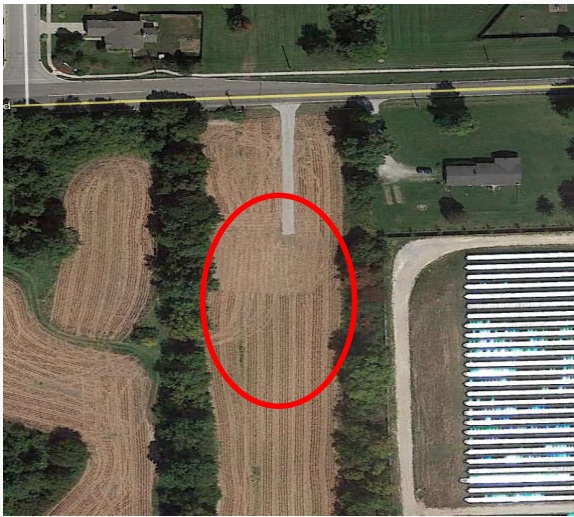
Traffic: The solar farm requires minimal daily onsite monitoring by operational employees and thus minimal operational traffic.

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.²¹ 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.

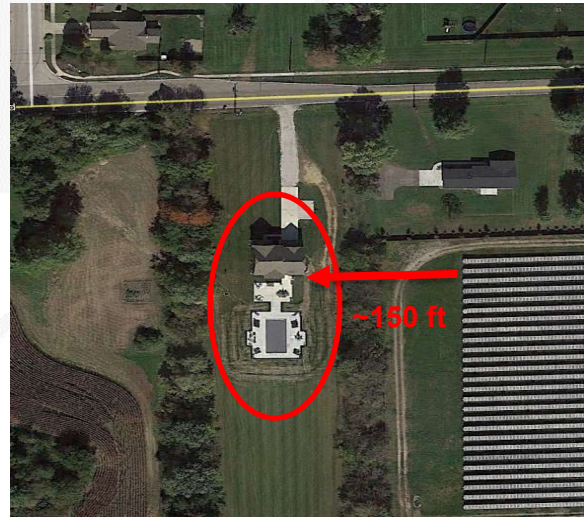
Examples of homes built adjoining to solar farms are presented on the following pages.

²¹ Virginia Solar Initiative - Weldon Cooper Center for Public Service – University of Virginia (<https://solar.coopercenter.org/taxonomy/term/5311>)

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)

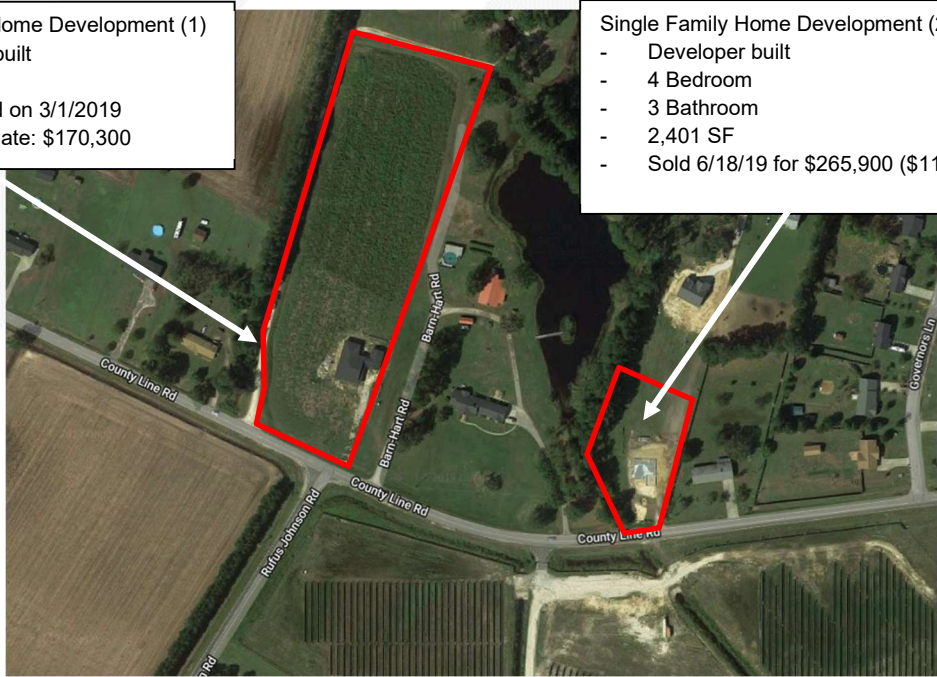
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Innovative Solar 42 (2017)
Cumberland County, NC

- 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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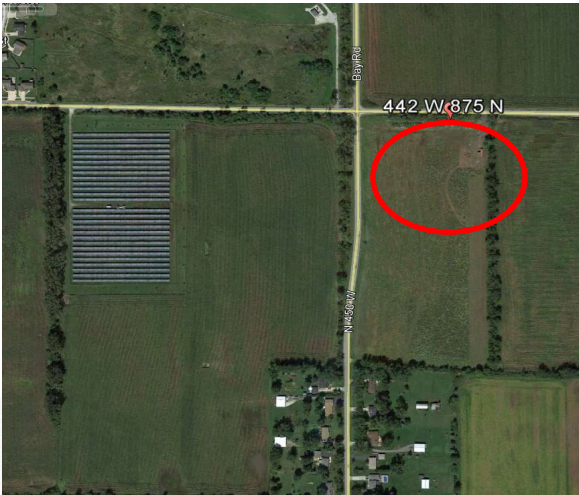


Developer Built Home

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 circled 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	Upper Marlboro	45.00%	45.00%	0.00%	0.00%	10.00%	285
2	Sunshine Farms	0.00%	80.20%	0.00%	0.00%	19.80%	590
3	Shoreham Solar Commons	52.70%	30.90%	8.30%	0.00%	8.10%	275
4	Sunfish Farm Solar	87.70%	12.30%	0.00%	0.00%	0.00%	380
5	Call Farms 3 Solar	64.00%	25.00%	3.00%	0.00%	8.00%	328
6	Jefferson County Community	73.00%	10.00%	0.00%	0.00%	16.67%	790
7	Whitetail	97.70%	2.30%	0.00%	0.00%	0.00%	334
8	New Road Solar	0.00%	51.90%	0.00%	0.00%	48.10%	1,078

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 Turning Point Energy'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 No.	Solar Farm	Number of Test Area Sales	Number of Control Area Sales	Median Adjoining Property Sale Price per Unit (Test Area Sales)	Median Control Area Sales Price per Unit	Difference (%)	Avg. Feet from Panel to Lot	Avg. Feet from Panel to House	Impact Found
Single-Family Residential									
1	Upper Marlboro Solar Group 1	1	10	\$423.08	\$384.08	+10.04%	250	265	No Impact
	Upper Marlboro Solar Group 2	1	8	\$201.66	\$189.75	+5.91%	80	307	No Impact
2	Sunshine Solar Farms Group 1	2	6	\$192.48	\$190.99	+0.78%	348	462	No Impact
3	Shoreham Solar Commons	1	6	\$166.67	\$161.08	+3.47%	110	480	No Impact
4	Sunfish Farm Solar Group 1	1	14	\$127.89	\$124.86	+2.43%	50	200	No Impact
	Sunfish Farm Solar Group 2	1	10	\$67.20	\$66.23	+1.47%	665	760	No Impact
5	Call Farms 3 Solar	1	5	\$58.80	\$58.62	+0.31%	200	297	No Impact
6	Jefferson Community Solar Garden	3	6	\$165.15	\$164.36	+0.48%	609	658	No Impact
7	Whitetail Solar	1	12	\$177.42	\$168.57	+5.25%	219	333	No Impact
8	New Road Solar Group 1	1	9	\$218.45	\$201.78	+8.26%	1,492	1,520	No Impact
	New Road Solar Group 2	4	18	\$195.53	\$199.89	-2.18%	1,054	1,113	No Impact
Median Variance in Sale Prices for Test Area Sales to Control Area Sales						+2.43%			
<i>17 Adjoining Test Area Sales studied and compared to 104 Control Area Sales</i>									
Land (Agricultural/Single Family Lots)									
2	Sunshine Solar Farms Group 1	1	9	\$67,500	\$49,900	+26.07%	320	-	No Impact
Median Variance in Sale Prices for Test to Control Areas						+26.07%			
<i>1 Adjoining Test Area Sale studied and compared to 9 Control Area Sales</i>									

As summarized above, we evaluated 17 property sales adjoining existing solar facilities (Test Area Sales) and 104 Control Area Sales

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 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**

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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.

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
Certified General Real Estate Appraiser
Illinois License No. 553.001841
Expires 9/30/2023
Indiana License No. CG41500037
Expires 6/30/2024
New Jersey License No. 42RG00238700
Expires 12/31/2023
New York License No. 46000051059
Expires 6/16/2024



Patricia L. McGarr, MAI, CRE, FRICS
National Director - Valuation Advisory Services
Certified General Real Estate Appraiser
Illinois License No. #553.000621
Expires 9/30/2023
Michigan License No. 1201072979
Expires 7/31/2024



Erin C. Bowen, MAI
Senior Manager
Certified General Real Estate Appraiser
Arizona License No. 32052
Expires 12/31/2022

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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 Erin C. Bowen, 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. Joseph P. B. Ficenec 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 Erin C. Bowen, 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
Principal
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
Illinois License No. #553.000621
Expires 9/30/2023
Indiana License No. #CG49600131
Expires 6/30/2024
Michigan License No. 1201072979
Expires 7/31/2024



Erin C. Bowen, MAI
Senior Manager
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Arizona License No. 32052
Expires 12/31/2022

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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 predicated 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.
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.

**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)
- Chairperson of the State of Illinois Real Estate Appraisal Board (2021)

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Andrew R. Lines, MAI

Principal, CohnReznick Advisory

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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.

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 branch). 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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Erin Bowen, MAI

Senior Manager, Valuation Advisory Services

858-349-8854
erin.bowen@cohnreznick.com

Erin Bowen, MAI is a Senior Manager with CohnReznick in Valuation Advisory Services. Ms. Bowen is based in Phoenix, Arizona, with presence covering the west coast. Ms. Bowen's work in Commercial Real Estate valuation spans over 11 years.

Ms. Bowen specializes in lodging, cannabis, seniors housing, large scale retail and multifamily conversion properties. Lodging work includes all hotel property types and brand segments including limited, full service and resort properties; additionally, Ms. Bowen has appraised numerous hotel to multifamily conversion properties including market rate and affordable housing. Cannabis work includes dispensaries, cultivation facilities including specialized indoor facilities and greenhouse properties, processing and manufacturing facilities. Seniors housing assignments include assisted living, skilled nursing facilities and rehabilitation centers. Retail work spans power centers, lifestyle centers, outlet centers and malls. She has appraised numerous additional properties including multifamily, office, medical office, industrial, churches, and vacant land.

Ms. Bowen has expertise in appraising properties at all stages of development, including existing as is, proposed, under construction, renovations and conversion to alternate use. Valuations have been completed nationwide for a variety of assignments including mortgage financing, litigation, tax appeal, estate gifts, asset management, as well as valuation for financial reporting including purchase price allocations (ASC 805). Impact Study Reports have also been generated for zoning hearings related to the development of solar facilities, wind powered facilities

Education

- University of California, San Diego: Bachelor of Arts in Psychology and Theater; College Honors

Professional Affiliations

- Appraisal Institute, Designated Member

Licenses

- Certified General Real Estate Appraiser licensed in New Mexico, Arizona, California, and Nevada

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2.13 Glare Study



GLARE STUDY ANALYSIS

TPE DE SU07, LLC (SOLAR FARM)

11/18/2022

Introduction:

A glare study was performed by TPE Development, LLC (“TPE”) using ForgeSolar software to assess the possible effects of reflectivity created by the proposed solar project located south of Elks Road, Seaford DE 19973 (the “Project”). This report interprets and explains the inputs, assumptions and results of the study.

ForgeSolar software incorporates GlareGauge, the leading solar glare analysis tool which meets Federal Aviation Administration (“FAA”) standards and is used globally for glare analysis. It is based on the Solar Glare Hazard Analysis Tool licensed from Sandia National Laboratories. The tool assesses the possible effects of reflectivity, both glint and glare, from a proposed solar photovoltaic installation. The tool can take topography into account; however, the tool is not able to take existing vegetation (trees, shrubs, etc) or structures (fences, buildings, etc) into account. If there is a tree line or fence obstructing visibility of the array, the tool may incorrectly report glare for which the user must adjust based on site specific vegetation or structures.

A model of the Project was input into the software along with a number of user defined observation points or paths (“Receptors”). The software calculates the sun’s position relative to the Project for every minute of the year. Results are charted displaying annual glare duration and potential ocular impact type and duration for each Receptor.

Sun reflection is most noticeable when the sun is low on the horizon and sunlight reflects off the panels at a very low angle along the horizon where it can be seen by an observer standing next to the solar farm, driving along a road, or a neighboring dwelling. The assessment will capture all the possible reflection coming from the solar farm.

Reflectivity Summary:

The term ‘reflectivity’ is used in this report to refer to both reflection types (i.e. glint and glare). The definition of glint and glare can vary; however, the definitions used in this report is aligned with the FAA and are detailed below:

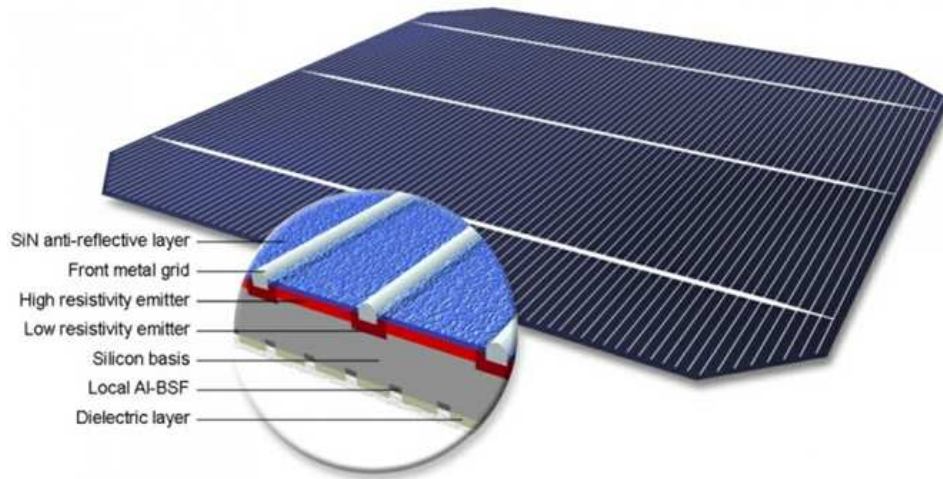
- Glint: A momentary flash of bright light typically received by moving receptors or from moving reflectors. Example: a momentary solar reflection from a moving car.
- Glare: A continuous source of bright light typically received by static Receptors or from large reflective surfaces. Glare is generally associated with stationary objects, which, due to the slow relative movement of the sun, reflect sunlight for a longer duration.

The primary difference between glint and glare is duration. The Forge Solar GlareGauge tool captures both types of reflection on the surrounding roads and dwellings.

To limit reflection and maximize conversion to electricity, solar PV panels are constructed of dark silicon wafers/cells with light-absorbing materials and the glass is covered with an anti-reflective

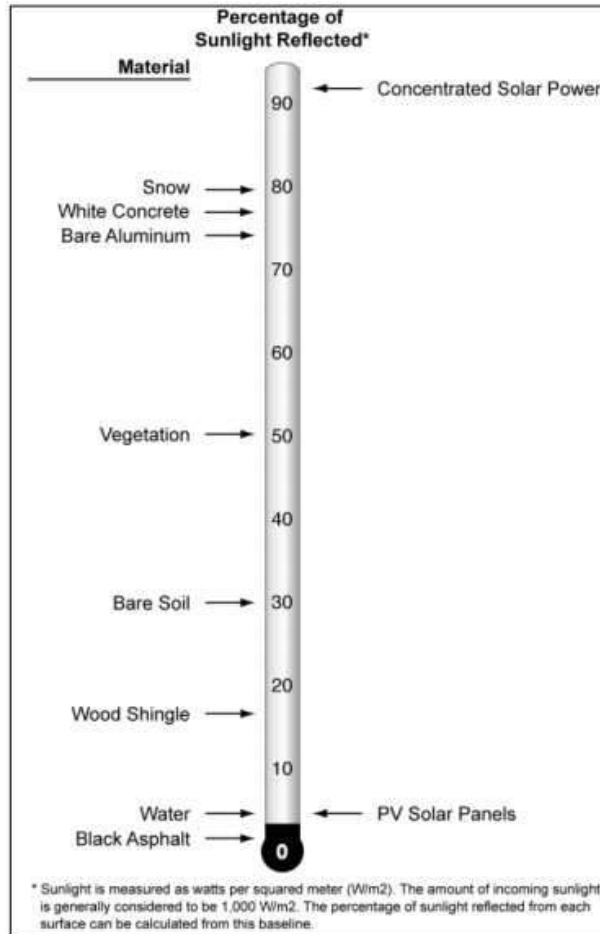
coating (ARC) as shown in Figure 1 below. These design features limit sunlight reflectance and maximize sunlight absorption.

Figure 1: Deconstructed Solar Panel



To calculate diffuse and specular reflectance of solar modules, TUV Rheinland (NRTL) performed a test using the ISO 9050 (External Light Reflectance) standards and the results are shown in Figure 2 below. The reflectivity of a typical mono-crystalline photovoltaic solar panel is approximately 5.7%, which is well below the other control samples included in the test.

Figure 2: Reflectivity of Solar Cells



ForgeSolar GlareGauge Analysis:

Inputs and Modeling Assumptions:

As input to the software, (6) Route Receptors were created along roadways in vicinity of the site. Height was measured at 5' above ground to emulate passengers in cars. Further, (15) Observation Receptors were modeled at specific dwellings located around the perimeter of the solar array. Heights were modeled at 5' above ground to emulate residents on the 1st floor of dwellings and evaluate the glare impact.

The model assumes the sun is shining 100% of the time it is above the horizon (during laylight hours). That is, it does not account for cloudy or overcast conditions when the sun is not shining, therefore the results presented would be the maximum expected glint and glare during any single year.

Existing topography is taken into account in the simulation based on LIDAR ("Light Detection and Ranging") data. Existing and planned vegetation are not considered in the simulation. The model assumed zero vegetation that may screen the Project, so this must be considered when interpreting the study results. A direct line of sight between the Project and the designated Route Receptors and Observation Receptors is required to produce any discernible glint/glare, so if there is existing or proposed vegetation between the receptor and the project, any glint/glare would be eliminated.

Solar panels will be mounted on single axis trackers with a southern azimuth and the panels will track the sun to capture as much sunlight as possible. Therefore, glare is typically not experienced during normal operational hours since any reflection would be back toward the location of the sun. Potential glare is most noticeable when the sun is low on the horizon, early in the morning or late in the afternoon, when sunlight reflects off the panels in a horizontal position (stow mode) at the opposite low angle along the horizon to the east or the west. To reduce glare in the east and west directions during these low sun periods, a 5-degree tracker resting angle was implemented during these times which avoids the main source of glare for solar projects.

Results:

Based on the project specific location, sun position throughout the year, and the above inputs/assumptions, no potential for glint or glare was identified in the analysis at any of the Route Receptors or the neighboring Observation Receptors. While excluded from the analysis, existing and existing vegetation will further shield the view of the project from nearby properties and roadways.

No additional mitigation measures are recommended since no glint or glare is anticipated based on the ForgeSolar GlareGauge results.

FORGESOLAR GLARE ANALYSIS

Project: **SU07**
 Site configuration: **SU07**

Created 15 Nov, 2022
 Updated 16 Nov, 2022
 Time-step 1 minute
 Timezone offset UTC-5
 Site ID 79407.14045
 Category 1 MW to 5 MW
 DNI peaks at 1,000.0 W/m²
 Ocular transmission coefficient 0.5
 Pupil diameter 0.002 m
 Eye focal length 0.017 m
 Sun subtended angle 9.3 mrad
 Methodology V2



Summary of Results No glare predicted

PV Array	Tilt °	Orient °	Annual Green Glare		Annual Yellow Glare		Energy kWh
			min	hr	min	hr	
SU07	SA tracking	SA tracking	0	0.0	0	0.0	8,365,000.0

Total annual glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Route 1	0	0.0	0	0.0
Route 2	0	0.0	0	0.0
Route 3	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0

Component Data

PV Arrays

Name: SU07
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.35
Rated power: 3000.0 kW
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.691443	-75.604325	34.57	5.00	39.57
2	38.691456	-75.603073	34.53	5.00	39.53
3	38.691161	-75.603075	34.69	5.00	39.69
4	38.691157	-75.601026	32.99	5.00	37.99
5	38.690909	-75.601021	33.13	5.00	38.13
6	38.690909	-75.600447	31.74	5.00	36.74
7	38.690682	-75.600441	32.06	5.00	37.06
8	38.690683	-75.600323	31.42	5.00	36.42
9	38.690407	-75.600313	32.93	5.00	37.93
10	38.690407	-75.600141	32.02	5.00	37.02
11	38.689670	-75.600157	32.62	5.00	37.62
12	38.689666	-75.604314	33.33	5.00	38.33

Route Receptors

Name: Route 1
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.695514	-75.604490	33.41	5.00	38.41
2	38.693839	-75.603089	33.39	5.00	38.39
3	38.693260	-75.602588	33.46	5.00	38.46
4	38.692979	-75.602269	32.85	5.00	37.85
5	38.692481	-75.601496	30.58	5.00	35.58
6	38.692035	-75.600685	27.38	5.00	32.38
7	38.691649	-75.599880	28.51	5.00	33.51
8	38.691386	-75.599145	28.04	5.00	33.04
9	38.691118	-75.598673	28.60	5.00	33.60
10	38.690875	-75.598394	29.65	5.00	34.65
11	38.688000	-75.596301	30.77	5.00	35.77
12	38.687212	-75.595711	31.87	5.00	36.87
13	38.686919	-75.595389	32.30	5.00	37.30
14	38.686601	-75.594927	31.38	5.00	36.38

Name: Route 2
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.692250	-75.601347	30.34	5.00	35.34
2	38.691448	-75.601478	32.35	5.00	37.35
3	38.691378	-75.601461	32.26	5.00	37.26
4	38.691340	-75.601380	32.25	5.00	37.25
5	38.691289	-75.601037	32.94	5.00	37.94
6	38.691084	-75.600393	32.66	5.00	37.66
7	38.691016	-75.600255	31.11	5.00	36.11
8	38.690948	-75.600168	29.68	5.00	34.68
9	38.690174	-75.599663	28.67	5.00	33.67
10	38.689428	-75.599358	28.20	5.00	33.20
11	38.688992	-75.599207	28.09	5.00	33.09
12	38.688232	-75.599245	27.95	5.00	32.95
13	38.687160	-75.599231	28.67	5.00	33.67

Name: Route 3
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.694306	-75.603630	32.79	5.00	37.79
2	38.692778	-75.604199	36.05	5.00	41.05
3	38.692602	-75.604365	36.04	5.00	41.04
4	38.692328	-75.604456	36.02	5.00	41.02
5	38.692039	-75.604446	35.97	5.00	40.97
6	38.691976	-75.604326	35.08	5.00	40.08
7	38.692005	-75.604149	34.97	5.00	39.97
8	38.692137	-75.603977	35.38	5.00	40.38
9	38.692333	-75.603903	35.69	5.00	40.69
10	38.692574	-75.603878	35.80	5.00	40.80
11	38.692913	-75.603744	36.45	5.00	41.45
12	38.694007	-75.603391	33.21	5.00	38.21

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	38.693571	-75.606088	33.22	5.00
OP 2	2	38.694685	-75.605787	36.16	5.00
OP 3	3	38.695246	-75.606233	36.92	5.00
OP 4	4	38.696096	-75.608582	36.27	5.00
OP 5	5	38.696494	-75.604543	32.97	5.00
OP 6	6	38.695666	-75.601579	33.90	5.00
OP 7	7	38.695799	-75.600800	35.68	5.00
OP 8	8	38.696404	-75.600893	34.34	5.00
OP 9	9	38.694747	-75.600689	32.32	5.00
OP 10	10	38.693864	-75.601484	30.11	5.00
OP 11	11	38.694483	-75.602954	32.35	5.00
OP 12	12	38.692549	-75.603571	36.23	5.00
OP 13	13	38.692734	-75.599042	30.64	5.00
OP 14	14	38.691338	-75.598473	30.63	5.00
OP 15	15	38.688887	-75.597758	30.72	5.00
OP 16	16	38.687533	-75.615952	32.39	5.00
OP 17	17	38.683998	-75.615589	36.16	5.00
OP 18	18	38.682371	-75.613906	31.40	5.00
OP 19	19	38.682205	-75.612717	31.57	5.00
OP 20	20	38.683078	-75.608280	29.29	5.00
OP 21	21	38.682523	-75.597792	29.91	5.00

Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
SU07	SA tracking	SA tracking	0	0.0	0	0.0	8,365,000.0

Total annual glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Route 1	0	0.0	0	0.0
Route 2	0	0.0	0	0.0
Route 3	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0

PV: SU07 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Route 1	0	0.0	0	0.0
Route 2	0	0.0	0	0.0
Route 3	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0

SU07 and Route 1

Receptor type: Route
No glare found

SU07 and Route 2

Receptor type: Route
No glare found

SU07 and Route 3

Receptor type: Route
No glare found

SU07 and OP 1

Receptor type: Observation Point
No glare found

SU07 and OP 2

Receptor type: Observation Point
No glare found

SU07 and OP 3

Receptor type: Observation Point
No glare found

SU07 and OP 4

Receptor type: Observation Point
No glare found

SU07 and OP 5

Receptor type: Observation Point
No glare found

SU07 and OP 6

Receptor type: Observation Point
No glare found

SU07 and OP 7

Receptor type: Observation Point
No glare found

SU07 and OP 8

Receptor type: Observation Point
No glare found

SU07 and OP 9

Receptor type: Observation Point
No glare found

SU07 and OP 10

Receptor type: Observation Point
No glare found

SU07 and OP 11

Receptor type: Observation Point
No glare found

SU07 and OP 12

Receptor type: Observation Point
No glare found

SU07 and OP 13

Receptor type: Observation Point
No glare found

SU07 and OP 14

Receptor type: Observation Point
No glare found

SU07 and OP 15

Receptor type: Observation Point
No glare found

SU07 and OP 16

Receptor type: Observation Point
No glare found

SU07 and OP 17

Receptor type: Observation Point
No glare found

SU07 and OP 18

Receptor type: Observation Point
No glare found

SU07 and OP 19

Receptor type: Observation Point
No glare found

SU07 and OP 20

Receptor type: Observation Point
No glare found

SU07 and OP 21

Receptor type: Observation Point

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.

Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.

Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.

The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.

The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)

The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.

The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.

The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

Refer to the Help page at www.forgesolar.com/help/ for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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3.0 List of Letters – (C/U 2342 – TPE DE SU07, LLC)

3.1 Legal Description and Deed

3.2 Conditional Use #2342 – Letter to Engineer

3.3 DelDOT Service Level Evaluation Response

3.4 Public Outreach Correspondence

3.1 Legal Description and Deed



LANDS OF: Michael R. & Rosemary V. Everton
TAX MAP NO.: 331-1.00-15.01 (portion of)

SU07 Conditional Use Boundary – 27.5 ACRES ±

All that certain lot, piece or parcel of land, situated in Sussex County, State of Delaware, lying south side of Elks Road and being more particularly described as follows to wit:

Beginning at a corner for this parcel and lands of Mid Atlantic Services A Team Corp. and in line with the southerly right of way line of Elks Road; thence running with the southerly right of way line of Elks Road the following two courses and distances 1) along the arc of a circle curving to the left having a radius of 1737.30 feet and an arc length of 62.55 feet, chord bearing and distance of said arc being South 54°03'47" East 62.55 feet to a point, thence 2) South 53°23'01" East 97.45 feet to a point; thence running lands of others the following six courses and distances 3) South 28°23'59" West 37.02 feet to a point; thence 4) South 06°33'24" West 259.31 feet to a point; thence 5) South 78°14'30" East 138.29 feet to a point; thence 6) South 66°00'56" East 196.54 feet to a point, thence 7) South 51°58'44" East 94.94 feet to a point; thence 8) North 24°08'09" East 69.22 feet to a point in the waterline of Hearn's Pond; thence running with waterline of Hearn's Pond the following seven courses and distances 9) South 14°48'29" East 63.38 feet; thence 10) South 07°19'25" East 102.98 feet; thence 11) South 22°17'41" East 123.37 feet; thence 12) South 22°38'47" East 81.10 feet; thence 13) South 17°43'05" East 146.46 feet; thence 14) South 08°10'42" East 130.78 feet; thence 15) South 38°00'01" East 44.02 feet to a point; thence leaving Hearn's Pond and running across residue lands of Michael R. & Rosemary V. Everton 16) North 89°30'41" West 1551.82 feet to a point at a corner for this parcel and in line with lands of Ray S. Mears & Sons, Inc.; thence with said lands of Mears & Sons, Inc. 17) North 03°06'12" East 910.92 feet to a point at a corner for this parcel and lands of Baker Farm, LLC; thence with said Baker Farm, LLC the following two courses and distances 18) South 74°34'00" East 455.02 feet; thence 19) North 29°47'13" East 269.99 feet to a point at a corner for this parcel and lands of Mid Atlantic Services A Team Corp.; thence with said Mid Atlantic Services the following two courses and distances 20) South 60°12'48" East 147.83 feet, thence 21) North 29°47'13" East 209.52 feet to the point and place of beginning, containing 27.5 acres of land be the same, more or less.

Above description prepared by Becker Morgan Group, Inc.:
Jeffrey C. Dodd – P.L.S. 782

000006040
DK03549 PG00305

RETURN TO:
Michael R. Everton
Rosemary V. Everton
8578 Elks Road
Seaford, DE 19973

Tax No.: 3-31 1.00 15.01
PREPARED BY:
Tunnell & Raysor, P.A.
30 E. Pine Street
Georgetown, DE
File No. DO1060/DD

THIS CONFIRMATORY DEED, made this 31st day of January, 2008,

- BETWEEN -

MICHAEL R. EVERTON and **ROSEMARY V. EVERTON**, of 8578 Elks Road, Seaford, DE 19973, party of the first part,

- AND -

MICHAEL R. EVERTON and **ROSEMARY V. EVERTON**, of 8578 Elks Road, Seaford, DE 19973, as tenants by the entireties, parties of the second part.

WITNESSETH: That the said party of the first part, for and in consideration of the sum of **ONE DOLLAR (\$1.00)**, lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the parties of the second part, and their heirs and assigns, in fee simple, the following described lands, situate, lying and being in Sussex County, State of Delaware:

ALL that certain piece, parcel and tract of land lying and being situate in Seaford Hundred, Sussex County and State of Delaware, being described more particularly described in accordance with a survey plat titled "**Re-subdivision of Lands for Michael R. & Rosemary V. Everton & Baker Farms, LLC**" prepared by Miller-Lewis, Inc. dated April 3, 2006, and revised January 29, 2008 and filed for record in the Office of the Recorder of Deeds, in and for Sussex County, at Georgetown, Delaware in Plot Book 118, Page 220, as follows:

BEGINNING at an iron pipe (set) at the westerly right-of-way of Delaware Road # 46 (Elks Road), the width of which varies; said point being situate southerly 1068.16 feet from a point opposite the centerline intersection of Delaware Road # 46 and Delaware Road # 18; thence with said Delaware Road # 46 the following ten (10) courses and distances: 1) along a curve to the left having a radius of 1737.30 feet, a delta angle of 07

TUNNELL
& RAYSOR, P.A.
Georgetown, Delaware



degrees 00 minutes 37 seconds, an arc length of 212.56 feet, and a chord bearing South 43 degrees 36 minutes 24 seconds East 212.43 feet to a point, 2) South 45 degrees 24 minutes 04 seconds East 112.14 feet to a point, 3) along a curve to the left having a radius of 1690.84 feet, a delta angle of 00 degrees 51 minutes 50 seconds, an arc length 25.49 feet, and a chord bearing South 47 degrees 43 minutes 13 seconds East 25.49 feet to a point, 4) South 47 degrees 14 minutes 16 seconds East 63.71 feet to a point, 5) South 50 degrees 10 minutes 00 seconds East 139.97 feet to a point, 6) South 54 degrees 13 minutes 17 seconds East 105.24 feet to a point, 7) South 55 degrees 47 minutes 30 seconds East 76.46 feet to a nail set in concrete, 8) South 32 degrees 39 minutes 31 seconds West 15.00 feet to a pipe (set), and 9) South 57 degrees 20 minutes 29 seconds East 99.36 feet to a pipe (set); thence with the waterline of Hearn's Pond the following one hundred and twenty three (123) courses and distances: 1) South 12 degrees 25 minutes 52 seconds West 31.20 feet to a point, 2) South 15 degrees 13 minutes 50 seconds East 32.27 feet to a point, 3) South 57 degrees 30 minutes 16 seconds West 18.37 feet to a point, 4) South 61 degrees 49 minutes 26 seconds West 28.02 feet to a point, 5) South 66 degrees 16 minutes 17 seconds West 61.35 feet to a point, 6) South 06 degrees 49 minutes 32 seconds East 63.48 feet to a point, 7) South 00 degrees 39 minutes 32 seconds West 102.985 feet to a point, 8) South 14 degrees 18 minutes 44 seconds East 123.37 feet to a point, 9) South 14 degrees 39 minutes 50 seconds East 81.10 feet to a point, 10) South 09 degrees 44 minutes 08 seconds East 146.46 feet to a point, 11) South 00 degrees 11 minutes 45 seconds East 130.78 feet to a point, 12) South 30 degrees 01 minutes 04 seconds East 115.77 feet to a point, 13) South 23 degrees 09 minutes 54 seconds West 122.76 feet to a point, 14) South 17 degrees 01 minutes 09 seconds West 148.41 feet to a point, 15) South 07 degrees 56 minutes 01 seconds East 95.26 feet to a point, 16) South 13 degrees 00 minutes 32 seconds East 84.22 feet to a point, 17) South 01 degrees 53 minutes 10 seconds East 51.08 feet to a point, 18) South 29 degrees 10 minutes 59 seconds West 49.23 feet to a point, 19) South 27 degrees 50 minutes 44 seconds West 47.29 feet to a point, 20) South 05 degrees 35 minutes 25 seconds West 39.32 feet to a point, 21) South 84 degrees 52 minutes 52 seconds West 13.25 feet to a point, 22) South 02 degrees 02 minutes 00 seconds East 72.01 feet to a point, 23) South 23 degrees 37 minutes 35 seconds East 78.24 feet to a point, 24) South 27 degrees 52 minutes 01 seconds West 71.58 feet to a point, 25) South 38 degrees 21 minutes 46 seconds West 43.88 feet to a point, 26) South 26 degrees 46 minutes 30 seconds West 98.55 feet to a point, 27) South 09 degrees 52 minutes 31 seconds West 59.15 feet to a point, 28) South 38 degrees 34 minutes 11 seconds East 54.46 feet to a point, 29) South 49 degrees 42 minutes 46 seconds East 64.69 feet to a point, 30) South 01 degrees 17 minutes 59 seconds West 39.84 feet to a point, 31) South 04 degrees 47 minutes 07 seconds West 47.63 feet to a point, 32) South 28 degrees 31 minutes 01 seconds West 46.58 feet to a point, 33) South 11 degrees 59 minutes 49 seconds East 26.99 feet to a point, 34) South 58 degrees 46 minutes 47 seconds East 55.55 feet to a point, 35) South 58 degrees 58 minutes 05 seconds East 64.40 feet to a point, 36) South 76 degrees 23 minutes 43 seconds East 44.68 feet to a point, 37) South 60 degrees 30 minutes 21 seconds East 52.49 feet to a point, 38) South 19 degrees 18 minutes 08 seconds East 32.27 feet to a point, 39) South 46 degrees 17 minutes 07 seconds West 50.56 feet to a point, 40) South 44 degrees 39 minutes 16 seconds West 126.09 feet to a point, 41) South 01 degrees 44 minutes 36 seconds West 134.59 feet to a point, 42) South 41 degrees 53 minutes 20 seconds West 158.40 feet to a point, 43) South 23 degrees 16 minutes 48 seconds West

100.44 feet to a point, 44) South 35 degrees 17 minutes 09 seconds West 68.72 feet to a point, 45) South 35 degrees 17 minutes 09 seconds West 68.72 feet to a point, 46) South 20 degrees 15 minutes 10 seconds West 81.45 feet to a point, 47) South 40 degrees 03 minutes 13 seconds West 109.01 feet to a point, 48) South 64 degrees 17 minutes 13 seconds West 29.42 feet to a point, 49) South 14 degrees 41 minutes 51 seconds West 22.47 feet to a point, 50) South 12 degrees 36 minutes 38 seconds West 64.29 feet to a point, 51) South 15 degrees 40 minutes 00 seconds West 27.76 feet to a point, 52) South 06 degrees 22 minutes 34 seconds West 34.87 feet to a point, 53) South 04 degrees 09 minutes 34 seconds East 27.09 feet to a point, 54) South 19 degrees 26 minutes 02 seconds East 45.95 feet to a point, 55) South 19 degrees 09 minutes 52 seconds East 66.56 feet to a point, 56) South 03 degrees 55 minutes 36 seconds East 46.93 feet to a point, 57) South 04 degrees 36 minutes 03 seconds West 48.97 feet to a point, 58) South 29 degrees 56 minutes 18 seconds West 23.39 feet to a point, 59) North 56 degrees 40 minutes 05 seconds West 30.11 feet to a point, 60) North 26 degrees 25 minutes 06 seconds West 121.12 feet to a point, 61) North 43 degrees 34 minutes 28 seconds West 57.37 feet to a point, 62) North 55 degrees 24 minutes 50 seconds West 43.12 feet to a point, 63) North 29 degrees 06 minutes 52 seconds West 45.75 feet to a point, 64) North 18 degrees 40 minutes 25 seconds East 85.30 feet to a point, 65) North 25 degrees 59 minutes 52 seconds West 90.92 feet to a point, 66) North 27 degrees 41 minutes 58 seconds West 51.80 feet to a point, 67) North 44 degrees 01 minutes 12 seconds West 54.00 feet to a point, 68) North 62 degrees 20 minutes 59 seconds West 58.90 feet to a point, 69) South 60 degrees 42 minutes 28 seconds West 40.13 feet to a point, 70) South 12 degrees 51 minutes 08 seconds West 55.67 feet to a point, 71) South 26 degrees 15 minutes 30 seconds West 26.65 feet to a point, 72) South 55 degrees 12 minutes 51 seconds West 98.65 feet to a point, 73) North 71 degrees 12 minutes 35 seconds West 32.46 feet to a point, 74) North 66 degrees 20 minutes 52 seconds West 55.86 feet to a point, 75) North 47 degrees 58 minutes 12 seconds West 35.66 feet to a point, 76) North 08 degrees 44 minutes 49 seconds West 62.16 feet to a point, 77) North 06 degrees 53 minutes 55 seconds East 31.46 feet to a point, 78) North 32 degrees 30 minutes 18 seconds West 47.62 feet to a point, 79) North 47 degrees 52 minutes 28 seconds West 47.30 feet to a point, 80) North 47 degrees 52 minutes 03 seconds West 51.49 feet to a point, 81) North 56 degrees 52 minutes 28 seconds West 35.23 feet to a point, 82) North 52 degrees 59 minutes 24 seconds West 42.38 feet to a point, 83) North 64 degrees 57 minutes 55 seconds West 39.94 feet to a point, 84) South 59 degrees 13 minutes 27 seconds West 11.31 feet to a point, 85) South 38 degrees 42 minutes 55 seconds East 44.69 feet to a point, 86) South 50 degrees 13 minutes 02 seconds East 67.48 feet to a point, 87) South 39 degrees 12 minutes 20 seconds East 45.37 feet to a point, 88) South 28 degrees 43 minutes 05 seconds East 39.40 feet to a point, 89) South 35 degrees 11 minutes 32 seconds East 42.64 feet to a point, 90) South 07 degrees 00 minutes 28 seconds East 38.02 feet to a point, 91) South 09 degrees 12 minutes 57 seconds West 33.32 feet to a point, 92) South 02 degrees 43 minutes 31 seconds West 37.88 feet to a point, 93) South 11 degrees 40 minutes 29 seconds West 24.28 feet to a point, 94) South 55 degrees 48 minutes 11 seconds East 16.38 feet to a point, 95) South 45 degrees 05 minutes 39 seconds East 35.42 feet to a point, 96) South 28 degrees 59 minutes 21 seconds West 17.65 feet to a point, 97) South 70 degrees 14 minutes 44 seconds West 46.58 feet to a point, 98) South 57 degrees 37 minutes 34 seconds West 51.17 feet to a point, 99) South 58 degrees 53 minutes 16 seconds West 33.82 feet to a point, 100) North

55 degrees 05 minutes 38 seconds West 66.49 feet to a point, 101) North 41 degrees 56 minutes 55 seconds West 51.06 feet to a point, 102) North 42 degrees 10 minutes 23 seconds West 62.93 feet to a point, 103) North 58 degrees 33 minutes 59 seconds West 28.02 feet to a point, 104) North 59 degrees 19 minutes 00 seconds West 82.22 feet to a point, 105) North 58 degrees 37 minutes 51 seconds West 78.79 feet to a point, 106) North 48 degrees 41 minutes 13 seconds West 57.54 feet to a point, 107) North 20 degrees 38 minutes 29 seconds West 43.31 feet to a point, 108) North 40 degrees 35 minutes 10 seconds West 33.33 feet to a point, 109) North 36 degrees 03 minutes 12 seconds West 52.11 feet to a point, 110) South 84 degrees 22 minutes 30 seconds West 52.52 feet to a point, 111) South 72 degrees 41 minutes 08 seconds West 48.53 feet to a point, 112) South 56 degrees 39 minutes 24 seconds West 51.95 feet to a point, 113) South 60 degrees 15 minutes 21 seconds West 14.16 feet to a point, 114) South 62 degrees 35 minutes 27 seconds West 84.43 feet to a point, 115) South 42 degrees 59 minutes 29 seconds West 35.56 feet to a point, 116) South 59 degrees 29 minutes 58 seconds West 49.77 feet to a point, 117) South 80 degrees 12 minutes 13 seconds West 27.17 feet to a point, 118) North 70 degrees 22 minutes 28 seconds West 34.80 feet to a point, 119) North 58 degrees 49 minutes 52 seconds West 32.11 feet to a point, 120) South 33 degrees 54 minutes 33 seconds West 63.54 feet to a point, 121) South 79 degrees 56 minutes 06 seconds West 59.62 feet to a point, 122) North 60 degrees 52 minutes 14 seconds West 39.33 feet to a point, and 123) North 48 degrees 01 minutes 55 seconds West 22.56 feet to a point; thence running with the ditch and lands now or formerly of Ray S. Mears and Sons, Inc. North 11 degrees 05 minutes 09 seconds East 3246.68 feet to an iron pipe (set), passing over an iron pipe (set) at 50.00 feet; thence with Parcel "E" on plat titled "Re-subdivision of Lands for Michael R. & Rosemary V. Everton & Baker Farm, LLC", aforementioned, South 66 degrees 35 minutes 02 seconds East 455.02 feet to an iron pipe (set); thence continuing in part with Parcel "E" on plat aforementioned and partly with other Everton lands North 37°-46minutes10" East 504.60 feet to a point of beginning; containing 117.755 acres of land.

BEING part of the same lands conveyed unto Michael R. Everton & Rosemary V. Everton by deed of Mary S. Baker, Michael R. Everton and Rosemary V. Everton, dated September 6, 2004 and filed for record on October 6, 2004 in the Office of the Recorder of Deeds, in and for Sussex County, at Georgetown, Delaware in Deed Book 3044, Page 27.

ALSO BEING the same lands conveyed unto Michael R. Everton & Rosemary V. Everton by deed of Baker Farm, LLC, dated January 31, 2008 and filed for record in the Office of the Recorder of Deeds, in and for Sussex County, at Georgetown, Delaware in Deed Book 3544, Page 165

SUBJECT to any and all restrictions, reservations, conditions, easements and agreements of record in the Office of the Recorder of Deeds in and for Sussex County, Delaware.

Consideration:	\$0.00	Exempt Code: A
County	State	Total
0.00	0.00	0.00
counter1	Date: 02/15/2008	

FENNELL
RAYSOR, P.A.
 Georgetown, Delaware

IN WITNESS WHEREOF, the party of the first part has hereunto set its hand and seal the day and year first above written.

Signed, Sealed and Delivered
in the presence of:

Jane Patchell
Witness

[Signature] (SEAL)
Michael R. Everton

Jane Patchell
Witness

[Signature] (SEAL)
Rosemary V. Everton

STATE OF DELAWARE :
: ss
COUNTY OF SUSSEX :

BE IT REMEMBERED, that on 31st day of January, 2008, personally came before me, the subscriber, Michael R. Everton and Rosemary V. Everton, parties of the first part to this Indenture, known to me personally to be such, and acknowledged this Indenture to be their act and deed.

GIVEN under my Hand and Seal of Office the day and year aforesaid.

RECEIVED

FEB 19 2008

**ASSESSMENT DIVISION
OF SUSSEX COUNTY**

Jane Patchell
Notary Public

My Commission Expires: _____

JANE R. PATCHELL
ATTORNEY AT LAW WITH
POWER TO ACT AS NOTARY PUBLIC
PER 29 DEL. C SEC 4323 (A) 3

RECORDER OF DEEDS
JOHN F. BRADY
02/15/2008 03:01P
SUSSEX COUNTY
DOC. SURCHARGE PAID

3.2 Letter to Engineer

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



Sussex County

DELAWARE
sussexcountyde.gov

November 17, 2022

Becker Morgan Group
309 South Governors Avenue
Dover, DE 19904

Email: jfalkowski@beckermorgan.com

Dear Becker Morgan Group:

C/U 2342 Turning Point Energy - TPE DE SU07, LLC

AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR A SOLAR FARM TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN SEAFORD HUNDRED, SUSSEX COUNTY, CONTAINING 27.5 ACRES, MORE OR LESS. The property is lying on the west side of Elks Road (Rt. 46) approximately 0.50 miles west of the intersection of Elks Road (Rt. 46) and Sussex Highway (Rt. 13). 911 Address: N/A. Tax Parcel: 331-1.00-15.01 (p/o).

The **Planning and Zoning Commission** will hold a Public Hearing on **Thursday, December 15, 2022, at 5:00 pm** in the Sussex County Council Chambers located in the County Administrative Office at 2 The Circle Georgetown, DE, 19947.

The **Sussex County Council** will hold a Public Hearing on **Tuesday, February 21, 2023, at 1:30 pm** in the Sussex County Council Chambers located in the County Administrative Office at 2 The Circle Georgetown, DE, 19947.

It will be necessary for you the applicant to participate at the hearings before both the Commission and County Council. If you do not participate or are not represented, the Commission and/or County Council reserve the right to refuse to act on your application and may require that a new application be filed, and fees paid at your expense.

If an attorney, or agent, will be representing you, the applicant, it is your duty to notify them as to the dates and times of the hearings as herein set forth, as the Commission and County Council will not notify your counsel.

Further instructions describing the method of public participation and the manner of viewing the hearings will be contained within the Agendas for both of these meetings that will be posted at least 7 days in advance of each meeting at sussexcountyde.gov.

Sincerely,
Planning and Zoning Department



COUNTY ADMINISTRATIVE OFFICES
2 THE CIRCLE | PO BOX 417
GEORGETOWN, DELAWARE 19947

3.3 DelDOT Service Level Evaluation Response



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

NICOLE MAJESKI
SECRETARY

December 30, 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 **TPE DE SU07, LLC c/o Adam Beal** proposed land use application, which we received on December 20, 2021. This application is for an approximately 104.48-acre parcel (Tax Parcel: 331-1.00-15.01). The subject land is located on the south side of Elks Road (Sussex Road 46) about 1,30 ft south of the intersection with Cannon Road (State Route 18). The subject land is currently zoned AR-1 (Agriculture Residential), and the applicant seeks a conditional use approval to build a solar energy system.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volumes along Elks Road from Sussex Highway (US Route 13) to Cannon Road, is 2,261 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 DeIDOT's minimum warrants for determining that a Traffic Impact Study (TIS) should be required for a particular development. DeIDOT'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. DeIDOT'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.

Mr. Jamie Whitehouse

Page 2 of 2

December 30, 2021

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 Furrato, at Annamaria.Furrato@delaware.gov, if you have questions concerning this correspondence.

Sincerely,



T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:afm

cc: TPE DE SU07, LLC c/o Adam Beal, Applicant
Sussex Reviewer, Sussex County Planning & Zoning
David 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
Claudy Joinville, Project Engineer, Development Coordination
Annamaria Furrato, Project Engineer, Development Coordination

3.4 Public Outreach Correspondence

November 15, 2022

Hello,

My name is Jordan Belknap. I am writing on behalf of TPE DE SU07, LLC, an affiliate of TurningPoint Energy (TPE). TPE is proposing to develop a Community Solar Energy Facility located on county tax parcel 331-1.00-15.01 south of Elks Road, Seaford DE 19973 (the "Facility"). The proposed Facility would be located on an approximately 27.5-acre portion of the parcel and will be accessed via Weeping Willow Trail.

The proposed Facility will consist of a fenced in solar array and components to connect the Facility the Delmarva Power's electric grid. The proposed Facility is designed to participate in Delaware's Community Solar Program. The Community Solar Facility will allow residents of Sussex County, who are customers of Delmarva Power, to save financially by subscribing to the Facility to receive credits on their electric bills. I would like to share some details about the Facility and design considerations that will be incorporated. The 3-Megawatt AC Facility would provide:

- Clean Energy Benefits: ~ 6,949,000 kWh of energy production per year will reduce pollutants emitted compared to generating the same amount of energy from a fossil fuel, equivalent to:
 - ~ 4,925 tons of carbon avoided annually
 - ~ 1,061 cars taken off the road for one year
 - ~ 958 US homes powered for one year
- Natural Buffer & Native Plantings: The Facility will be surrounded by existing natural vegetation. It will also incorporate native and pollinator friendly plantings.
- No Ongoing Noise and Traffic: Beyond short-term construction traffic, only a few trips are required per year for maintenance.
- Project Oversight: The Facility will comply with all County and State permitting requirements to ensure no adverse impacts to neighboring properties or the natural environment.
- Local benefits:
 - Sussex County residents can subscribe to receive credits from locally produced, clean energy at a discount from Delmarva Power's retail standard offer residential rate.
 - Approximately 30-50 development and construction jobs over a 24-month period.
 - The TPE team is already using local companies for initial development support and plans to use local services and providers for completion of the Facility when available.

Should you have any questions or would like any additional information, please contact me. I may be reached by phone at 617-312-6553 or e-mail at jbelknap@tpoint-e.com. If you would like to learn more about the project or ask questions in person, I will be hosting a Community Meeting to discuss the project at the Bridgeville Public Library Meeting Room (600 S Cannon St, Bridgeville, DE 19933) on Wednesday December 7th, from 5-7 p.m.

Sincerely,



Jordan Belknap
Director of Development

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

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **12/9/2022**

APPLICATION: **CU 2342 Turning Point Energy**

APPLICANT: **TPE DE SUO7, LLC c/o Adam Beal**

FILE NO: **WSPA-5.02**

TAX MAP &
PARCEL(S): **331-1.00-15.01**

LOCATION: **South of Elks Road, 1,400 feet south of Cannon Road (Rt. 18)**

NO. OF UNITS: **Solar Farm**

GROSS
ACREAGE: **Northern 60 acres of the 104.48**

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? **Municipal Growth & annexation Area**
- (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? **No**
- (8). Comments: **The proposed Conditional Use is within the Growth and Annexation Area of the City of Seaford.**
- (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
Director of Utility Planning & Design Review

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

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

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **12/9/2022**

APPLICATION: **CU2343 Turning Point Energy**

APPLICANT: **Turning Point Energy DE SU 163, LLC c/o Adam Beal**

FILE NO: **NCPA-5.03**

TAX MAP &
PARCEL(S): **135-11.00-48.00**

LOCATION: **West of Gravel Hill Road, 500 feet southwest of Pettyjohn Road.**

NO. OF UNITS: **Solar Farm**

GROSS
ACREAGE: **39.69**

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? **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
Director of Utility Planning & Design Review

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

BECKER
MORGAN

G R O U P

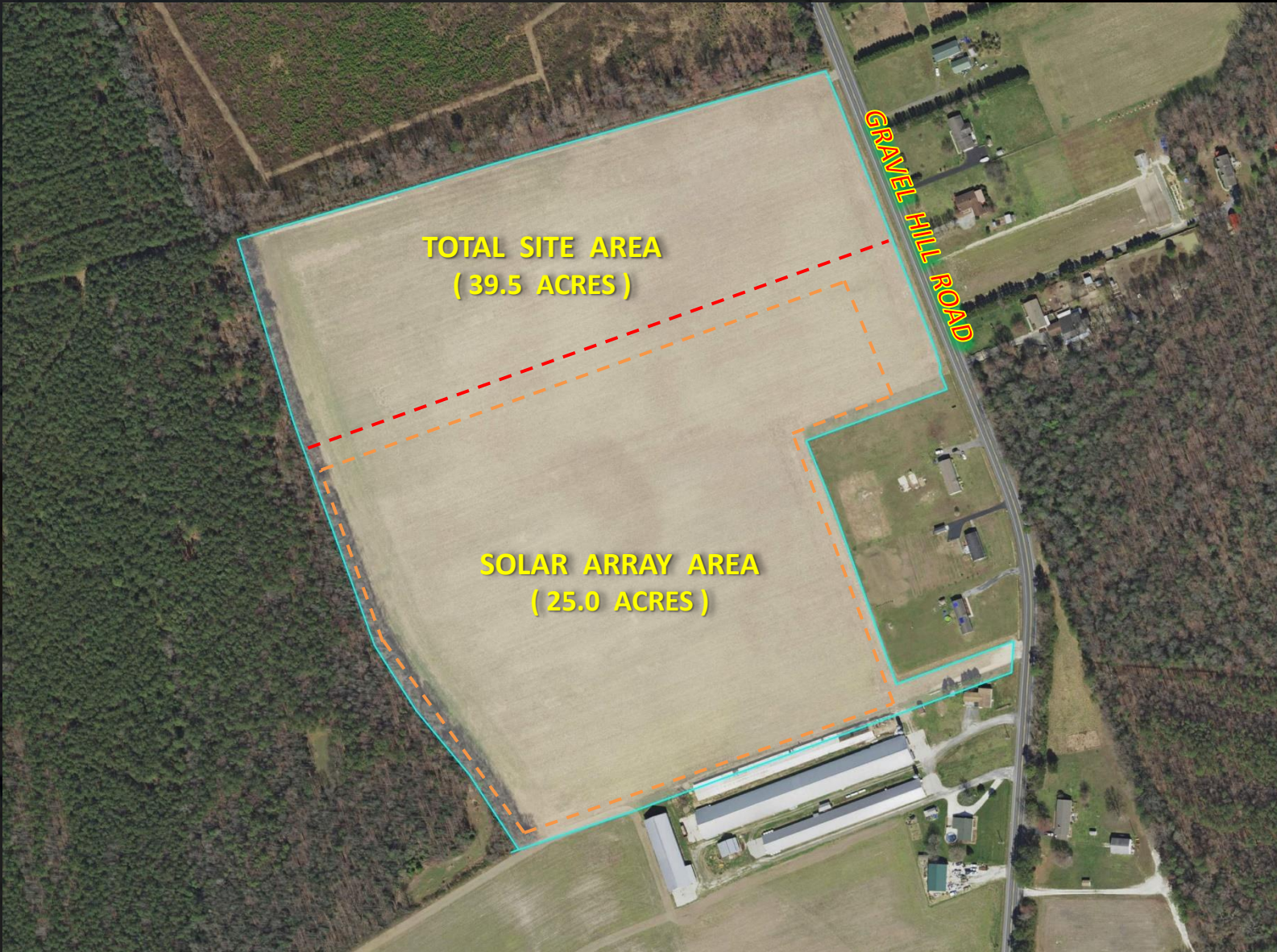
ARCHITECTURE
ENGINEERING

SUSSEX COUNTY - SOLAR ENERGY SYSTEM

PLANNING & ZONING COMMISSION

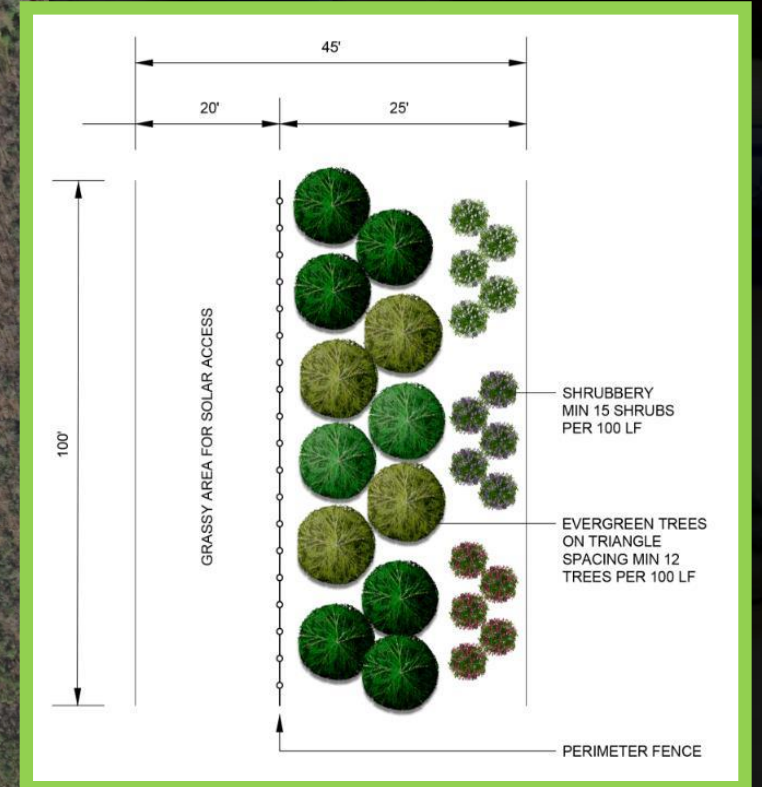
PUBLIC HEARING / TPE DE SU163 / 12.15.2022

PROJECT AREA - EXISTING CONDITIONS



- LOCATION: GEORGETOWN
- ZONING: AR-1
- EXISTING USE: AGRICULTURE
- PROPOSED USE: SOLAR
- C/U AREA: 25.0 AC.
- TOTAL AREA: 39.5 AC.

PROJECT AREA - EXISTING CONDITIONS



PROJECT OVERVIEW & DESIGN STANDARDS

- COMMUNITY SOLAR FACILITY - GROUND MOUNT TRACKING SYSTEM / 4 MEGAWATT AC
- BENEFITS LOCAL RESIDENTIAL, BUSINESS AND MUNICIPAL SUBSCRIBERS WITH LOWER POWER COSTS
- NO INCREASE IN TRAFFIC (1-2 MAINTENANCE VISITS PER MONTH)
- RENEWABLE ENERGY SOURCE WHICH PRODUCES NO ODORS, DUST, GAS, SMOKE OR FUMES
- LOW TO NO NOISE FROM POWER INVERTERS (65 Dba at 1 Meter)
- GLARE STUDY COMPLETED (NO IMPACTS)
- REDUCED STORMWATER RUNOFF BY PROVIDING POLLINATOR FRIENDLY GROUND COVER AND PLANTINGS
- 25' LANDSCAPE SCREENING
- PERIMETER FENCING WITH EMERGENCY ACCESS PROVISIONS
- COMMUNITY OUTREACH MEETING HELD DECEMBER 5, 2022
- DECOMMISSIONING AT THE END OF OPERATION LIFE OF THE PROJECT

PROJECT SUMMARY

- THE FACILITY IS A PUBLIC UTILITY USE UNDER SUSSEX COUNTY ZONING CODE AND MEETS THE PURPOSES OF A CONDITIONAL USE IN THAT IT IS OF PUBLIC OR SEMI-PUBLIC CHARACTER THAT IS ESSENTIAL AND DESIREABLE FOR THE GENERAL CONVENIENCE AND WELFARE OF SUSSEX COUNTY RESIDENTS.
- THE PROPOSED FACILITY PROMOTES GOAL 7.3 OF THE SUSSEX COUNTY COMPREHENSIVE PLAN, WHICH ENCOURAGES THE USE OF RENEWABLE ENERGY OPTIONS SUCH AS SOLAR FARMS
- THE PROPOSED USE WILL NOT HAVE ANY ADVERSE IMPACT ON THE NEIGHBORING AND ADJACENT PROPERTIES AND PROVIDES ADEQUATE LANDSCAPE BUFFERING AND PERIMETER FENCING
- THE FACILITY WILL NOT RESULT IN ANY NOTICEABLE INCREASE IN TRAFFIC ON ADJACENT AND NEIGHBORING ROADWAYS. THERE ARE NO REGULAR EMPLOYEES AT THE SITE, ONLY PERIODIC VISITS FOR INSPECTIONS, MAINTENANCE, OR REPAIR OF THE SOLAR PANELS
- NO SIGNIFICANT NOISE, DUST OR ODOR WILL BE GENERATED BY THE FACILITY

CONDITIONAL USE 2343

TURNINGPOINT ENERGY – TPE DE SU163, LLC

DECEMBER 2022



PREPARED BY:

**BECKER MORGAN GROUP, INC.
309 S. GOVERNORS AVE.
DOVER, DE 19904**

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1.0 Project Overview – (C/U 2343 – TPE DE SU163, LLC)

1.1 Executive Summary

The subject property is located on Gravel Hill Road in Sussex County Delaware. The existing zoning is AR-1 – Agricultural Residential. The site is located within the Investment level 4 area, per the 2020 Delaware Strategies for State Policies and Spending. The 39.5 acre site is located within a Low Density Area according to the Sussex County Comprehensive Plan for 2018 Future Land Use.

The site fronts on Gravel Hill Road to the East. The site currently operates as agricultural land. The southern portion of the property adjoins 2 pieces of land currently owned by Dale A & Kathy Hamilton Phillips, one is agricultural land, the other currently contains several agricultural buildings and a residential dwelling. The western portion of the property adjoins land currently owned by Azalea Woods LLC, currently forested land. The Northern portion of the property adjoins land currently owned by Azalea Woods, currently forested land. The Eastern portion of the site adjoins Gravel Hill Rd. and several residential outparcels with dwelling units.

The site will be served by Delmarva Power. Sewer, Water & Telephone will not be needed for this project.

The proposed Solar Energy System will occupy approximately 25 +/- Ac. of the parcel. The remaining lands will remain in agricultural use at this time.

1.2 Project Team – (C/U 2343 – TPE DE SU163, LLC)

Applicant / Developer:

TPE DE SU163, LLC

Contact: Adam Beal
3720 South Dalia Street
Denver, Co 80237
Telephone: (617) 312-6553
e-mail: jbelknap@tpoint-e.com

Attorney:

Young Conaway Starhatt & Taylor, LLP

Contact: John E. Tracey, Partner
Rodney Square, 1000 North King
Street
Wilmington, DE 19801
Telephone: (302) 571.6740
e-mail: jtracey@ycst.com

Architect /
Civil Engineer /
Surveyor:

Becker Morgan Group

Contact: Jon Falkowski, P.E.
309 South Governors Avenue

Dover, DE 19904
Jon Falkowski, P.E.
Telephone: (302) 734-7950
Fax: (302) 734-7965
e-mail: jfalkowski@beckermogan.com

1.3 **Project Data – (C/U 2343 – TPE DE SU163, LLC)**

Total Site Area: 39.5 +/- Acres
Current Zoning District: AR-1 (Agricultural Residential)
Proposed Zoning: AR-1 (Agricultural Residential)
Proposed Use: Community Solar Energy System
Tax Parcel: 135-11.00-48.00

Woodlands: Existing: 0.00 + / - Acres
To Remain: 0.00 + / - Acres

Setbacks: **AR-1**
Front: 80 ft
Side: 15 ft
Rear: 20 ft

Maximum Building Height: AR-1 42 ft

Utilities:
Sewer: N/A
Water: N/A
Electric: Delmarva Power
Telephone: N/A

Access roads: Gravel Hill Road – (Major Collector)
Floodplain: Zone X is within the subject site.

1.4 **Existing Conditions – (C/U 2343 – TPE DE SU163, LLC)**

Overview of Current Site Conditions:

The subject property currently consists of all agricultural land. A copy of the aerial photograph taken from Delaware DEMAC 2017 has been provided.

The existing topography indicates that the site is generally flat, however conveys runoff to the northern portion of the parcel.

The USDA Soil Survey of Sussex County, Delaware shows the site to be (31.8%) of Fort Mott Loamy Sand - 0 to 2 percent slopes, (25.3%) Woodstown Sandy Loam – 0 to 2 percent slopes Northern Tidewater Area, (21.5%) Runclint Loamy Sand – 0 to 2 percent slopes, (9.3%) Henlopen Loamy Sand – 0 to 2 percent slopes, (4.7%) Lenni Silt Loam – 0 to 2 percent sloped, (3.3%) Hammonton Loamy Sand – 0 to 2 percent slopes, (2.8%) Udorthents – 0 to 10 percent slopes, (1.2%) Keyport Fine Sandy loam – 0 to 2 percent slopes, A copy of the USDA soil survey has been provided.

1.5 Landscaping and Screening (C/U 2343 – TPE DE SU163, LLC)

A landscape buffer is proposed along the northern and eastern portions of the site, where the parcel is adjacent to and/or visible by residential dwelling units. Screening shall consist of a 25' wide bufferyard, with a mixture of evergreen trees, flowering understory trees and shrubbery. A Landscape plan has been provided. Buffering is not proposed where the parcel abuts nonresidential uses and agricultural land.

1.6 Stormwater Management Regulations– (C/U 2343 – TPE DE SU163, LLC)

A Sediment and Stormwater Management Plan review is required through Sussex Conservation District and will include review of, drainage, and erosion and sediment control. The site currently drains into offsite to Broadkill River within the Delaware Bay.

1.7 Proposed Finding of Facts – (C/U 2343 – TPE DE SU163, LLC)

1. This is an application for the conditional use of AR-1 – Agricultural Residential per Sussex County, DE zoning code
2. The subject property is a 39.5 acre parcel of land located along Gravel Hill Road and owned by Lisa A Jester.
3. The applicant is TPE DE SU163, LLC.
4. The development is proposed on existing agricultural land.
5. The 2018 Sussex County Comprehensive Plan designates the subject parcel as Low Density Area, as shown on the 2045 Future Land Use Map.
6. The State Strategies for Policies and Spending identify the area as Investment Level 4. Level 4 areas are predominantly agricultural.
7. The proposed community solar project generates electricity directly to homes and businesses via local electrical distribution lines compared to larger centralized powerplants; that centralized powerplants push power onto high voltage transmission lines which carry electricity hundreds to thousands of miles away; that a key benefit of

community solar projects such as this is they generate electricity in the communities where the power is consumed; that this reduces the need for long transmission lines and other costly infrastructure; that by providing clean, renewable power close to the end user, it improves the resiliency of the local distribution grid and delivers the power at an all-end lower cost to the user; that community solar projects allow residences and businesses who are customers of the same electric utility the ability to subscribe to the project and receive a credit on their utility electric bill; that another benefit of community solar projects is the smaller footprint of the projects; that this means a smaller impact; and that the proposed site will occupy tens of acres versus hundreds or even thousands of acres.

8. The project area is currently an agricultural field with no existing structures; that the anticipated project will be less than 30-acres; that the capacity to the proposed project is four megawatts of alternating current; that this is considered a relatively small project; that the project is sized to meet the local distribution system; that this type of project is connecting to the distribution grid as opposed to the electrical transmission system; that the point of interconnection will be at the existing electric line running along Gravel Hill Road.
9. The equipment will consist of racking systems, which are mounted on support posts, panels which are installed on top of the racking systems, inverters/transformers, interconnection equipment, which are typical utility poles and a small weather station; that at the end of the proposed access drive there is a turnaround for fire trucks and emergency personnel; that there is proposed fencing surrounding the array; that they are not proposing any grading onsite; that the project is set back 150 feet from the eastern road; that there were no threatened or endangered species observed on the site; that there is low potential of onsite occurrence due to the history of land cultivation; and that there were no cultural or historic resources previously identified onsite.
10. Stormwater runoff will be tightly controlled in accordance with State and local regulations; that there are no impact to drainage patterns anticipated due to the ability of the arrays to conform to the existing topography, as well as the gaps between panels and space between arrays allow infiltration into the ground's surface.
11. Solar panels are constructed of silicon semiconductors, much like a computer chip; that when the sunlight hits the semiconductor material, it creates a charge, which is a direct current; that the direct current is converted to an alternating current through converters so it can be fed into the distribution grid for use in homes and business; that solar creates clean, renewable electricity without the use of water, creating emissions or producing waste products; that its low visual profile and quiet operations makes for a great neighbor; that solar projects place no demand on County infrastructure or services such as roads, water, sewer, emergency services or schools; that construction consist of minimal grading and disturbance; that there are no regular employees on site, only those attending for periodic visits for inspections, maintenance or repair of the solar panels; that the solar projects are built using steel posts or ground sleeves to support the solar panels versus concrete or other foundations; and that this allows the land to return to its

previous agricultural use at the end of the project; that no significant noise or dust will be generated by this facility..

12. Fencing is proposed around the entire perimeter of the project; that the proposed fencing will be a 7 to 8 ft. high, chainlink fencing; that in the agreement with the property owner it is stated that, should the project no longer be needed, TPE would handle the removing of all equipment where it would then be recycled leaving the property back to agricultural land; that the only noise the project would create would be a slight hum when the panel retracts to the sun; that the inverters will create an occasional slight hum; and that the project will operate in conformance to all local noise ordinances.
13. TPE has completed a glare study which has determined that there is no potential for glare or glint spilling off of the project and onto neighboring properties or roadways.
14. TPE has commissioned Cohn Reznick LLP to perform, and it has completed, an Adjacent Property Value Impact Report which has concluded that the property values of adjacent property will not be impacted by this proposed project.

1.8 Proposed Conditions – (C/U 2343 – TPE DE SU163, LLC)

1. No storage facility shall be constructed on the site.
2. The lighting on the facility shall only consist of lighting needed for security purposes. All lighting shall be downward screened so that it does not shine on neighboring properties or roadways.
3. One unlighted sign not to exceed 32 sq ft in size shall be permitted.
4. This site shall be secure by fencing with a gate with a knockbox or similar device to accommodate emergency access by the local fire company or other emergency responders. The fence shall be shown on the final site plan.
5. Any transformers or similar equipment shall be located on the site away from any nearby residential uses.
6. All of the grounds including the area outside of the fence shall be maintained so that they do not become overgrown.
7. All buffering adjacent to neighboring residential uses shall be consistent with that shown on the landscape plan.
8. The final site plan shall be subject to the review and approval of the Sussex County Planning and Zoning Commission.

2.0 List of Exhibits – (C/U 2343 – TPE DE SU163, LLC)

- 2.1 Developer Summary*
- 2.2 Application for Planning and Zoning Commission*
- 2.3 Conditional Use Site Plan and Landscape Plan*
- 2.4 Aerial Photo & Location*
- 2.5 Zoning Map*
- 2.6 Existing Land Use*
- 2.7 Future Land Use*
- 2.8 Strategies for State Policies Spending*
- 2.9 Watersheds Waterways*
- 2.10 FEMA Flood Insurance Rate Map (FIRM)*
- 2.11 Soils Map*
- 2.12 Property Value Impact Report*
- 2.13 Glare Study*

2.1 Developer Summary



Proposed 4-Megawatt AC Ground-Mount Community Solar Facility
Sussex County, Delaware

TPE DE SU163, LLC
c/o TurningPoint Energy, LLC
3720 South Dahlia Street
Denver, CO 80237

November 30, 2022

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1.0 INTRODUCTION

1.1 Project Overview

TurningPoint Energy, LLC d/b/a TPE Development through its affiliated entity TPE DE SU163, LLC (the “Applicant”) proposes the development of a 4-megawatt AC solar photovoltaic system on parcel 135-11.00-48.00 west of Gravel Hill Road, Sussex County Delaware (the “Project”). The Project will consist of a single axis tracking ground-mounted solar array, associated electrical equipment, an access driveway and fence covering approximately 25 acres of parcel (ID 135-11.00-48.00). The Project intends to participate in the Delaware Community Solar Program and will power the equivalent of approximately 600-650 homes. Community Solar allows residents of Delaware to purchase locally generated clean electricity at a discount to current electric rates without having to install panels on their roof.

If approved, the Project would bring significant and consistent benefits to Sussex County and the community surrounding the Project. The Project would create approximately 30-50 jobs during the approximately 4 to 6-month construction period. Unlike nearly all other forms of development (residential, commercial, or industrial), the Project would benefit the community without stressing community infrastructure – no new children in schools, no use of water and sewer systems, extremely limited use of roads, and little to no additional burden for police or fire departments.

1.2 About TurningPoint Energy

Formed in 2014, TPE is a privately held, independent company transforming our energy future by creating freedom to choose a smarter, cleaner, more flexible way forward through community solar. As a privately held and independent company, TPE customizes projects to the unique needs of each client. Our team has financed and/or built over 2 Gigawatts (GW) of the solar projects operating in the U.S. today. Since 2017, TPE has focused these services on the expanding community solar market in states including Delaware, Maine, Maryland, Illinois, Pennsylvania, Texas, and Rhode Island. TPE’s development and investment portfolio now includes over 60MW of community solar projects in construction or operation, with more than 600MW under development.

TPE is a “triple bottom line” company; we believe that our business should create financial, environmental, and community value in every project we create. Our intent is to be long term community members. Upon successful permitting and utility interconnection, TPE typically makes donations to local charities and non-profits doing good work in the communities we work in.

2.0 SITE LOCATION & EXISTING CONDITIONS

TPE, in coordination with its engineering consultant, Becker Morgan Group, Inc, has prepared and compiled information from many sources to form the basis of design for the proposed Project. A summary of existing conditions and the design elements that avoid and or minimize impact to the environment and surrounding community is presented below.

2.1 Existing Conditions

The subject property currently consists of all agricultural land. The existing topography indicates that the site is generally flat, however conveys runoff to the northern portion of the parcel.

2.2 Natural Resources

2.2.1 Wetlands and Floodplain

The Project will be designed to avoid impacts to USACE jurisdictional waters.

Per FEMA FIRM Map Panel 10005C0325L, the development is in Zone X, which is considered an area of minimal flood hazard.

2.2.2 Wildlife

The Project will be designed such that no federally listed species will be significantly impacted. There are no critical habitats at the project location.

2.3 Community Outreach & Benefits

TPE plans to hold an in-person informational meeting to inform the public and answer any questions from concerned citizens.

On September 17, 2021, the Governor of the State of Delaware signed into law Senate Bill 2, which amended the Renewable Energy Portfolio Standards Act and the Electric Utility Restructuring Act of 1999 to accelerate the adoption of community-owned solar photovoltaic systems in Delaware.

Community Solar projects such as SU163 enable members of the Sussex County community to receive savings on their electric bills. Residential, commercial, and municipal customers of Delmarva Power can subscribe to solar energy projects to achieve savings on their electric bill. The community solar model allows customers who may not have suitable roofs for solar to participate in the renewable energy economy and purchase green energy at a discount to the utility service offering. Subscribers can participate with no upfront costs or investment in personal infrastructure. This program is especially appealing to renters, low-income households, businesses, and any Delmarva customer who does not have an adequate rooftop to install a solar energy system.

The Project would create approximately 30-50 jobs during the approximate 4 to 6-month construction process. A regional operations and maintenance firm will service the facility over its working life cycle.

Unlike nearly all other forms of development (residential, commercial, or industrial), the community would benefit from the significant economic benefits mentioned above without stressing community

infrastructure – no new children in schools, no use of water and sewer systems, limited use of roads, and little to no additional burden for police or fire departments.

3.0 PERFORMANCE STANDARDS AND SOLAR SITING ORDINANCE REQUIREMENTS

3.1 Project Description & Design Standards

The Project will consist of a ground-mounted solar array. The solar array will consist of solar panels attached to single axis trackers structures attached to driven steel pier foundations or ground screw foundations, depending on the subsurface composition. A Delaware licensed engineer will certify the foundation and design of the solar racking system is suitable to meet local soil and climate conditions.

The Project will be constructed by a licensed Engineering Procurement and Construction (“EPC”) Contractor. The design and construction process will comply with all National, State and local applicable building, electrical and fire codes, as well as the National Electrical Code (“NEC”). The EPC Contractor shall also possess all professional and trade licenses required by the state and local authorities.

The EPC Contractor will create and maintain a health and safety manual in accordance with OSHA requirements which establishes appropriate rules and procedures concerning workplace safety.

Noise from construction activities will be in accordance with all applicable local and state regulations.

The inverter and transformers will be located on one or more concrete pads or piles. Utility poles at the point of interconnection will be above ground.

The panels will be surrounded by a 7-foot-high fence for safety and security purposes. Entry into the fenced areas will be through gates with Knox Boxes for emergency access.

The Project design and planning has focused on minimizing any potential impacts to the surrounding neighborhood. The Project will produce electricity without requiring any combustion of materials; as a result, the community solar array will not cause or emit odors, dust, gas, smoke, or fumes. In addition, the Project will have very few moving parts and will generate electricity primarily in a passive manner – collecting the sun’s rays and converting energy associated with the rays into electricity – so the Project will not produce vibrations, none of which would impact surrounding properties. The array was designed to meet all required setbacks from neighboring properties and incorporate vegetative screening that will grow in over time for the benefit of nearby residences.

A warning sign shall be provided at the facility entrance and along the perimeter fence including the facilities 911 address and a 24-hour emergency contact number. No outdoor storage is planned for the Project at this time.

The scope of work includes but is not limited to:

- Construction of 16-ft wide gravel access roads
- Construction of project equipment pads
- Construction of a temporary staging areas
- Installation of solar panels and associated support equipment and structures
- Installation of buried and overhead collector lines

3.2 Noise

The Project will operate in accordance with the applicable local noise standards. The inverters are rated at 65 dBA at 1 meter. Sound waves diminish with distance in accordance with mathematical principles of sound level drop.

3.3 Air pollution including (a) Visual emissions, (b) Particulate matter emissions; (c) Fugitive particulate matter emissions; (d) Odorous matter; (e) Airborne toxic matter.

The Project will not emit any air pollution of any of the kinds identified in the performance standards. It will in fact provide a net environmental carbon benefit. According to the EPA Clean Energy Equivalencies Calculator the Project will avoid the environmental equivalent of 6,365 metric tons of carbon annually, which is comparable to:

- Carbon sequestered by 7,533 acres of forest
- 716,258 gallons of gasoline consumed each year
- 1,372 passenger vehicles removed from our streets

A commitment to wildlife-sensitive building and management practices during and after construction will allow for increased local biodiversity. TPE proposes to use pollinator friendly ground cover underneath the Project and native plantings around the perimeter. Clover and grass species that promote the establishment and long-term health of bee populations will give bee and small mammal populations a new pollinator friendly habitat.

3.4 Toxic substances

There are no toxic substances in the panels. The Project will incorporate Tier 1 silicon-based PV panels, which have been analyzed as follows by North Carolina State University:

Well over 80% (by weight) of the content of a PV panel is the tempered glass front and the aluminum frame, both of which are common building materials. Most of the remaining portion are common plastics, including polyethylene terephthalate in the back sheet, EVA encapsulation of the PV cells, polyphenol ether in the junction box, and polyethylene insulation on the wire leads. The active, working components of the system are the silicon photovoltaic cells, the small electrical leads connecting them together, and to the wires coming out of the back of the panel. The electricity generating and conducting components makeup less than 5% of the weight of most panels. The PV cell itself is nearly 100% silicon, and silicon is the second most common element in the Earth's crust. The silicon for PV cells is obtained by high-temperature processing of quartz sand (SiO₂) that removes its oxygen molecules. The refined silicon is converted to a PV cell by adding extremely small amounts of boron and phosphorus, both of which are common and of very low toxicity.

3.5 Fire and explosive hazards

The solar panels and racking, which comprise most of the Project's equipment, are not flammable. Tempered glass offers protection from heat and the elements, and the panels are designed to absorb heat as solar energy. From a study by North Carolina State University:

...Concern over solar fire hazards should be limited because only a small portion of materials in the panels are flammable, and those components cannot self-support a significant fire. Flammable components of PV panels include the thin layers of polymer encapsulates surrounding the PV cells, polymer back sheets (framed panels only), plastic junction boxes on rear of panel, and insulation on wiring. The rest of the panel is composed of non-flammable components, notably including one or two layers of protective glass that make up over three quarters of the panel's weight.

3.6 Glare and heat

As explained in the fire and explosive hazards **Section 3.5**, there is no heat generated by the Project.

A glare study was performed by TPE using ForgeSolar software to assess the possible effects of reflectivity created by the Project. ForgeSolar software incorporates GlareGauge, the leading solar glare analysis tool which meets Federal Aviation Administration ("FAA") standards and is used globally for glare analysis. It is based on the Solar Glare Hazard Analysis Tool licensed from Sandia National Laboratories.

A model of the Project was input to the software, Route Receptors were created along roadways in vicinity of the site. Height was measured at 5' above ground to emulate passengers in cars. Further, Observation Receptors were modeled at specific dwellings located around the perimeter of the solar array. Heights were modeled at 5' above ground to emulate residents on the 1st floor of dwellings and evaluate the glare impact.

A direct line of sight between the Project and the designated Route Receptors and Observation Receptors is required to produce any discernible glint/glare, so if there is existing or proposed vegetation between the receptor and the project, any glint/glare would be eliminated.

The model assumes the sun is shining 100% of the time it is above the horizon (during laylight hours). That is, it does not account for cloudy or overcast conditions when the sun is not shining. The results, therefore, would be the maximum expected glint and glare during any single year. Existing topography is considered in the simulation based on LIDAR ("Light Detection and Ranging") data. Existing and planned vegetation are not considered in the simulation. The model assumed zero vegetation that may screen the Project, so this must be considered when interpreting the study results.

To reduce glare in the east and west directions during low sun periods, a 5-degree tracker resting angle was implemented during these times, which eliminates the main source of glare for solar projects. This lower angle will position the panels in a near flat position, so they face upwards and do not reflect light from the rising or setting sun towards nearby buildings or cars.

Based on the above inputs/assumptions, no potential for glint or glare was identified in the analysis at any of the Route Receptors or neighboring Observation Receptors. While excluded from the analysis, existing and planned vegetation will further shield the view of the project from nearby properties and roadways.

No additional mitigation measures are recommended since no glint or glare is anticipated based on the ForgeSolar Glare results.

3.7 Setback Compliance, Landscape & Buffering Plan

The Project proposes to conform with all applicable County setbacks from neighboring properties and public rights-of-way. A landscape buffer has been proposed where the project abuts existing residential dwellings.

3.8 Safety and Security

The solar arrays will be enclosed by a 7-foot-high security fence and locked gates, as required by the Ordinance and the National Electrical Code (NEC). Emergency access to the fenced areas will be through Knox-Boxes to provide the required 24-hour access. The gravel drives have been designed to allow emergency vehicle access, including fire trucks. There will be a visible “High Voltage” warning sign at the site entrance. The name(s) and phone number(s) for the electric utility provider, site operator, as well as the facility’s 911 address and GPS coordinates will be provided at the site entrance.

Emergency responders will be provided with the key/code for the Knox-Boxes.

3.9 Interconnection

The proposed Project will interconnect to Delmarva Power’s distribution network on Gravel Hill Road. A new service will be installed by Delmarva power to connect the Project to the network at the project site.

3.10 Operation and Maintenance

Preventive maintenance will be conducted on a schedule based on manufacturer’s recommendations and industry best practices and standards of care. Regular maintenance will include vegetation control, fence inspection and physical inspection of all system components. A mowing schedule shall be established based on the plant species in the seed mix that is properly timed to balance avoiding the disturbance of wildlife and native pollinator-friendly vegetation with the need to avoid the establishment of weeds. Vegetation underneath and between the solar panels should be well maintained in the defined lease area to keep vegetation below the low edge of the solar panels at maximum tilt angle. Management should comply with any local ordinances or conditions of approval. Mowing and weed whacking schedules will be adjusted from time to time to allow for flexibility based on rainfall and vegetation growth. Chemical control shall be used in accordance with Delaware noxious weed regulations. The Project will be monitored continuously for system failures via a Supervisory Control and Data Acquisition (SCADA) system. Qualified and insured technicians will be dispatched to address any system failures, including inverter, transformer, or tracker motor malfunctions.

3.11 Decommissioning

At the end of operational life of the Project, the Project will be safely dismantled using conventional construction equipment. The Project consists of numerous materials that can be resold or recycled for significant scrap value, including steel, aluminum, glass, copper and plastics. The solar panels are not

considered hazardous waste. The panels used in the Project will contain silicon, glass, and aluminum, which have value for recycling.

The site will be restored and reclaimed to approximately the pre-construction condition in conformance with the site lease agreement. It is assumed that the site will be returned to agricultural use after decommissioning, and appropriate measures will be implemented to achieve said use.

2.2 Application for Planning and Zoning Commission

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

Gravel Hill Road, 421' SE/RD 255

Type of Conditional Use Requested:

Solar Energy System

Tax Map #: 135-11.00-48.00 **Size of Parcel(s):** 41.08 ac

Current Zoning: AR-1 **Proposed Zoning:** AR-1 **Size of Building:** _____

Land Use Classification: FG0

Water Provider: N/A **Sewer Provider:** N/A

Applicant Information

Applicant Name: TPE DE SU163, LLC c/o Adam Beal
Applicant Address: 3720 South Dalia Street
City: Denver State: CO Zip Code: 80237
Phone #: (617) 312-6553 E-mail: jbelknap@tpoint-e.com

Owner Information

Owner Name: Lisa A. Jester
Owner Address: 18117 Petty John Road
City: Milton State: DE Zip Code: 19968
Phone #: _____ E-mail: _____

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: Becker Morgan Group
Agent/Attorney/Engineer Address: 309 South Governors Avenue
City: Dover State: DE Zip Code: 19904
Phone #: (302) 734-7950 E-mail: jfalkowski@beckermorgan.com



Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

- ✓ **Completed Application**
- ✓ **Provide ~~eight (8)~~ four (4) 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**

FUTURE 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.**
- ✓ **DeIDOT Service Level Evaluation Request Response**

N/A **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 my 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: 1/4/22

Signature of Owner

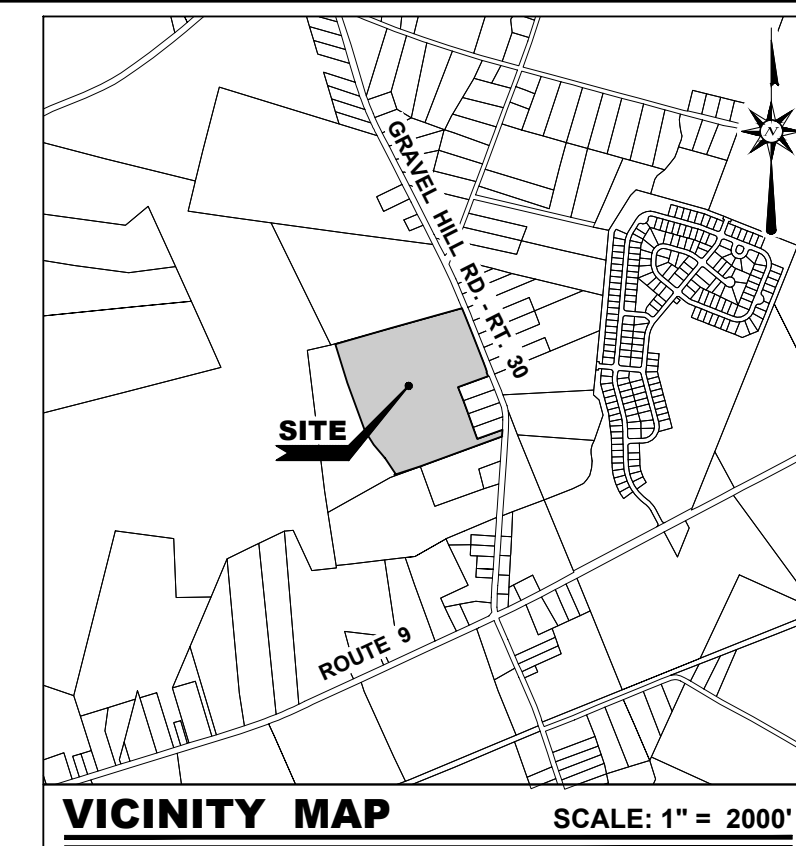


Date: 1/12/22

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: _____

2.3 Conditional Use Site Plan and Landscape Plan



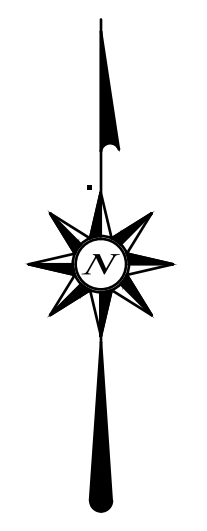
SITE DATA

1. OWNER OF RECORD:	LISA A. JESTER 18117 PETTY JOHN ROAD MILTON, DE 19968
2. EQUITABLE OWNER:	TPE DE SU163, LLC 3720 SOUTH DALIA STREET DENVER, CO 80237 (817) 312-6553
3. ENGINEER / SURVEYOR:	BECKER MORGAN GROUP INC. 309 SOUTH GOVERNORS AVE DOVER, DE 19904 (302) 734-7950
4. PROPERTY MAP NUMBER:	135-11.00-48.00
5. ZONING CLASSIFICATION:	EXISTING: AR-1 - AGRICULTURAL RESIDENTIAL PROPOSED: AR-1 - AGRICULTURAL RESIDENTIAL
6. PLAT REFERENCE:	PB: 3452, PG. 279
7. PRESENT USE:	AGRICULTURAL
8. PROPOSED USE:	COMMUNITY SOLAR ENERGY SYSTEM
9. TOTAL SITE AREA:	39.5 ACRES±
10. TOTAL COND. USE AREA:	25.0 ACRES±
11. SETBACKS:	FRONT: 80 FT. FROM CENTERLINE OF R.O.W. SIDE: 15 FT. REAR: 20 FT.
12. LANDSCAPE REQUIREMENT:	SEE SHEET L-101.

GENERAL NOTES:

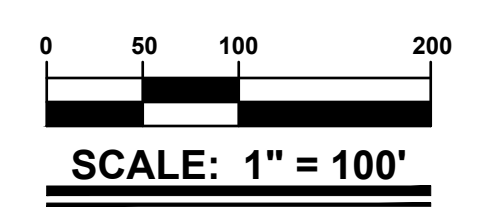
- THIS SITE IS NOT LOCATED WITHIN THE 100 YEAR FLOODPLAIN AS SHOWN ON FIRM 10005C0325L, DATED JUNE 20, 2018.
- ALL ROADS, PARKING AND OTHER PAVED AREAS WILL BE PRIVATELY OWNED AND MAINTAINED AND ARE NOT INTENDED FOR DEDICATION.
- DELAWARE REGULATIONS PROHIBIT THE BURIAL OF CONSTRUCTION DEMOLITION DEBRIS, INCLUDING TREES AND STUMPS ON CONSTRUCTION SITES. ANY SOLID WASTE FOUND DURING EXCAVATION MUST BE REMOVED AND PROPERLY DISCARDED.
- THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENT FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- BEFORE THE CONTRACTOR CAN BEGIN CONSTRUCTION HE MUST OBTAIN THE PROPER PERMITS AND/OR APPROVALS FROM SUSSEX CONSERVATION DISTRICT (S.C.D.), DELAWARE DEPARTMENT OF TRANSPORTATION (DELDOT), AND APPROPRIATE STATE AND COUNTY AGENCIES.
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE ACCORDING TO THE STATE OF DELAWARE STANDARDS.

BECKER MORGAN GROUP
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 302.369.3700
 Maryland
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 Salisbury, MD 21801
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 North Carolina
 3333 Jaeckle Drive, Suite 120
 Wilmington, NC 28403
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 www.beckermorgan.com



PROJECT TITLE
HARBESON SU163

SHEET TITLE
CONDITIONAL USE SITE PLAN



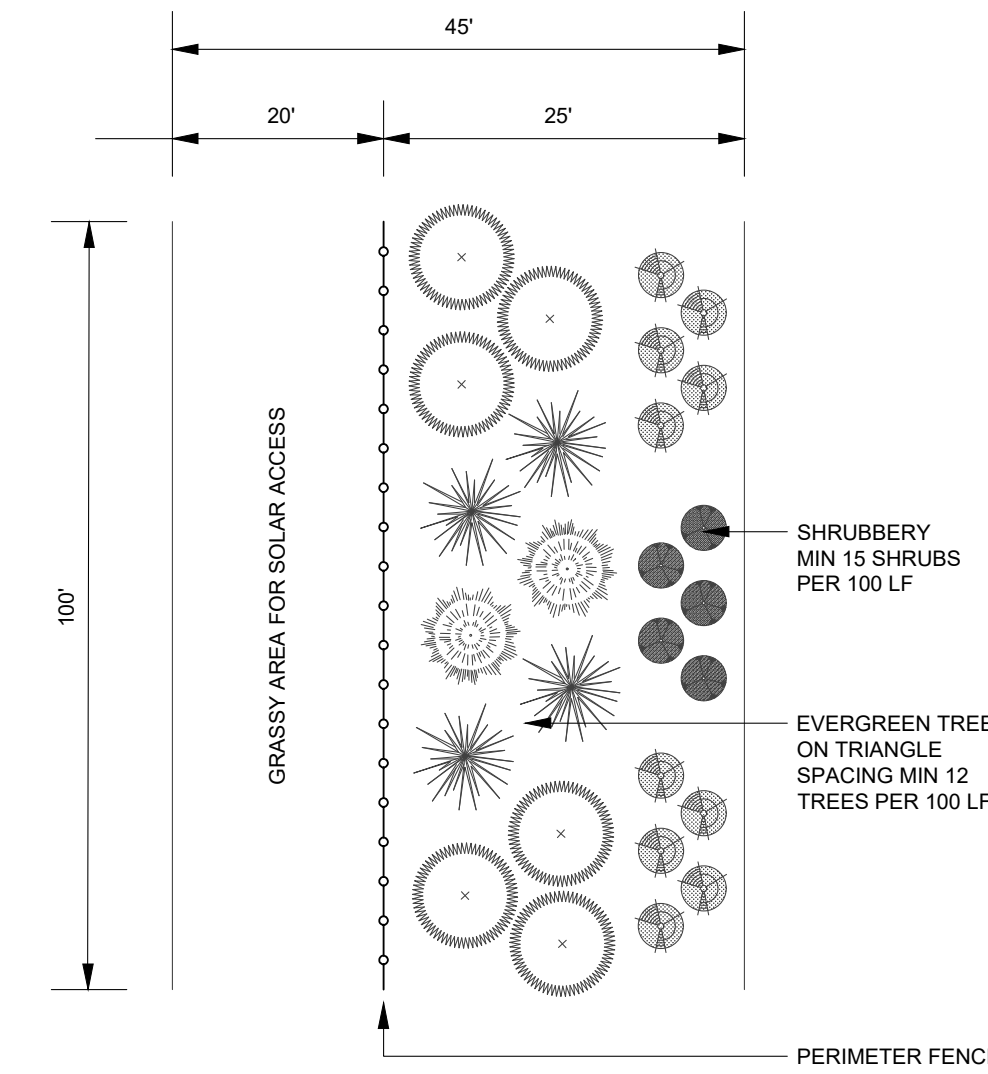
MARK	DATE	DESCRIPTION

PROJECT NO.: 2021294.00
 DATE: 02-22-2022
 SCALE: 1" = 100'
 DRAWN BY: M.W. | PROJ. MGR.: J.S.F.
 SHEET
C-001
 COPYRIGHT 2021



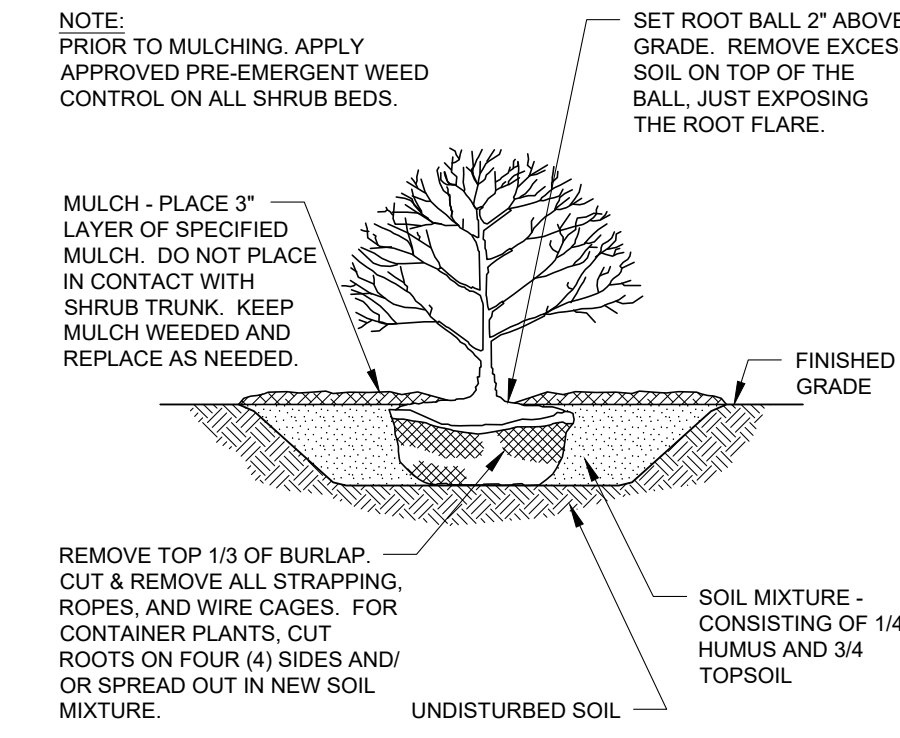
SOLAR BUFFERYARD PLAN VIEW

SCALE: 1" = 100'



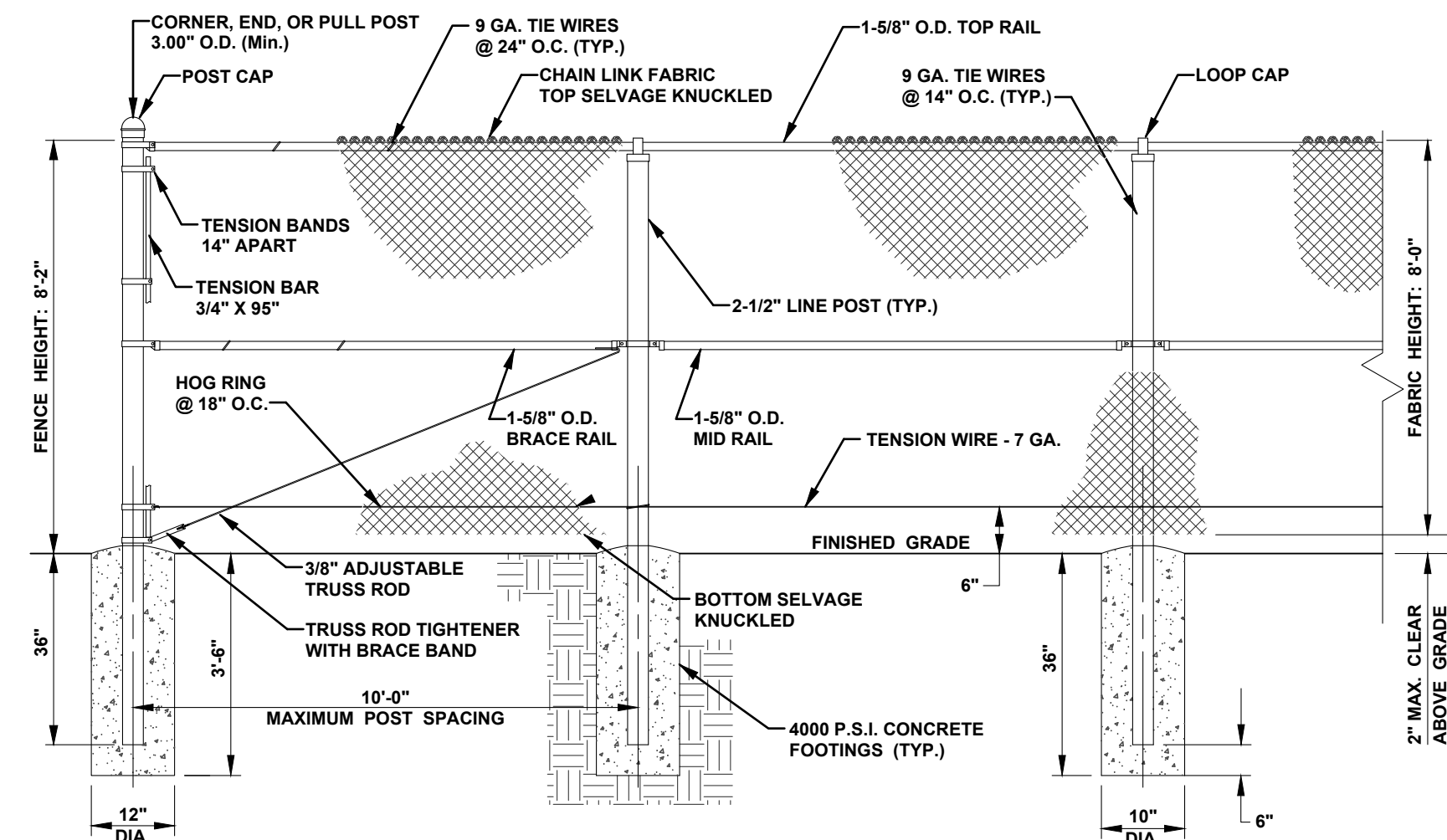
TYPICAL SOLAR BUFFERYARD DETAIL

NO SCALE BMG NO. : L-08



SHRUB PLANTING DETAIL

NO SCALE BMG NO. : L-03



- NOTES:**
- THE CONTRACTOR SHALL PROVIDE, COMPLETE AND IN PLACE, FENCING AND GATES AS SHOWN ON THE CONTRACT DRAWINGS AND REQUIRED BY THE CONTRACT DOCUMENTS.
 - THE FENCING SHALL BE CHAIN LINK FENCE 8 FEET HIGH, FABRIC TO BE 2" DIAMOND MESH, 9 GAUGE (MIN) GALVANIZED STEEL. FENCE SHALL BE PROVIDED AND INSTALLED AS SHOWN ON CONSTRUCTION DOCUMENTS.
 - ALL POST SHALL BE PLUMB, AND SPACED AT 10' CENTERS MAXIMUM, WITH A TOLERANCE OF MINUS 2". SPACING OF POSTS SHALL BE INSTALLED AT ALL ABRUPT CHANGES IN GRADE, AT CHANGES IN GRADE. ALL POSTS SHALL BE HEAVY WEIGHT GALVANIZED PIPE, SS-40 INDUSTRIAL GRADE FENCE PIPE.
 - ALL RAILS AND MID-BRACING SHALL BE HEAVY WEIGHT GALVANIZED PIPE, SS-40 INDUSTRIAL GRADE FENCE PIPE.
 - GATE SHALL BE DOUBLE SWING TYPE, PROVIDED WITH GATE HOLD BACKS, LOCKABLE GATE LATCH AND DROP BAR INSTALLED IN A MINIMUM OF 1 CUBIC FOOT OF CONCRETE. GATES SHALL BE INSTALLED AND BRACED IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS. ALL GATE POSTS SHALL BE A MINIMUM OF 3" IN DIAMETER OR AS RECOMMENDED BY THE MANUFACTURER.
 - CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.

8' HIGH CHAIN LINK FENCE DETAIL

NO SCALE BMG NO. : L-07

TREE DENSITY REQUIREMENTS:

- BUFFER INTENT:** BUFFERING OF NONRESIDENTIAL USES OTHER THAN AGRICULTURE, VISUAL AND SCREENING TO BE PROVIDED ON NONRESIDENTIAL USE PROPERTIES (OTHER THAN AGRICULTURAL USES) WHEN ADJACENT TO A RESIDENTIAL DWELLING. SCREENING TO CONSIST OF AN VEGETATIVE BARRIER AT LEAST FIVE FEET IN HEIGHT ACCOMPANIED BY LANDSCAPING.
- BUFFER PROVIDED:** DENSE, DURABLE AND CONTINUOUS EVERGREEN TREE PLANTED SCREEN OF AT LEAST FIVE FEET IN HEIGHT AT THE TIME OF PLANTING AND ARRANGED TO EFFECTIVELY ACHIEVE A VISUAL BUFFER.
- BUFFER PROVIDED:** 2380 LF OF OPAQUE EVERGREEN BUFFERING
FOR EACH 100 LF OF BUFFER, THERE SHALL BE AT MINIMUM 12 EVERGREEN TREES. EACH EVERGREEN TREE SHALL BE PLANTED AT A HEIGHT OF NO LESS THAN 5' NO SPECIES SHALL COMPRISE OF MORE THAN 40% OF THE TOTAL WITHIN 100LF THE FOLLOWING SPECIES OF EVERGREEN TREES ARE ACCEPTABLE:
CHAMAECYPARIS LAWSONIANA
CUPRESSACEAE JUNIPERUS CHINENSIS IOWA
ILEX OPACA
MAGNOLIA GRANDIFLORA 'LITTLE GEM'
PICEA PUNGENS 'BABY BLUE EYES'
THUJA OCCIDENTALIS 'TECHNY'
THUJA OCCIDENTALIS 'EMERALD GREEN'
FOR EACH 100 LF OF BUFFER, THERE SHALL BE AT MINIMUM 15 SHRUBS. PROVIDED SHRUBS SHALL PROVIDE ECOLOGICAL BENEFIT TO WILDLIFE. NO SPECIES SHALL COMPRISE OF MORE THAN 40% OF THE TOTAL WITHIN 100LF THE FOLLOWING SPECIES OF SHRUBS ARE ACCEPTABLE:
CALYCANTHUS FLORIDUS
HYDRANGEA QUERCIFOLIA
ITEA VIRGINICA
ILEX VERTICILLATA
VIBURNUM NUUDUM
IN ADDITION TO THE ABOVE PLANTINGS, AT LEAST 1 FLOWERING UNDERSTORY TREE SHALL BE PLANTED PER 100 LF OF BUFFER. THE FOLLOWING SPECIES OF UNDERSTORY TREES ARE ACCEPTABLE:
AMELANCHIER CANADENSIS
CERCIS CANADENSIS
CHIONANTHUS VIRGINICUS
CORNUS FLORIDA
MALUS
4. **BUFFER TREES PROVIDED:** 2380 LF / 100 LF @ 25' WIDE = 23.80 BUFFER UNITS
5. **BUFFER TREES PROVIDED:** EVERGREEN TREES 286
SHRUBS 357
UNDERSTORY TREES 24
6. **MINIMUM SIZE REQUIREMENTS:** EVERGREEN TREES 5' HGT MINIMUM
SHRUBS #5 CONTAINER / 24" - 36" HGT
UNDERSTORY TREES 1" CALIPER MINIMUM
7. **SEEDING:** POLLINATOR SEED MIX (ERNST-146 FUZZ & BUZZ OR APPROVED EQUAL) WITH

LANDSCAPING GENERAL NOTES:

- EXISTING TREES TO BE PRESERVED WILL BE MARKED WITH STAKING AND CONTINUOUS RIBBON OUTSIDE THE TREES DRILLPIE TO DELINEATE THE AREAS TO BE PROTECTED. THIS MARKING WILL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND WILL REMAIN IN PLACE UNTIL THE FINAL LANDSCAPING IS INSTALLED.
- ALL NEW TREES SHALL BE GUARANTEED TO SURVIVE FOR ONE FULL YEAR AFTER INSTALLATION (FULL COST). ALL STAKES AND GUYS SHALL BE REMOVED FROM TREES AND SITE AT THE END OF THE GUARANTEE PERIOD.
- NO TREE SHALL BE PLANTED CLOSER THAN TEN (10) FEET FROM ANY FIRE HYDRANT.
- ONLY TREES THAT REACH A HEIGHT AND SIZE AT MATURITY OF SMALL TO MEDIUM SHALL BE PLANTED UNDER POWER LINES. NO TREE SHALL BE PLANTED WITHIN FIVE (5) FEET OF UNDERGROUND UTILITIES.

GENERAL LANDSCAPE NOTES:

- QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN ASSOCIATION OF NURSEYMEN "AMERICAN STANDARDS FOR NURSERY STOCK".
EVERGREEN TREES SHALL HAVE A FULL, WELL-BRANCHED, CONICAL FORM TYPICAL OF THE SPECIES.
ALL DECIDUOUS TREES SHALL BE PLANTED AND STAKED IN ACCORDANCE WITH THE DETAIL SHOWN.
PLANT MATERIALS DELIVERED TO THE SITE IN UNCOVERED TRUCKS WILL BE REJECTED.
UNACCEPTABLE PLANT MATERIALS: MATERIALS WHICH HAVE DAMAGED OR CROOKED LEADERS, DEFORMED GROWTH HABIT, ABRASIONS OF THE BARK, SUN SCALD, WINDBURN, DISFIGURING NOT COMPLETELY CALLED OUT WILL BE REJECTED. IN ADDITION, TREES HAVING THEIR CENTRAL LEADERS HEADED BACK WILL ALSO BE REJECTED. PLANTS WITH LOOSE OR CRACKED ROOT BALL OR CONTAINERS WILL BE REJECTED.
- ALL PLANTS SHALL BE PLANTED IN TOPSOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACKFILLING PROGRESSES. NOTHING BUT SUITABLE TOPSOIL, FREE OF DRY SOD, STIFF CLAY, LITTER, STONES IN EXCESS OF ONE (1) INCH DIAMETER, ETC. SHALL BE USED FOR PLANTING.
MULCH FOR PLANTING BEDS SHALL BE SHREDDED HARDWOOD BARK MULCH UNLESS OTHERWISE SPECIFIED ON THE PLANS AND SHALL HAVE NO LEAVES, YOUNG GREEN GROWTH, BRANCHES, TWIGS, GREATER IN DIAMETER OF 1/2", WEEDS, SHAVINGS OR FOREIGN MATERIAL SUCH AS STONES, ETC. SHALL BE MIXED WITH THE MULCH. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS WITH A LIGHTLY COMPACTED DEPTH OF THREE (3) INCHES. ALL CONTAINER PLANTS ARE TO HAVE ROOTS CUT ON FOUR SIDES AND/ OR SPREAD OUT IN NEW SOIL MIXTURE.
- ALL AREAS NOT STABILIZED IN PAVING OR PLANT MATERIALS SHOULD BE SEEDED AND MULCHED. (SEE EROSION & SEDIMENT CONTROL PLAN AND NOTES).
- LANDSCAPE BEDS NOT DEFINED BY CURBS, SIDEWALKS, WALLS OR OTHER STRUCTURES SHALL BE ENCLOSED BY ALUMINUM EDGING UNLESS OTHERWISE INDICATED.
- AREAS DISTURBED BY LANDSCAPE OPERATIONS SHALL BE GRADED TO MATCH EXISTING TOPSOIL AND SEED OR SOD AS REQUIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND/OR LOCATION OF PLANT MATERIALS. CONTRACTOR TO VERIFY "AS BUILT" LOCATION OF ALL UTILITIES.
- NO PLANT, EXCEPT GROUNDCOVERS, SHALL BE WITHIN THREE (3) FEET FROM SIDEWALKS.
- NO TREE SHALL BE PLANTED CLOSER THAN TEN (10) FEET FROM ANY STRUCTURE OR BUILDING.
- NO TREE SHALL BE PLANTED WITHIN TEN (10) FEET OF UNDERGROUND UTILITIES OR FIRE HYDRANTS.
- ONLY TREES THAT REACH A HEIGHT AND SIZE AT MATURITY OF SMALL TO MEDIUM SHALL BE PLANTED UNDER POWER LINES.
- THE CONTRACTOR SHALL WATER ALL PLANTS THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING, AND THEN WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON, UNLESS THE OWNER AGREES TO MAINTAIN AND WATER THEM.
- TREES TO REMAIN ON-SITE SHALL BE PROTECTED WITH SNOW FENCE DURING CONSTRUCTION (SEE DETAIL). SNOW FENCING TO BE MAINTAINED DURING CONSTRUCTION BY CONTRACTOR.
- THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE SHOULD ANY PLANT QUANTITY DISCREPANCIES OCCUR.
- NO SUBSTITUTIONS SHALL BE MADE WITHOUT APPROVAL OF THE OWNER AND/ OR THE LANDSCAPE ARCHITECT.
- ALL NEW TREES SHALL BE GUARANTEED TO SURVIVE FOR ONE FULL YEAR AFTER INSTALLATION (FULL COST). ALL STAKES AND GUYS SHALL BE REMOVED FROM TREES AND SITE AS EARLY AS THREE (3) MONTHS, BUT NO LONGER THAN ONE (1) YEAR AFTER PLANTING.

DELAWARE LANDSCAPE ARCHITECTS CERTIFICATION

I, CHAD D. CARTER, RLA, ASLA, HEREBY CERTIFY THAT I AM A LANDSCAPE ARCHITECT IN THE STATE OF DELAWARE, THAT THE LANDSCAPING INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF, REPRESENTS GOOD LANDSCAPING PRACTICES.

CHAD D. CARTER, RLA, ASLA S14-99 DATE



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302.369.3700

Maryland
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Salisbury, MD 21801
410.546.9100

North Carolina
3333 Jaeckle Drive, Suite 120
Wilmington, NC 28405
910.341.7600

www.beckermorgan.com



PROJECT TITLE

**HARBESON
SU163**

**CONDITIONAL USE
LANDSCAPE PLAN**

SCALE: 1" = 100'

ISSUE BLOCK

MARK	DATE	DESCRIPTION

PROJECT NO.: 2021294.00

DATE: 02-22-2022

SCALE: 1" = 100'

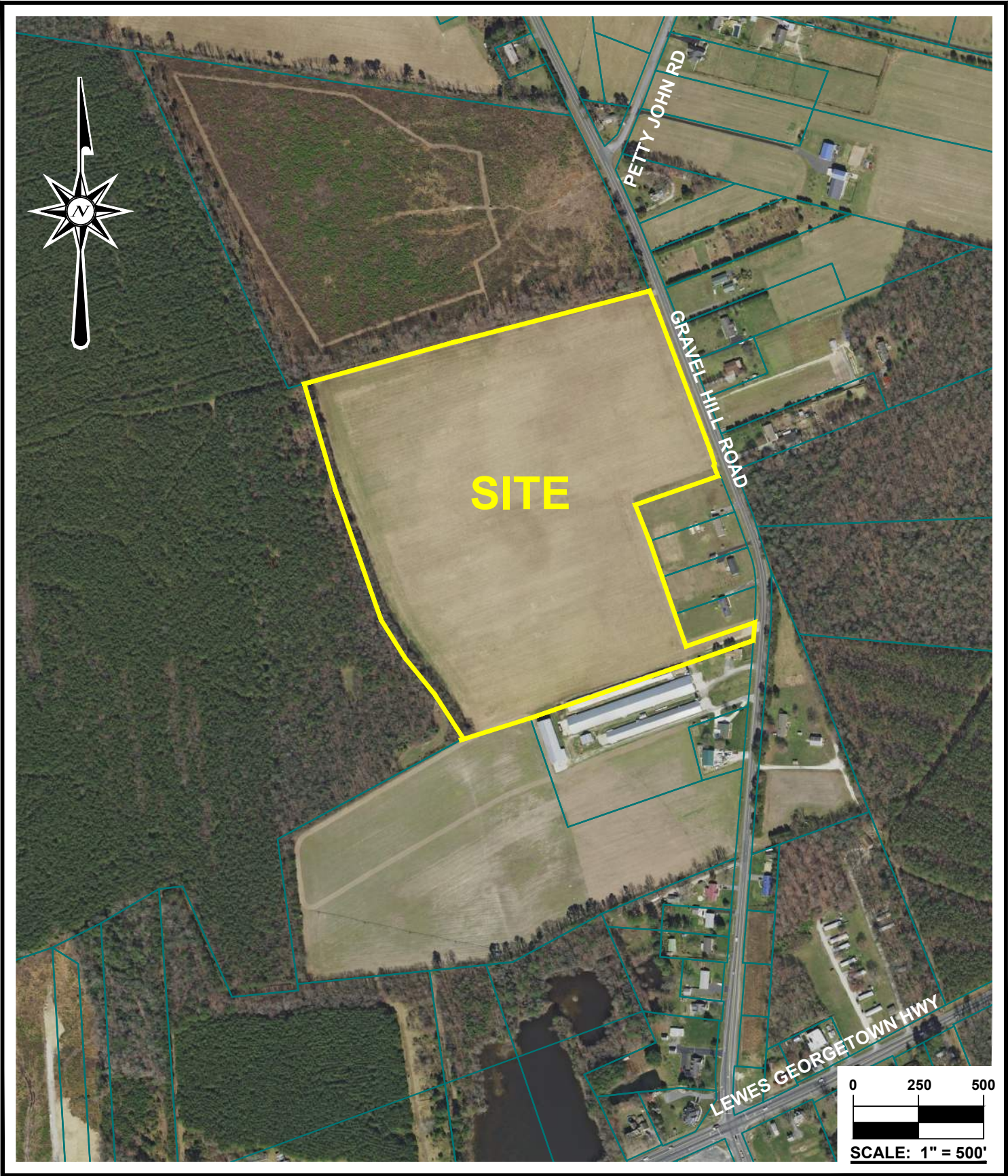
DRAWN BY: M.W. PROJ. MGR.: J.S.F.

SHEET

L-001

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2.4 Aerial Photo and Location



LAYER STATE: Aerial Map-163

AERIAL MAP - SITE LOCATION
SU163

SUSSEX COUNTY / DELAWARE

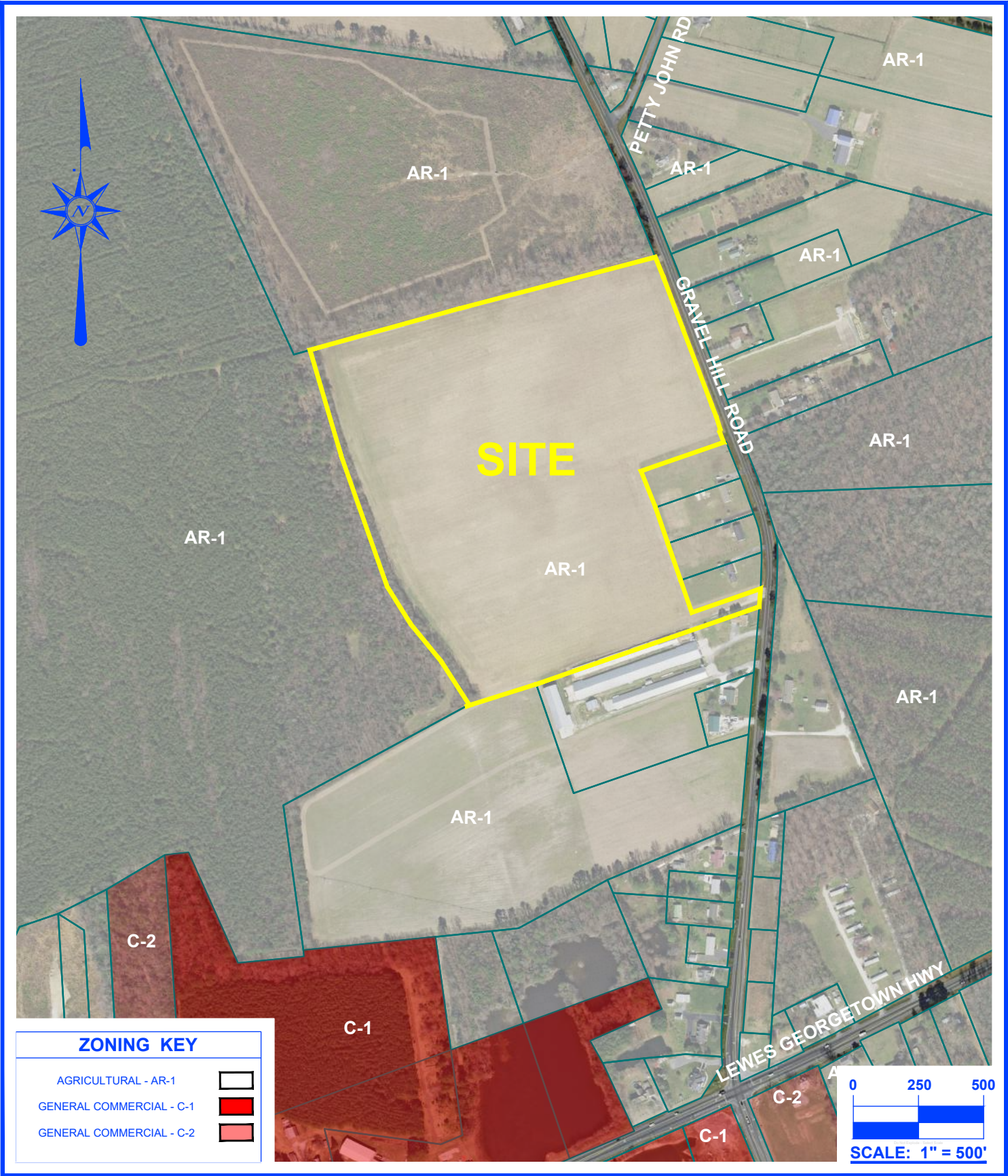


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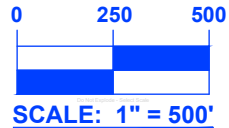
BMG: **2021294.00**
SCALE: **1" = 500'**
DATE: **11/22/2022**
DRAWN BY: **J.A.M.**

AERIAL

2.5 Zoning Map



ZONING KEY	
AGRICULTURAL - AR-1	
GENERAL COMMERCIAL - C-1	
GENERAL COMMERCIAL - C-2	



LAYER STATE: Zoning Map-163

**ZONING MAP
SU163**

SUSSEX COUNTY / DELAWARE

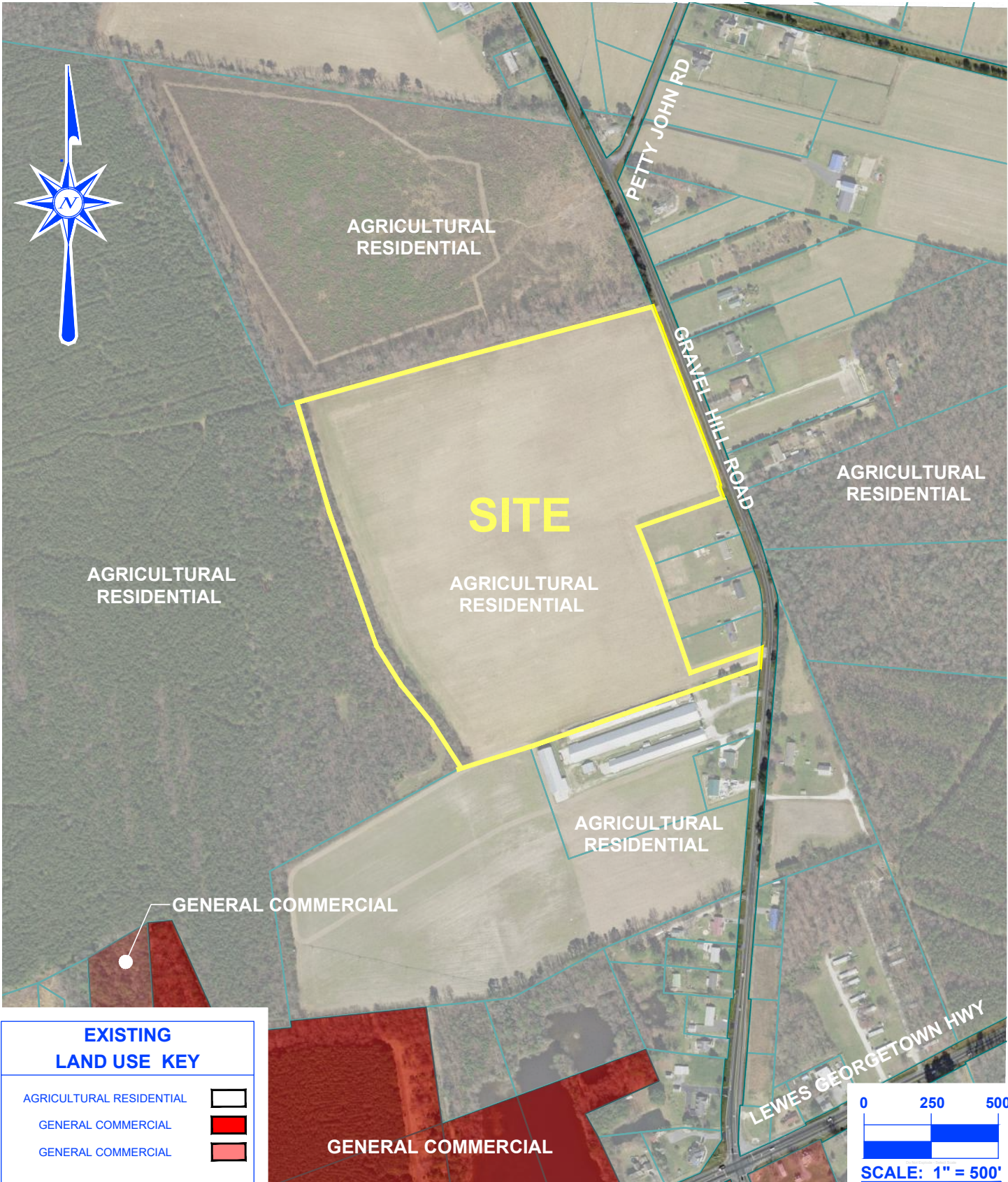
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Dover, DE 19904
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Fax 302.734.7965

BMG: **2021294.00**
SCALE: **1" = 500'**
DATE: **11/22/2022**
DRAWN BY: **J.A.M.**

ZONING

2.6 Existing Land Use



EXISTING LAND USE KEY	
AGRICULTURAL RESIDENTIAL	
GENERAL COMMERCIAL	
GENERAL COMMERCIAL	

LAYER STATE: Existing Land Use-163

EXISTING LAND USE SU163

SUSSEX COUNTY / DELAWARE

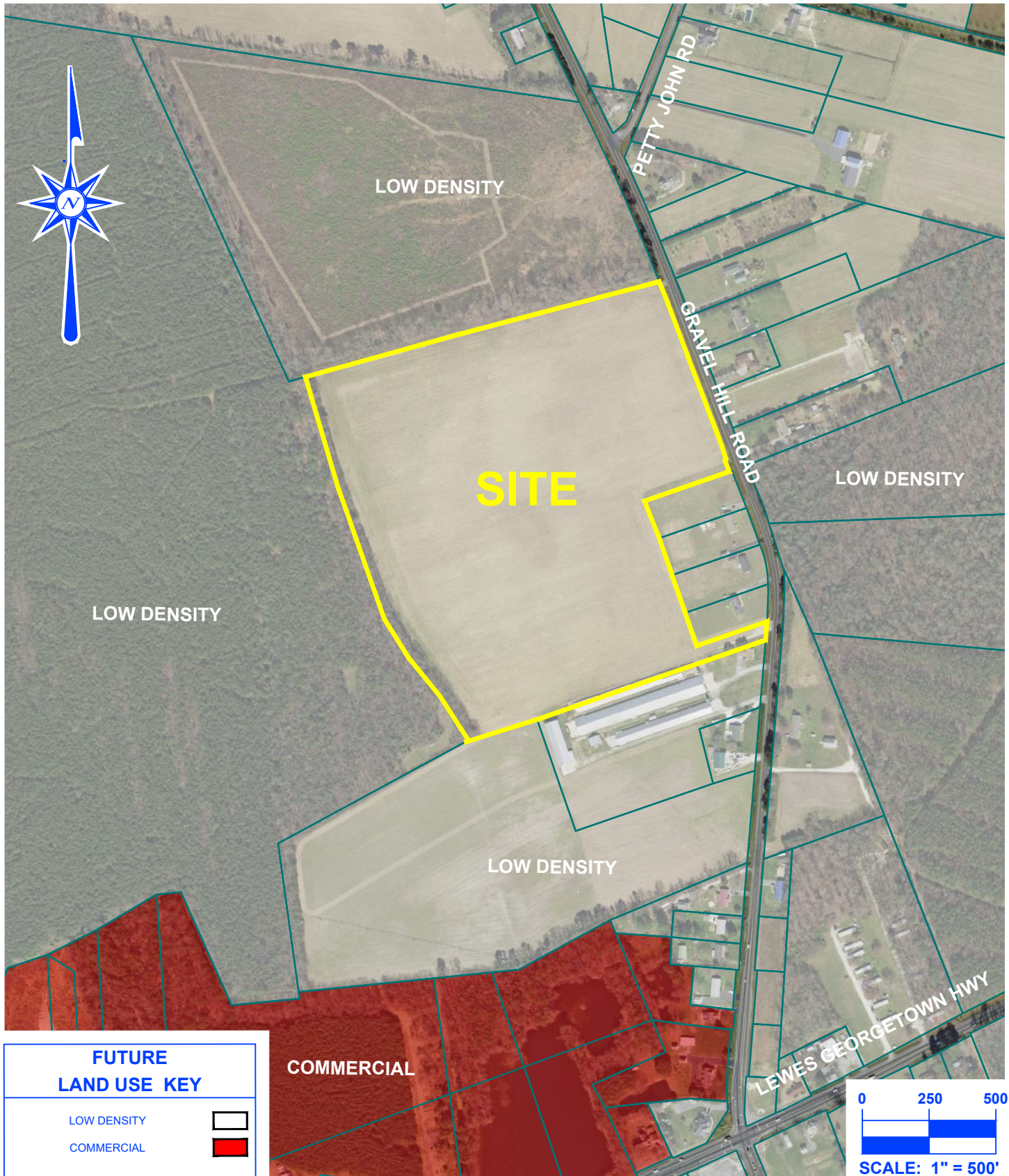
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BMG: 2021294.00
SCALE: 1" = 500'
DATE: 11/22/2022
DRAWN BY: J.A.M.

1

2.7 Future Land Use



LAYER STATE: Proposed Land Use-163

**FUTURE LAND USE
SU163**

SUSSEX COUNTY / DELAWARE

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BMG: **2021294.00**
SCALE: **1" = 500'**
DATE: **11/22/2022**
DRAWN BY: **J.A.M.**

1

2.8 Strategies for State Policies Spending



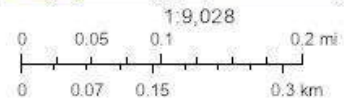
DE_StateParcels - State Parcels

2020 State Strategies

3

4

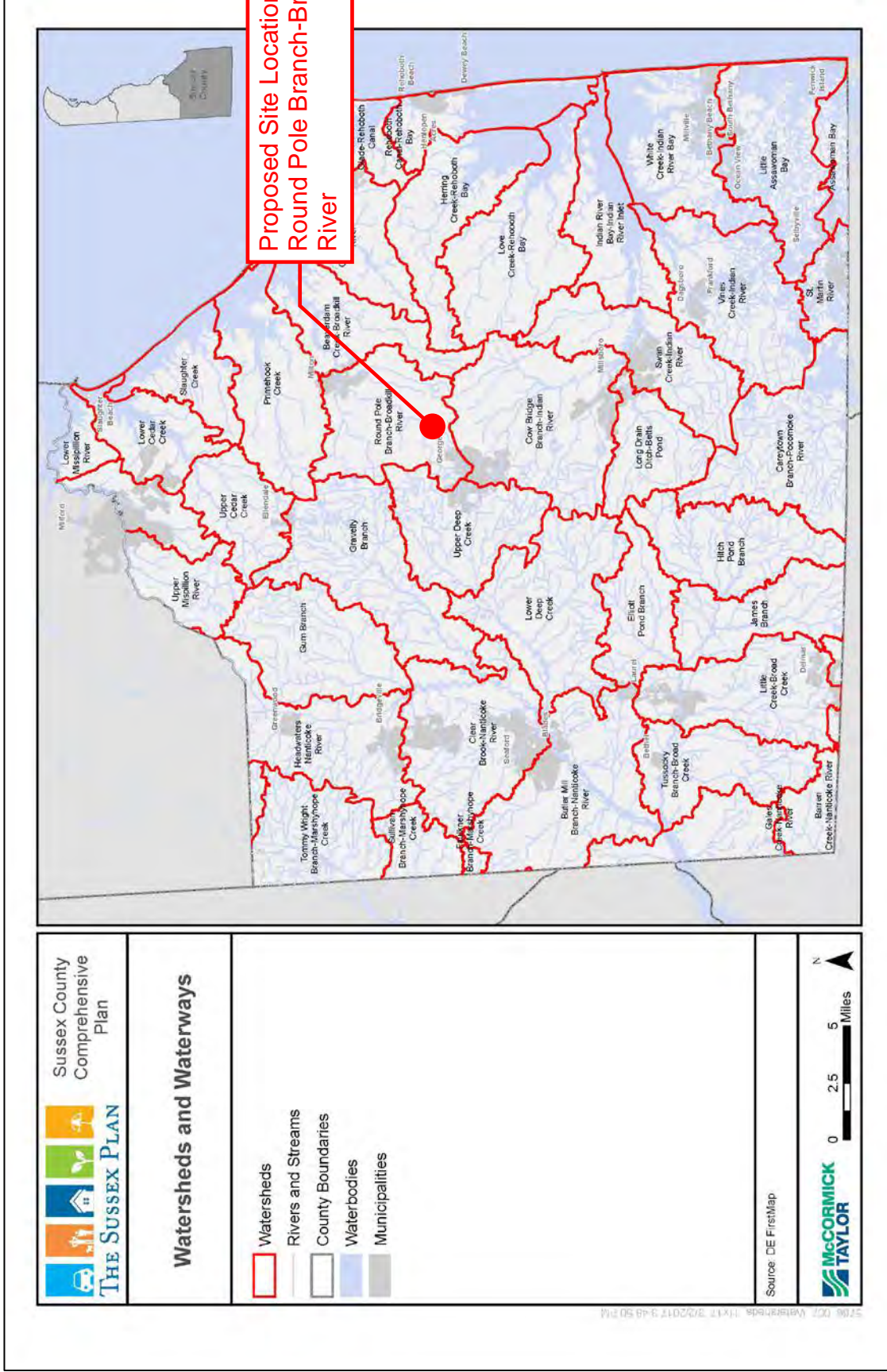
Out of Play



Delaware State Office of Planning Coordination, County of Sussex, DE, Delaware FirstMap, VITA, Esri, HERE, Garmin, GeoTechnologies, Inc., Intermap, USGS, METI/NASA, EPA, USDA

2.9 Watersheds / Waterways

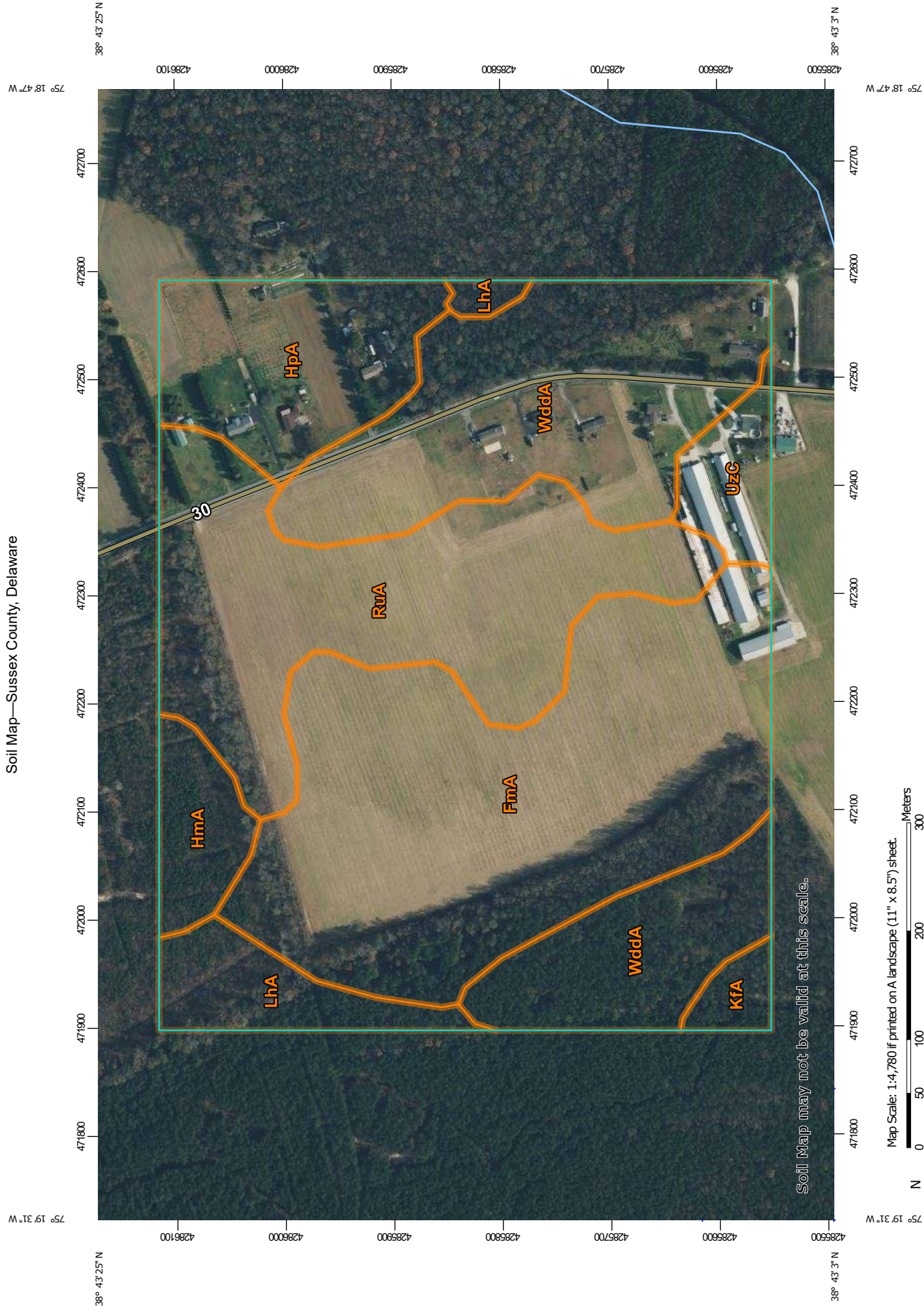
Figure 5.2-3 Watersheds and Waterways



2.10 FEMA Flood Insurance Rate Map (FIRM)

2.11 Soils Map

Soil Map—Sussex County, Delaware



Soil Map may not be valid at this scale.

Map Scale: 1:4,780 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

- Area of Interest (AOI)**
 - Area of Interest (AOI)
- Soils**
 - Soil Map Unit Polygons
 - Soil Map Unit Lines
 - Soil Map Unit Points
- Special Point Features**
 - Blowout
 - Borrow Pit
 - Clay Spot
 - Closed Depression
 - Gravel Pit
 - Gravelly Spot
 - Landfill
 - Lava Flow
 - Marsh or swamp
 - Mine or Quarry
 - Miscellaneous Water
 - Perennial Water
 - Rock Outcrop
 - Saline Spot
 - Sandy Spot
 - Severely Eroded Spot
 - Sinkhole
 - Slide or Slip
 - Sodic Spot
- Water Features**
 - Streams and Canals
- Transportation**
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background**
 - Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Sussex County, Delaware
 Survey Area Data: Version 23, Sep 14, 2022

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

Date(s) aerial images were photographed: Apr 1, 2020—Oct 1, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FmA	Fort Mott loamy sand, 0 to 2 percent slopes	30.9	31.8%
HmA	Hammonton loamy sand, 0 to 2 percent slopes	3.2	3.3%
HpA	Henlopen loamy sand, 0 to 2 percent slopes	9.1	9.3%
KfA	Keyport fine sandy loam, 0 to 2 percent slopes	1.2	1.2%
LhA	Lenni silt loam, 0 to 2 percent slopes	4.5	4.7%
RuA	Runclint loamy sand, 0 to 2 percent slopes	20.9	21.5%
UzC	Udorthents, 0 to 10 percent slopes	2.8	2.8%
WddA	Woodstown sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	24.6	25.3%
Totals for Area of Interest		97.2	100.0%

2.12 Property Value Impact Report

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:

TPE Development, LLC

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
Erin C. Bowen, MAI

October 5, 2022



LETTER OF TRANSMITTAL

October 5, 2022

Adam Beal
Executive Vice President of Development
TPE Development, LLC
3720 South Dahlia Street
Denver, CO 80237

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 the Mid Atlantic. 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 on 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 TPE Development, LLC ("Turning Point"). Additional intended users of our findings include Turning Point's designated project companies, all relevant permitting authorities for Turning Point's proposed solar projects in Delaware, Maryland and New Jersey. 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:

Disclaimer: This report is limited to the intended use, intended users (TPE Development, LLC, and its designated project companies and others stated in the report as it relates to the evaluation of a proposed solar energy generating facility in Delaware, Maryland and New Jersey), 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.

FINDINGS

- I. Academic Studies (*pages 21-23*): 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 24-76*): Further, CohnReznick has performed 29 studies in over 15 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 8 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	Location	Site Area (Acres)	Power Output (MW AC)	Date Project Completed	Impact on Surrounding Property Values
1	Upper Marlboro	Prince George's County, MD	31	2.0	Dec-19	No Impact
2	Lapeer (Demille & Turrill Solar)	Lapeer County, MI	270	48.0	May-17	No Impact
3	Woodland Solar	Isle of Wight County, VA	204	19.0	Dec-16	No Impact
4	Sunfish Farm Solar	Wake County, NC	50	2.0	Dec-15	No Impact
5	Call Farms 3 Solar	Genesee County, NY	82	2.0	Jul-18	No Impact
6	Jefferson County Community	Jefferson County, CO	13	1.2	May-16	No Impact
7	Whitetail	Franklin County, PA	130	13.5	Dec-19	No Impact
8	New Road Solar	Middlesex County, NJ	8	10.0	Jun-18	No Impact

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 two "Before and After" analysis, 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.

- III. Market Participant Interviews (*pages 77-80*): 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.

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With regards to the Project, we specifically interviewed Assessors in Delaware, New Jersey and Maryland:

- 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.
- Braxton McNeil, a supervisor in the Howard County, Maryland tax assessor's office, said that they have not had appeals or complaints filed due to the recently constructed solar farms, Nautilus Solar farm and Snowden River Solar farm, from nearby residential homeowners. Additionally, they have not seen an impact on sales prices of residential property surrounding solar farms in the County.
- Shannon Porter, a supervisor in the Prince George's County, Maryland tax assessor's office, reported that they have not received complaints or appeals to lower assessed values on homes near the Synergen Panorama Solar farm. They have also noted that their has not been a negative impact on sales prices of residential property surrounding solar farms in the county.

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 81-87*): 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.

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



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SCOPE OF WORK

CLIENT AND INTENDED USERS

The client and intended user of this report is TPE Development, LLC and its designated project companies; 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 Turning Point's proposed solar projects in Delaware, New Jersey and Maryland.

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]

EFFECTIVE DATE & DATE OF REPORT

October 5, 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, and is not evaluating a specific subject site. In this instance, there is no “subject property” to disclose.

INSPECTION

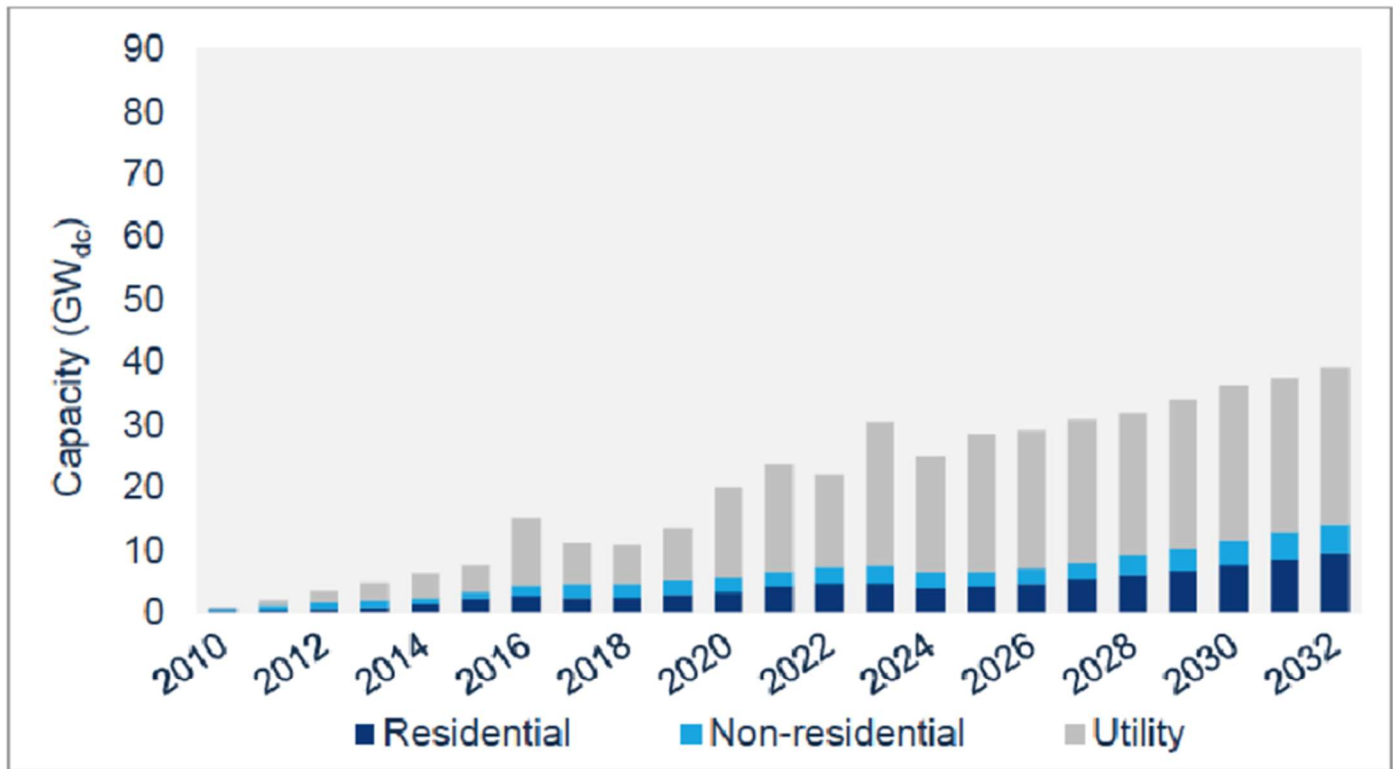
Patricia L. McGarr, MAI, CRE, FRICS, Andrew R. Lines, MAI, and Erin C. Bowen, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.

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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 ten years through 2032, with the largest percentage of installations attributed to utility-scale projects.

US PV installation historical data and forecast, 2010-2032





©2022

The United States installed 3.9 Gigawatts (GW) DC of solar photovoltaic capacity for all the sectors, residential, commercial, community solar and utility-scale solar projects in Q1 2021, a 24 percent decrease from Q1 2021 and a 52 percent decrease from Q4 2021, representing the weakest quarter for United States solar installations in two years. Due to the anti-circumvention investigation instigated by Auxin Solar’s petition to the Department

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of Commerce, most manufacturers have simply stopped shipping equipment to the United States to avoid tariff risk. As a result of the uncertainty created by the anti-circumvention investigation, expectations for 2022 solar installations have been reduced to 15.6 GWdc, a 29 percent reduction from the previous quarter, which had already been reduced due to supply chain constraints. Most of the reduction comes from the utility-scale solar segment, which had decreased by more than 40 percent from the previous quarter's outlook.

The beginning dates for operation of multiple gigawatts of projects have been pushed from 2022 into 2023 or later. The projects likely to come online in 2022 already have secured equipment, as of the end of 2021.

However, solar power generation still accounted for 50 percent of all new electricity-generating capacity additions in Q1 2022 and continues to make up the largest share of new generating capacity in the U.S.

As of August 12, 2022, the Inflation Reduction Act was passed in the Senate and The House of Representatives, which includes long-term solar incentives and investment in domestic solar manufacturing. Included in the bill, a 10-year extension and expansion of the Investment Tax Credit (ITC) and Production Tax Credit (PTC) will provide tax credits for solar manufacturing and direct payment options for tax credits. While the uncertainty of the anti-circumvention investigation remains present, the passage of the Inflation Reduction Act gives the solar industry long-term market certainty.

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.²

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. A majority of tax revenue is funneled back into the local area, and as much as 50 percent of increased 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 does 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 rejuvenate 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

² "Electromagnetic Field and Public Health." Media Centre (2013): 1-4. World Health Organization.

year after year. 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.³

³ NC State Extension. (May 2016). Landowner Solar Leasing: Contract Terms Explained. Retrieved from: <https://content.ces.ncsu.edu/landowner-solar-leasing-contract-terms-explained>

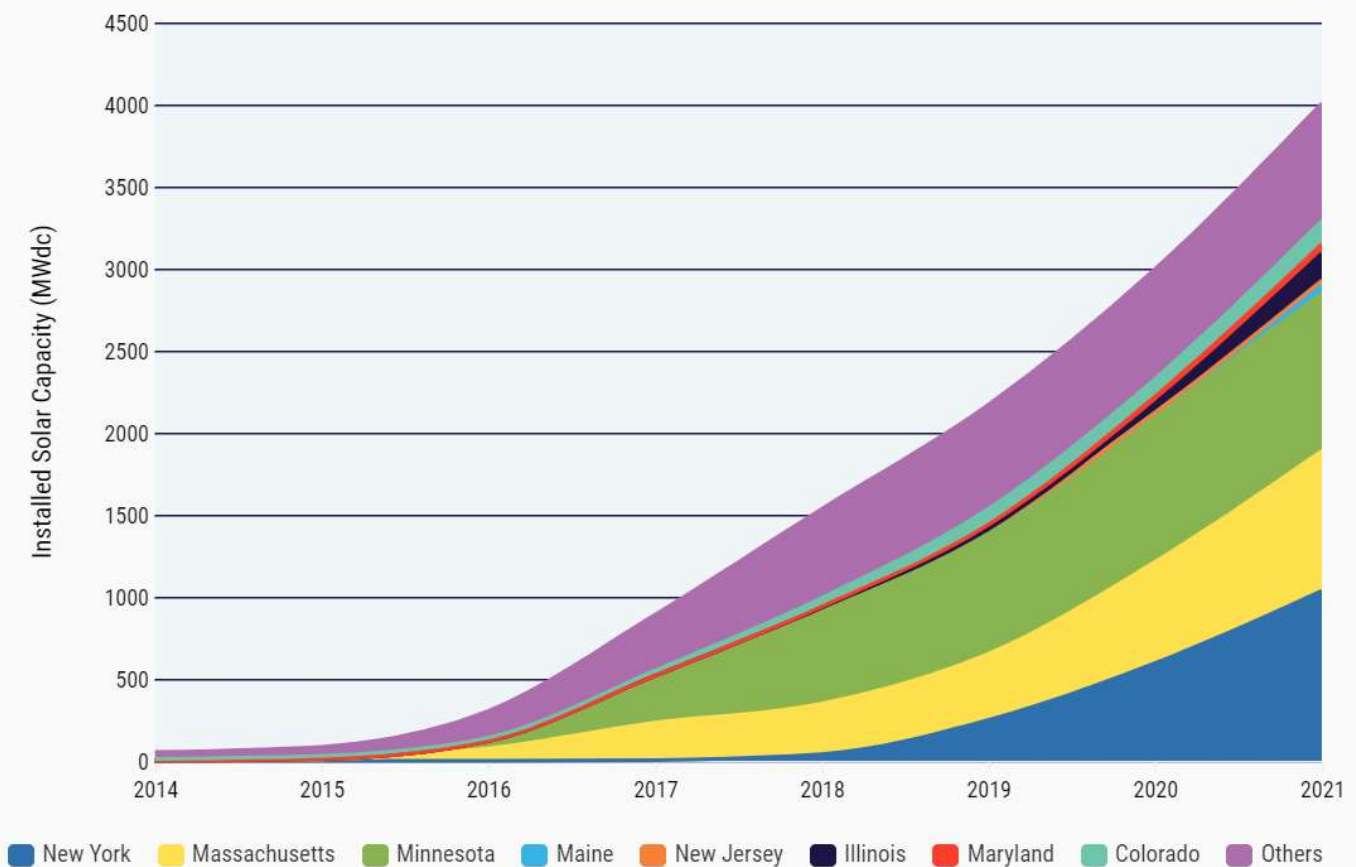
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NATIONAL COMMUNITY SOLAR ENERGY PRODUCTION

Community solar projects (facilities that generate 5 MW AC or less of power) account for 4,900 MWdc of installed power in the U.S. as of the second quarter 2022, according to SEIA data. The community solar industry had a record setting year in 2021 with 957 MWdc installed, according to SEIA data. According to the U.S. Energy Information Administration (EIA) through June 2022, there are over 4,133 community solar facilities in operation across the country.

Community solar installations significantly grew year-over-year as of first quarter 2022, however, installations are down 59 percent from the fourth quarter 2021. Due to uncertainty around the anti-circumvention investigation, supply chain issues, and long timelines for new community solar policies, community solar installations are expected to contract in 2022. The growth of community solar installations from 2014 to 2021 is presented in the chart below.

Cumulative U.S. Community Solar Installations



Source: SEIA/Wood Mackenzie Power & Renewables U.S. Solar Market Insight Q2 2022



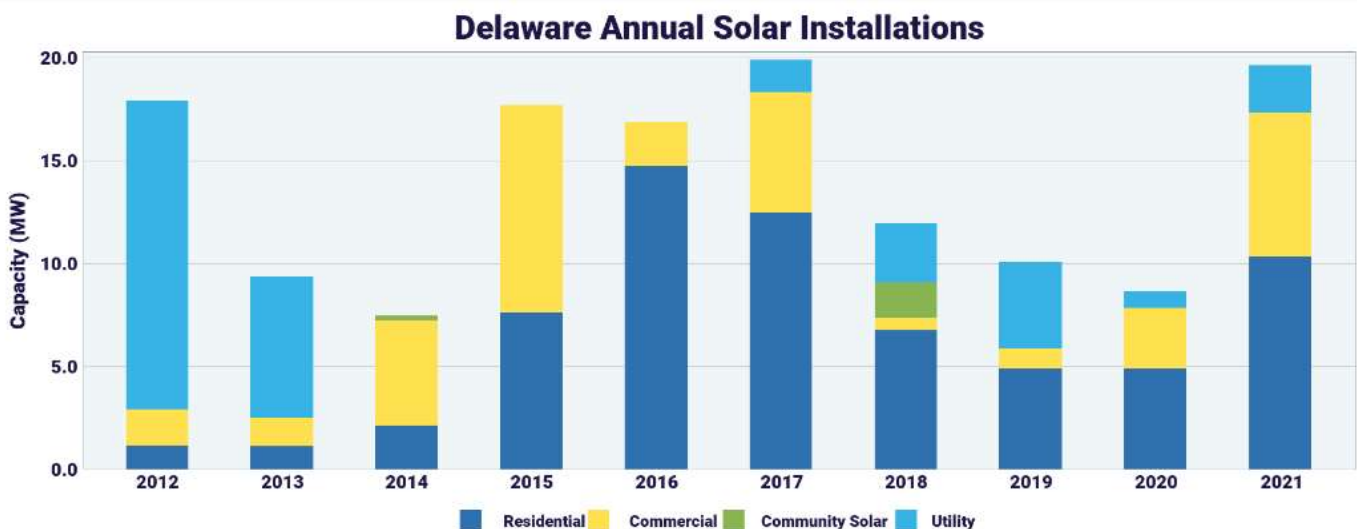
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While early growth for community solar installations was led primarily by three key markets - New York, Minnesota, and Massachusetts - a growing list of states with community solar programs have helped diversify the market, creating large pipelines set to come to fruition over the next several years.

SOLAR ENERGY PRODUCTION IN DELAWARE

As of the end of the first quarter of 2022, Delaware had 171 MW AC of power overall, ranking forty-first in the U.S. for the capacity of solar installed. There have been only 9.8 MW of solar power installed in the state since 2015. However, significantly more utility investments in clean energy are on the horizon, with 341 MW AC of solar power planned for installation over the next five years. The largest new solar facility in Delaware will be a 114 MW AC utility scale installation projected to become operational in December 2024 in New Castle County, that is being developed by Cedar Creek Solar. The total planned solar facilities will increase solar power generation in the state by approximately 199 percent.



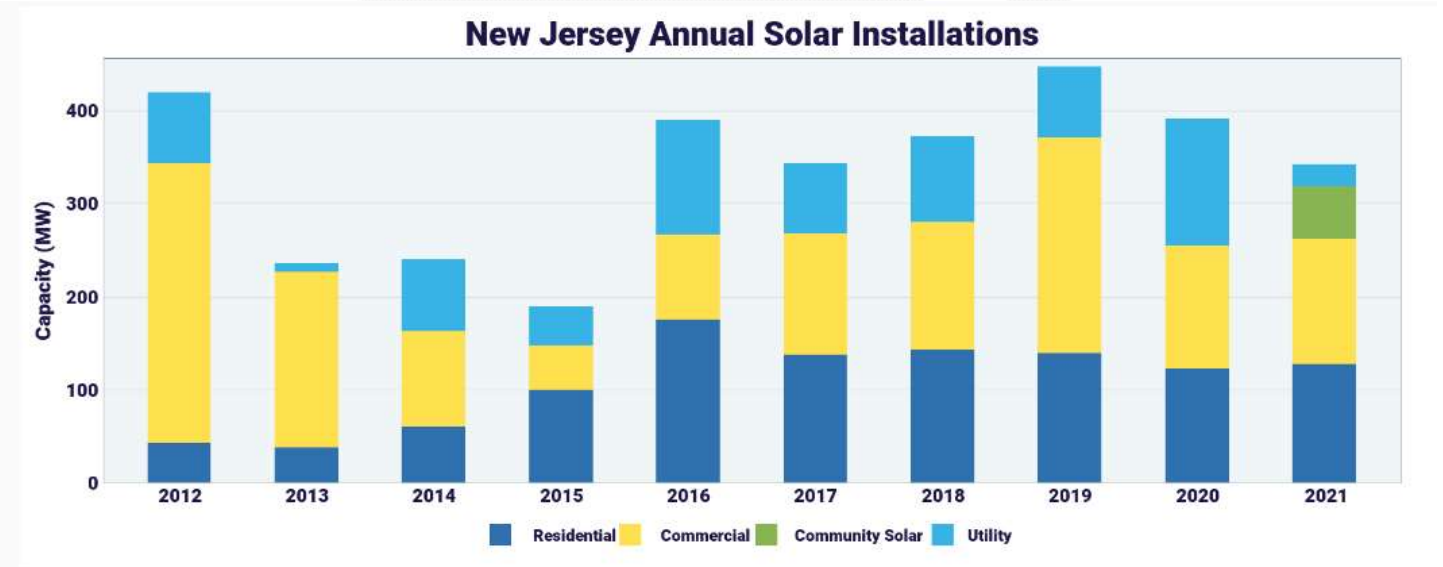
Delaware currently has 12 non-residential solar facilities in service and two generate over 5 MW, totaling 21.8 MW of power in utility-scale facilities. Milford Solar Farm in Kent County generates the most power at 11.8 MW and was developed in 2012. The most recent facility to be developed became operational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

SOLAR ENERGY PRODUCTION IN NEW JERSEY

As of the end of the first quarter of 2022, New Jersey had 3,992 MW AC of power overall, ranking eighth in the U.S. for the capacity of solar installed. There have been 502.9 MW of solar power installed in the state since 2015 and significantly more investments in clean energy are on the horizon, with 1,963 MW AC of solar power

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planned for installation over the next five years. The largest new solar facility in Delaware will be a 19.8 MW AC utility scale installation projected to become operational in November 2022 in Morris County, that is being developed by NJR Clean Energy Ventures Corporation. The total planned solar facilities will increase solar power generation in the state by approximately 190 percent.

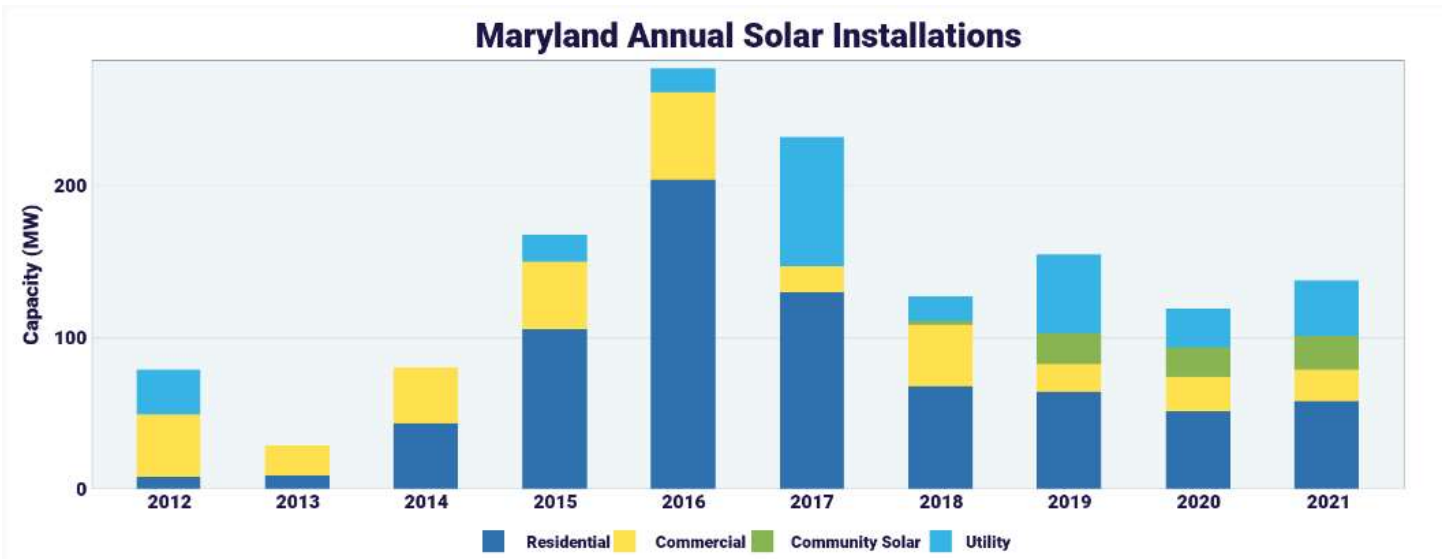


New Jersey currently has 61 non-residential solar facilities in service and two generate over 20 MW, totaling 545.9 MW of power in utility-scale facilities. EDF Phase 1 Toms River in Ocean County generates the most power at 21.3 MW and was developed in 2021. The most recent facility to be developed became operational in March 2022 with 10.5 MW in Mercer County.

SOLAR ENERGY PRODUCTION IN MARYLAND

As of the end of the first quarter of 2022, Maryland had 1,459 MW AC of power overall, ranking eighteenth in the U.S. for the capacity of solar installed. There have been 298.3 MW of solar power installed in the state since 2015. However, significantly more utility investments in clean energy are on the horizon, with 1,050 MW AC of solar power planned for installation over the next five years. The largest new solar facility in Maryland will be an 80 MW AC utility scale installation projected to become operational in October 2022 in Queen Annes County, that is being developed by Bluegrass Solar. The total planned solar facilities will increase solar power generation in the state by approximately 256 percent.

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Maryland currently has 15 non-residential solar facilities in service and two generate over 20 MW, totaling 241.3 MW of power in utility-scale facilities. Great Bay Solar 1 in Somerset County generates the most power at 75 MW and was developed in 2018. The most recent facility to be developed became operational in December 2021, which generates 6 MW of power and is located in Carroll County.

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APPRAISAL THEORY – ADJACENT 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.⁴ 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.”⁵

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.⁶ CohnReznick implemented the scientific method⁷ to determine if a detrimental condition of proximity to a solar farm exists, further described in the next section.

⁴ Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Pages 1-2)

⁵ Ibid, Page 314

⁶ Ibid, Pages 7-8

⁷ 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)

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.”⁸*

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.”⁹ 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,¹⁰ to determine if a detrimental impact has occurred.

⁸ Bell, Randall, PhD, MAI. *Real Estate Damages. Third ed.* Chicago, IL: Appraisal Institute, 2016. (Page 33)

⁹ *The Appraisal of Real Estate 14th Edition.* Chicago, IL: Appraisal Institute, 2013.

¹⁰ 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)

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 community solar projects that qualified for study in the state of Illinois, we have incorporated some regional utility scale projects and community solar 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.

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- 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 methodology remains objective, and the only adjustment required is for market conditions;¹¹ 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”)¹² 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.

¹¹ 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.”

¹² 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.

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 2018.¹³ 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 assessors 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.*”¹⁴ 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

¹³ 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.lbj.gov/sites/default/files/property-value_impacts_near_utility-scale_solar_installations.pdf.

¹⁴ 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/>.

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.”¹⁵ 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 land owners 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

¹⁵ 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.

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.”¹⁶

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.

¹⁶ Chisago County Press: County Board Real Estate Update Shows No “Solar Effects” (11/03/2017)

TECHNIQUE 2: PAIRED SALE ANALYSIS

SOLAR FARM 1: UPPER MARLBORO 1 CSG SOLAR FARM, PRINCE GEORGES COUNTY, MD

Coordinates: Latitude 38.789216, Longitude -76.800910

PIN: 0109-00E2-0036

Total Land Size: 31.16 acres

Date Project Announced: April 2018

Date Project Completed: December 2019

Output: 2.0 MW AC



The Upper Marlboro 1 CSG Solar use is located in Upper Marlboro, Maryland at 7420 South Osborne Road. The current owner of the solar farm is Nautilus Solar Solutions while Turning Point Energy and Cypress Creek Renewables developed the solar facility. The owner, Nautilus Solar Energy, has a 25-year lease on the solar

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farm site with a possible 5-year extension. The solar farm went into operation November/December 2019 and is comprised of 6,000 panels held up by 1,000 I-beams and more than 4,000 feet of perimeter fencing.

The Surrounding Area: The Upper Marlboro 1 CSG solar installation is located in Upper Marlboro, in the central portion of Prince George’s County, Maryland. Prince George’s County is located just east of Washington D.C. and the State of Virginia. The Upper Marlboro 1 CSG Solar Farm is approximately 17 miles southeast of Washington D.C. and approximately 8 miles southeast of the U.S. Military’s Joint Base Andrews.

The Upper Marlboro 1 CSG solar installation is one of sixteen solar farms located within Prince George’s County, the largest of which, Synergen Panorama solar farm, generates 5 MW AC and was completed in July 2019.

The Immediate Area: The solar installation is located on the northern side of South Osborne Road. The immediate area is primarily single-family residential and agricultural with supporting commercial uses nearby. Surrounding the solar farm to the north, south and west are single-family residential uses, a day care center to the south and a shopping center anchored by Safeway to the east.

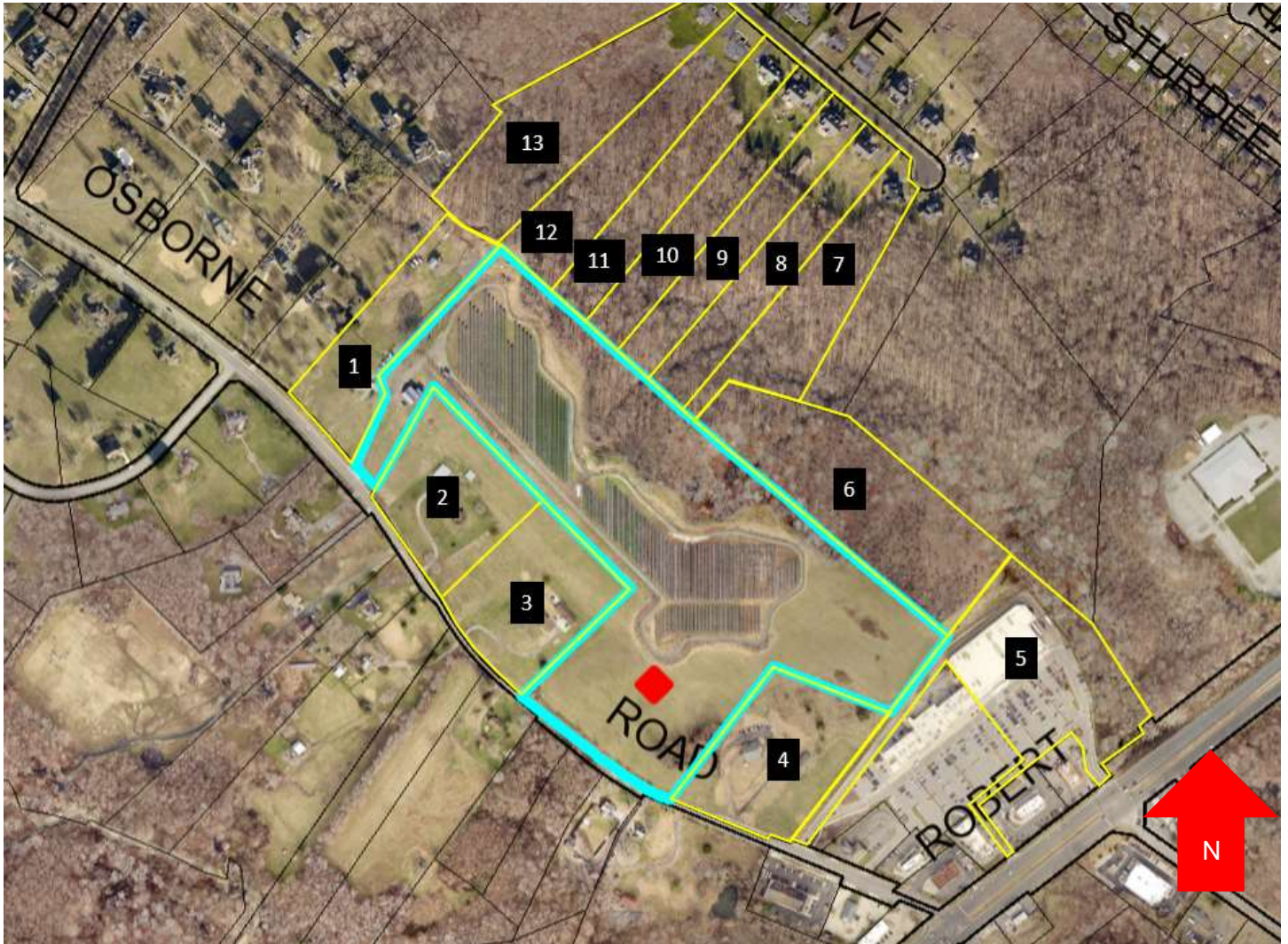
A fence and native pollinating plants line the perimeter of the solar farm. A dense tree line to the north and east of the solar farm blocks visibility from adjacent properties. Additionally, the solar farm is located on higher elevation land from the South Osborne Road and is only visible from directly adjacent single-family residential properties to the west and south.

Real Estate Tax Info: Prior to the development of the solar, the land under the Upper Marlboro 1 CSG solar installation was assessed at \$7,600 and paid real estate taxes of \$110 in the 2019-2020 fiscal year. After the solar farm was developed, in late 2019, real estate taxes increased to \$6,049, a 5,412 percent increase in tax revenue for the site. The assessed value of the underlying land the panels sit on increased by 5,412 percent to \$418,000 after the solar farm was completed in late 2019.

Pin	Acres	2019/20 Taxes Paid	2020/21 Taxes Paid	Tax Increase	2019/20 Assessed Value	2020/21 Assessed Value	Value Increase
Prince Georges County, MD							
0109-00E2-0036	31.16	\$110	\$6,049	5,412.05%	\$7,600	\$418,900	5,411.84%
Total	31.16	\$110	\$6,049		\$7,600	\$418,900	

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The following map displays the parcels within the solar farm is located (outlined in blue). Properties adjoining the solar parcels (outlined in yellow) are numbered for subsequent analysis.



Upper Marlboro CSG 1 Solar – Adjoining Properties

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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 primarily on location and date sold. The first group comprises the one sale at 7400 South Osborne Road that occurred after the completion of the solar farm. We also identified a transaction that occurred during the project construction, 7304 South Osborne Road which sold in August 2019, and comprises Group 2.

Group 1 – Improved Single-Family Residential Properties

Adjoining Property 2 to the Upper Marlboro CSG 1 Solar project was considered for a paired sales analysis. We have analyzed Adjoining Property 2 as single-family home use in Group 1. The improvements on this property are located 265 feet to the nearest solar panel. Adjoining Property 2 is located along South Osborne Road, along the southwestern boundary of the solar farm.

SUMMARY OF TEST AREA SALE										
Group 1 - Upper Marlboro										
Adj. Property #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price / SF	Sale Date
2	7400 South Osborne Road	\$550,000	4	3	1979	1,300	Single-Family Home	5.07	\$423.08	4/26/2022

We analyzed ten Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, that 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 single-family homes with two to four bedrooms and two to three baths, consist of between 936 square feet and 1,704 square feet of gross living area above grade, built between 1955 and 1978 with finished basements and with lot sizes ranging from 1.0 to 5.29 acres. Additionally, the Control Area Sales for Group 1 are all located within the Prince George's County School District.

The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The result of our analysis for the Upper Marlboro Solar Project – Group 1 is presented below.

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CohnReznick Paired Sale Analysis Upper Marlboro 1 CSG Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	\$423.08
Control Area Sales (10)	No: Not adjoining solar farm	\$384.46
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		10.04%

We note that the relative size of the subject's acreage is a bit larger than the typical estate home lot in the Test Area Sale's area; the larger differential is likely due to the Test Area Sale's slightly larger than average acreage.

Noting no negative price differential, it does not appear that the Upper Marlboro Solar use impacted the sale price of the Test Area Sale, Adjoining Property 2.

Group 2 – Improved Single-Family Residential Properties

Adjoining Property 1 to the Upper Marlboro CSG 1 Solar project was considered for a paired sales analysis. We have analyzed Adjoining Property 1 as single-family home use in Group 2. The improvements on this property is located 307 feet to the nearest solar panel. Adjoining Property 1 is located along South Osborne Road, along the southwestern boundary of the solar farm.

SUMMARY OF TEST AREA SALE Group 2 - Upper Marlboro										
Property #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price / SF	Sale Date
1	7304 South Osborne Road	\$386,375	3	2.5	2004	1,916	Single-Family Home	4.58	\$201.66	Aug-19

We analyzed eight Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to the solar farm, that sold within a reasonable time frame from the median sale date of the Test Area Sale in Group 2. The Control Area Sales for Group 1 are single-family homes with two to four bedrooms and two to three baths, consist of between 1,980 square feet and 2,472 square feet of gross living area above grade, built between 1990 and 2007 and with lot sizes ranging from 1.0 to 6.18 acres. Additionally, the Control Area Sales for Group 2 are all located within the Prince Georges County School District.

The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or

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refinancing of the same properties. The result of our analysis for the Upper Marlboro Solar Project – Group 2 is presented below.

CohnReznick Paired Sale Analysis Upper Marlboro 1 CSG Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	\$201.66
Control Area Sales (8)	No: Not adjoining solar farm	\$189.75
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		5.91%

We note that the relative size of the subject's acreage is a bit larger than the typical estate home lot in the Test Area Sale's area; the larger differential is likely due to the Test Area Sale's slightly larger than average acreage.

Noting no negative price differential, it does not appear that the Upper Marlboro Solar use impacted the sale price of the Test Area Sale, Adjoining Property 1.

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SOLAR FARM 2: SUNSHINE FARMS SOLAR FARM, CURRITUCK COUNTY, NC**Coordinates:** Latitude 36.234042, Longitude -75.880074**PINs:** 0108000095H0000, 0108000095G0000**Total Land Size:** 121.44 acres**Date Project Announced:** January 2016**Date Project Completed:** February 2020**Output:** 20 MW AC

The Sunshine Farms Solar use is located in Grandy, North Carolina at 180 Uncle Graham Road and 6562 Caratoke Highway. The current owner of the solar farm is Paloma Solar & Wind, LLC while Exoplexus Incorporated developed the solar facility. The solar farm went into operation in February 2020 and can generate power for approximately 2,900 homes. Nearly 55,000 panels comprise the farm.

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The Surrounding Area: The Sunshine Farms solar installation is located in Grandy Township, in the southern portion of Currituck County, North Carolina. Currituck County is located in the northeast corner of North Carolina. Sunshine Farms is one of four solar farms located within Currituck County and the only solar farm within the town of Grandy. Sunshine Farms is the smallest solar farm in the county at 20 MW, along with Shawboro Solar which also produces an output capacity of 20 MW AC and is located Crawford Township, approximately 20 miles north of Sunshine Farms.

The two larger solar farms in Currituck County are adjacent to one another in Moyock Township, approximately 25 miles north of Sunshine Farms, producing a combined output of 124.4 MW AC and are adjacent to residential homes and agricultural use land.

The Immediate Area: Surrounding land uses consist of residential homes and vacant residential lots to the north, west, and south; and commercial uses and vacant commercial lots to the east. The project site was previously the site of the Goose Creek Golf and Country Club and sits just south of the Carolina Club Community.

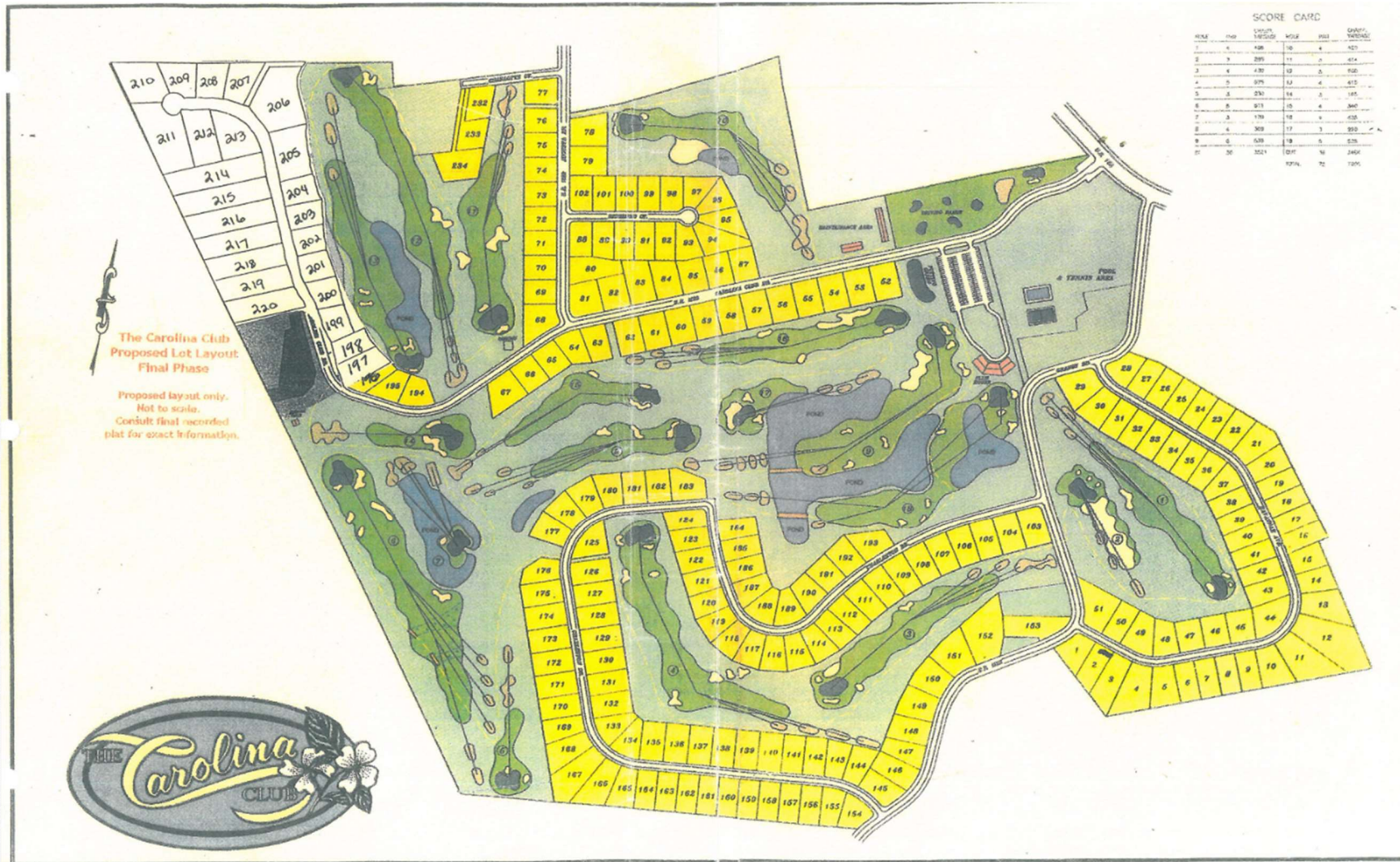
The solar farm is surrounded by landscaped buffers, with a denser landscaped buffer along the north, west, and south borders of the site adjacent to residential uses.

Carolina Club Community: The Carolina Club Community is comprised of 220 single-family residential lots and residences surrounding an 18-hole golf course and amenities including a swimming pool, tennis courts, a clubhouse, and a community boat ramp. While the golf course within the community is open to the public, all other amenities in the Carolina Club Community are only available to Carolina Club Association Property Owners and their families and guests.

The Carolina Club is operated by The Carolina Club Owners Association, Inc. and every person or entity who is a record owner of a fee simple interest in any lot in the community are subject to architectural control and homeowner's association dues every quarter. The homeowner's association dues are determined annually with the minimum annual assessment being between \$350 and \$500 per year. However, "special assessments" for capital improvements to the Association's common properties allows annual dues to exceed \$500 per year.

Property owners are limited to construct one single-family dwelling per lot that may not cover more than 25 percent of the total lot size. The minimum required living area for dwellings in the community is 1,500 square feet for one-story dwellings and 1,800 square feet for two-story dwellings. Additionally, dwellings must have setbacks of 25 feet in the front yard, 15 feet on the side yards, and 25 feet in the rear yard.

A map of the Carolina Club Community is presented on the following page.



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Real Estate Tax Info: In Currituck County, North Carolina, real property is assessed every 8 years, with the two most recent reassessments in 2013 and 2021. However, the parcel on which Sunshine Farms is constructed on has been split, merged and subdivided several times since 2013, therefore, we have presented historical real estate tax assessments and payments for the parcel dating back to only 2019. The parcel has not been split, merged or subdivided since this time.

Solar farms in North Carolina are assessed as personal property, separate from the land assessment. After the solar farm was placed into service, there was an increase of 628.65 percent in total assessed value, and a 597.99 percent increase in total taxes paid.

In 2019, prior to the property being assessed as a solar farm, the assessed value of the land was \$517,200 and ownership paid \$2,483 in real estate taxes. In 2021, the assessed value increased to \$708,100 and the real estate tax increased to \$3,257, an increase in tax revenue of 31.17 percent.

Pin	Acres	2019 Taxes Paid	2021 Taxes Paid	Tax Increase	2019 Assessed Value	2021 Assessed Value	Value Increase
Currituck County, NC 0108000095H0000	118.02	\$2,483	\$3,257	31.17%	\$517,200	\$708,100	36.91%
Personal Property Tax		\$0	\$14,074		\$0	\$3,059,520	
Total	118.02	\$2,483	\$17,331	597.99%	\$517,200	\$3,767,620	628.65%

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The following map displays the parcels developed with the solar farm (outlined in red). Properties immediately adjoining the solar parcels (outlined in yellow) are numbered for subsequent analysis.



Sunshine Farms Solar – Adjoining Properties

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PAIRED SALES ANALYSIS

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 seven Adjoining Properties that sold since the solar farm started operation in February 2020: Three single-family residential properties have sold since the solar farm started operation, Adjoining Properties 4, 9, and 12. We have not included the sale of Adjoining Property 12 in our analysis as it sold between related parties. Additionally, four vacant land parcels that can be developed with single-family homes, Adjoining Properties 1, 21, 29, and 35, have sold since the solar farm started operation. We have not included the sale of Adjoining Property 29 as it was an off-market transaction, per the Currituck County Assessor's Office. Additionally, we have not included the sale of Adjoining properties 21 and 35 due to a lack of comparable transactions in the local market. Adjoining properties 21 and 35 are located along Grandy Road and Uncle Graham Road, respectively, and do not have community clubhouse, swimming pool, tennis courts, or community boat ramp privileges. In our search of comparable vacant lot sales, other lots that have sold in the area during the same time frame either have those privileges or are waterfront properties. Therefore, there was insufficient comparable control transactions.

Group 1 – Improved Single-Family Residential Properties

Adjoining Properties 4, 9, and 12 to the Sunshine Farms Solar project were considered for a paired sales analysis. We have not included the sale of Adjoining Property 12 in our analysis as it sold between related parties. We have analyzed Adjoining Properties 4 and 9 as single-family home uses in Group 1. The improvements on these properties are located between 388 and 535 feet to the nearest solar panel. Adjoining Properties 4 and 9 are both located within the Carolina Club Community of Grandy. The Carolina Club Community surrounds The Carolina Club public golf course, with many residences having frontage along the golf course.

SUMMARY OF TEST AREA SALE										
Group 1 - Sunshine Farms										
Adj .Property #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price / SF	Sale Date
4	141 Savannah Avenue	\$433,000	3	4.0	1998	2,481	Single-Family Home	0.46	\$174.53	Mar-22
9	151 Savannah Avenue	\$367,000	3	2.0	1996	1,744	Single-Family Home	0.71	\$210.44	Aug-21

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, that 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 single-family homes with three bedrooms and two to three baths, consist of between 1,500 square feet and 3,000 square feet of gross living area, and built between 1990 and 2005. Additionally, the Control Area Sales for Group 1 are all located within the Carolina Club Community of Grandy.

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The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The result of our analysis for Sunshine Farms Solar Project – Group 1 is presented below.

CohnReznick Paired Sale Analysis Sunshine Farms Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (2)	Adjoining solar farm	\$192.48
Control Area Sales (6)	No: Not adjoining solar farm	\$190.99
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		0.78%

The days on market for the two Test Area Sales had a median of 69 days on market, while the median days on market for the Control Area sales was 86 days (ranging from 56 to 140 days), **and we note no significant marketing time differential.**

Noting no negative price differential, it does not appear that the Sunshine Farms Solar use impacted the sale price of the two Test Area Sales, Adjoining Properties 4 and 9.

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Group 2 – Vacant Residential Lots, Carolina Club Community

Adjoining Properties 1, 21, 29 and 35 to the Sunshine Farms Solar project were considered for a paired sales analysis. We have not included the sale of Adjoining property 29 as it was an off-market transaction. Additionally, we have not included the sale of Adjoining properties 21 and 35 due to a lack of comparable transactions in the local market.

We have analyzed Adjoining Property 1 as a vacant residential lot use in Group 2. The property boundary of Adjoining Property 1 is located 397 feet to the nearest solar panel. Adjoining Property 1 is located within the Carolina Club Community of Grandy which surrounds the Carolina Club public golf course, with many residences having frontage along the golf course.

Bill Hogan, the listing agent of 135 Savannah Avenue (Adjoining Property 1), indicated that vacant lots within the Carolina Club Community are valued predominantly on a per lot basis as the Carolina Club Declaration of Covenants, Conditions, and Restrictions limit owners to one dwelling per lot. It was also noted that larger lots still attract a higher sale price but will reflect a lower sale price per square foot due to economies of scale and the limit on dwelling units per lot to one. Given that the marketplace analyzes the lots on a per lot sale basis, this is the method we will use in determining any differences in sale prices between target and control data.

SUMMARY OF TEST AREA SALE					
Group 2 - Sunshine Farms					
Property #	Address	Sale Price	Improvements	Site Size (AC)	Sale Date
1	135 Savannah Avenue	\$67,500	Vacant Residential Lot	0.99	Mar-22

We analyzed nine Control Area sales of vacant residential lots with similar site size that were not located in close proximity to the solar farm, and that sold within a reasonable time frame from the sale date of the Test Area Sale in Group 2. The Control Area sales for group 2 are vacant residential lots located within the Carolina Club Community, which are subject to homeowner's association fees, and that did not have golf course frontage, similar to the Test Area Sale.

The Control Area Sales were adjusted for market conditions using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The result of our analysis for Sunshine Farms Solar Project – Group 2 is presented below.

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CohnReznick Paired Sale Analysis Sunshine Farms Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per Lot
Test Area Sale (1)	Adjoining solar farm	\$67,500
Control Area Sales (9)	No: Not adjoining solar farm	\$49,900
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		26.07%

The days on market for the Test Area Sale was 69 days, while the median days on market for the Control Area sales was 273 days (ranging from 37 to 358 days), **and we note no significant marketing time differential.**

Noting no negative price differential, it does not appear that the Sunshine Farms Solar use impacted the sale price of the Test Area Sale, Adjoining Property 1. This was confirmed by the real estate agent who marketed and sold this vacant residential lot.

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SOLAR FARM 3: SHOREHAM SOLAR COMMONS, SUFFOLK COUNTY, NY**Coordinates:** Latitude 40.94, Longitude -72.89**PIN:** 0200126000200002001**Recorded Owner:** PHIE Shoreham LLC**Total Land Size:** 149.62 Acres**Date Project Announced:** May 2016**Date Project Completed:** July 2018**Output:** 24.9 MW AC

This solar farm is located on the former “Tallgrass Golf Course” located in an unincorporated area of Suffolk County, in the Hamlet of Brookhaven (The mailing city is “Shoreham”). The solar farm was developed by Invenergy. This solar farm is ground mounted and has the capacity for 24.9 Megawatts (MW) AC of power.

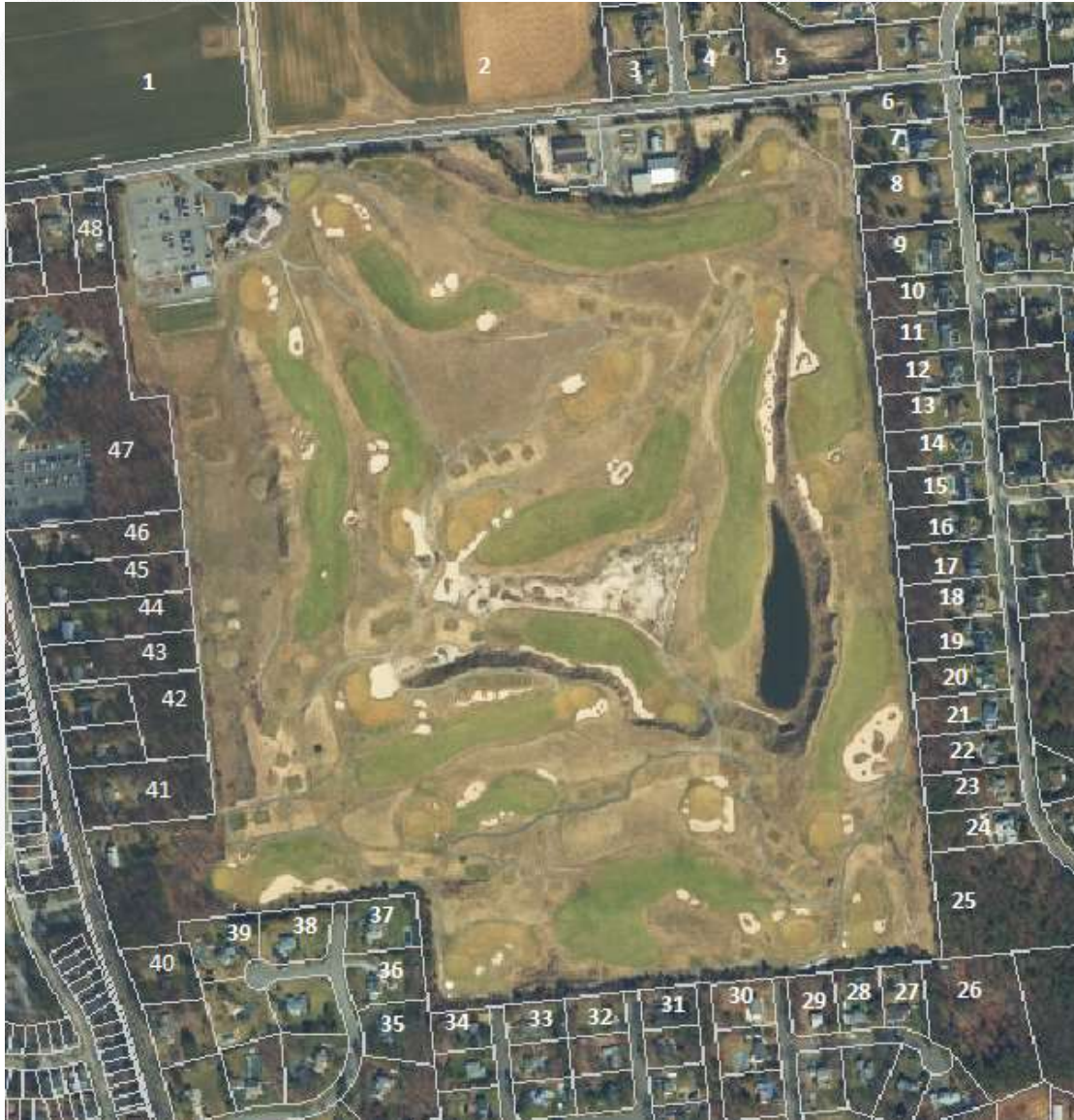
The Surrounding Area: Shoreham is a coastal area just south of the Long Island Sound in the State of New York. Surrounding land uses consist of residential and forest land to the north; forest and agricultural land to the east; vacant, forest, and residential land to the south; and residential, industrial, vacant, and forest land to the west.

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The Immediate Area: It is primarily surrounded by residential homes. The solar farm is situated on a former golf course.

Real Estate Tax Info: Shoreham Solar Commons is located on municipal land which is exempt from property taxes.

The following map identifies the adjacent parcels. This assessor's aerial image was taken prior to the solar farm's construction, reflecting the closed golf course.



Shoreham Solar Commons Adjoining Properties

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Paired Sales Analysis

We have identified Adjoining Property 8 as having sold after announcement of the solar farm. However, the marketing comments advertised the house as backing to a golf course, which indicates that the sale may have transacted without a solar farm external influence factor, and so it was excluded from this analysis. We have also identified Adjoining Properties 19, 32, and 35 as selling during construction of the solar farm. We have reviewed the marketing comments and found no mention of either the golf course or the solar farm. We did analyze these sales and they do not show a negative price differential; however, as these sales occurred prior to the opening and operations of the solar farm, any influence may not have been demonstrated yet, so we have excluded these from the paired sales analysis.

We analyzed five Control Area Sales that sold within a reasonable time frame from the median sale date of Adjoining Property 43, which sold after the solar farm was in operation, in August 2018.

TEST AREA SALE Shoreham Solar Commons										
Adjoining Property #	Address	Sale Price	Bedrooms	Bathrooms	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Price PSF	Sale Date
43	121 Randall Rd	\$400,000	4	2.0	1977	2,400	2-Story SFR	0.57	\$166.67	Aug-18

For Adjoining Property 43, we analyzed six Control Area Sales that sold within a reasonable time frame from the sale date of Adjoining Property 43. All Control Area Sales were adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment.

The Control Area Sales are 1 and 2 story homes with three or four bedrooms, and one to three baths. 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 Shoreham Solar Commons is presented below.

CohnReznick Paired Sales Analysis Shoreham Solar Commons		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (1)	Adjoining solar farm	\$166.67
Control Area Sales (6)	No: Not adjoining solar farm	\$161.08
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		3.47%

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The days on market for the Test Area Sale was 2 days (less than 1 month). The Control Area Sales ranged from 2 to 209 days on market (0-8 months).

Noting no negative price differential, it does not appear that the Shoreham Solar Commons impacted the sales price of the Test Sale, Adjoining Property 43.

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SOLAR FARM 4: SUNFISH FARM SOLAR, WAKE COUNTY, NORTH CAROLINA

Coordinates: Latitude 35 33.457, Longitude 78 44.190

PIN: 675874971

Total Land Size: Approximately 49.6 acres

Date Project Completed: December 2015

Output: 5 MW AC



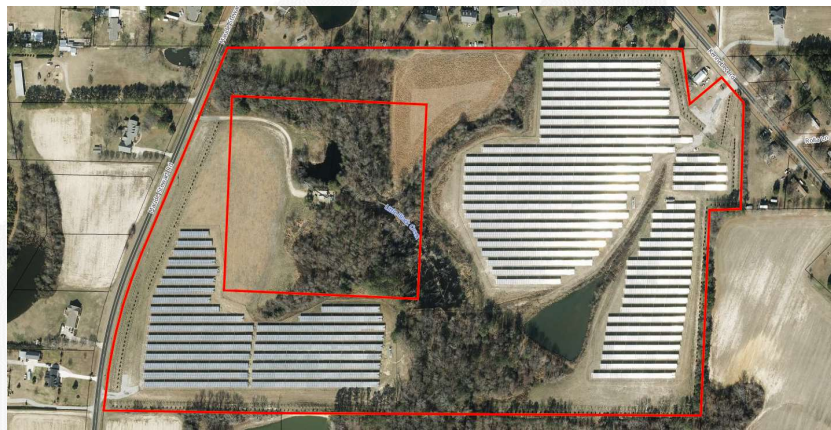
This Sunfish Farm solar facility is located in the southern portion of Wake County, North Carolina, approximately 16 miles south of Raleigh. The solar facility was placed into service in December 2015 and has a power generating capacity of 5 MW AC. The solar facility was developed by Cypress Creek Renewables, which has built several community-scale solar farms in North Carolina.

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The Surrounding Area: The Sunfish Farm solar facility is surrounded by single family homes, some of which are in subdivisions, as well as agricultural and forest land. The local area is accessible from Raleigh via Fayetteville Road (US Hwy 401) and Interstate 40. The Sunfish Farm solar farm is located southwest of the town of Fuquay-Varina, which has experienced considerable population growth over the past 10 years due to the area's proximity to Research Triangle Park (Raleigh, Durham, Chapel Hill).

The Immediate Area: The solar farm is buffered from residences and road frontages by trees and is surrounded by fencing. The solar farm is clearly visible from the roadways. Immediate land uses surrounding the solar farm include residential homes to the north, some residential homes (some that also contain commercial uses) to the west, agricultural land to the south, and agricultural land and residential homes to the east.

There is an 11.25-acre carve-out of land in the original, larger farmland parcel that was split from the parent parcel in 2014, as pictured below. Both the carved out parcel and the solar farm parcel are owned by an individual who leases the land for the solar farm use.

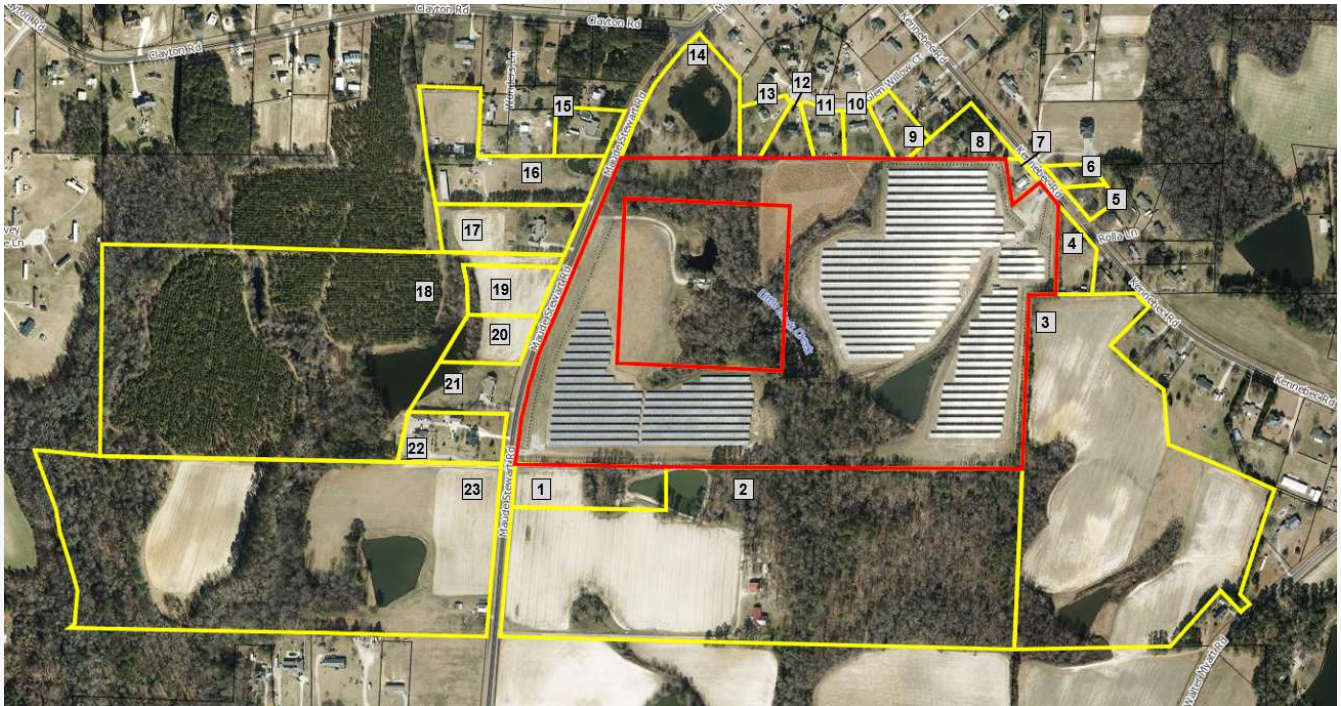


Real Estate Tax Information: Solar farms in North Carolina are assessed as personal property, separate from the land assessment. After the solar farm was placed into service, there was an increase of 180 percent in total assessed value, and 203 percent increase in total taxes paid.

PIN	Acres	2013 Taxes Paid (Per Acre)	2016 Taxes Paid (Per Acre)	Tax Increase	2013 Assessed Value (Per Acre)	2016 Assessed Value (Per Acre)	Value Increase
Wake County, NC 675874971 (Post 2015 Split) Personal Property Tax	49.60	\$ 119.52 \$ -	\$ 105.33 \$ 256.81		\$ 18,589 \$ -	\$ 15,123 \$ 36,871	
TOTAL	49.60	\$ 119.52	\$ 362.14	203%	\$ 18,588.83	\$ 51,994.82	180%

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The map below displays the properties adjoining the solar arrays and are numbered for subsequent analysis (outlined in yellow).



Sunfish Farm Solar - Adjoining Properties

PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, comparing sales of properties not proximate to the solar farm (Control Area Sales) to the sales of adjoining properties (Test Area Sales) after the completion of the solar farm project. We were able to identify two Adjoining Properties to the Sunfish Farm solar facility that sold after the solar installation was placed into service (Adjoining Properties 10 and 15). These sales were analyzed in separate Test Area Sale groups based on home type (conventional single-family home and manufactured single-family home) and sale dates.

We collected Control Area Sale data from the Wake County Real Estate database which summarizes data directly from the Real Estate Assessor website for the county. We have also reviewed other public records and verified marketing information through online sources such as Zillow.com, Redfin.com, Realtor.com and Estately.com. We have 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 bank-owned properties, or those between related parties.

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GROUP 1

Adjoining Property 10 (Test Area Sale 1) was considered for a paired sales analysis, and we analyzed this property as a single-family home use. The property is a single-story 1,470 square foot home located on a 0.79-acre lot that sold in September 2017. This property line is approximately 50 feet from the closest solar panel, and the improvements are approximately 200 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 10.

SUNFISH FARM SOLAR TEST AREA SALE GROUP 1										
Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Home Size (SF)	Improvements	Sale Price/SF	Sale Date
Test Sale 1 Adjoining Property 10	7513 Glen Willow Court	\$188,000	0.79	3	2	1989	1,470	One-Story, No Basement	\$127.89	Sep-17

We have identified 14 single-family home sales in the Control Area Sale group that are located within Wake County, either in Middle Creek Township or Panther Branch Township. They were built generally from 1989 to 1999 and are each similar in square footage and layout, as well as quality of construction, to the Test Area Sale and they sold within a reasonable time frame from the sale date of the Test Area Sale.



Sunfish Farm Solar - Group 1: Test Area Sale Map

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It is informative to note that the marketing time (from list date to closing date) for Control Area Sales ranged from 30 to 127 days on market, and the marketing time for Adjoining Property 10 was 98 days, which is within the range of the Control Area Sales. This is an indication that the marketability of the Test Area Sale was not negatively influenced by proximity to the solar farm.

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 December 2015 to the end of December 2018 (36 months).

When adjusting sales prices for market conditions (time between date of Test Area Sale and Control Area Sales 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 27592 zip code to determine 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.¹⁷

The results of the paired sales analysis for Adjoining Property 10 are presented below.

CohnReznick Paired Sales Analysis Sunfish Farm Solar GROUP 1 - Adjoining Property 10		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Yes: Adjoining solar farm	\$127.89
Control Area Sales (14)	No: Not adjoining solar farm	\$124.86
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		2.43%

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 price differential, it does not appear that the Sunfish Farm solar installation impacted the sale price of the Test Area Sale, Adjoining Property 10.

¹⁷ <https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx>

GROUP 2

Adjoining Property 15 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a manufactured single-family home use, with 1,860 square feet of improvements, on a parcel of 1.24-acres, that sold in October 2019. The property line for this property is approximately 665 feet from the closest solar panel, and the improvements are approximately 760 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 15.

SUNFISH FARM SOLAR TEST AREA SALE GROUP 2										
Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Home Size (SF)	Improvements	Sale Price/SF	Sale Date
Test Sale 1 Adjoining Property 15	7608 Maude Stewart Road	\$125,000	1.24	2	2	1990	1,860	One-Story, Manufactured, No Basement	\$67.20	Oct-19

In Group 2, we have studied only homes on lots between 0.50 and 1.60 acres and homes that are greater than 1,750 square feet, built between 1990 and 2003, so as to be comparable to the Test Area Sale home. The Control Area Sales sold within a reasonable time frame from the sale date of the Test Area Sale and are similar to the Test Area Sale in physical characteristics, that is they are one-story manufactured homes with no basements, that are located in Wake County, either in Middle Creek Township or Panther Branch Township.



Sunfish Farm Solar - Group 2: Test Area Sale Map

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We analyzed the eight 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 December 2018 to December 2020 (24 months).

The results of the paired sales analysis for Adjoining Property 15 are presented below.

CohnReznick Paired Sales Analysis Sunfish Farm Solar GROUP 2 - Adjoining Property 15		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Yes: Adjoining solar farm	\$67.20
Control Area Sales (8)	No: Not adjoining solar farm	\$66.23
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		1.47%

The unit sale price of the Test Area Sale was slightly higher than the median adjusted unit sale price of the Control Area Sales and is considered within the range for a typical market area.

Noting no negative price differential, it does not appear that the Sunfish Farm solar installation impacted the sale price of the Test Area Sale, Adjoining Property 15.

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SOLAR FARM 5: CALL FARMS 3 SOLAR, BATAVIA, GENESSEE COUNTY, NEW YORK**Coordinates:** Latitude 43.02305, Longitude -78.1812**PIN:** 1824004-1-26.111/A**Total Land Size:** ± 81.6 Acres**Date Project Announced:** May 2017**Date Project Completed:** July 2018**Output:** 2 MW AC

This solar facility was put into operation in July 2018 and has a power output capacity of 2 MW AC, enough to power 300 homes. The solar farm is currently owned by AES Distributed Energy. The project was initially being developed by Forefront, and was known as Spring Sun South, until AES acquired it in August 2017 just prior to construction. The facility was built by Expy Energy and features two inverters, fixed tilt ground racking and over 8,700 solar panels.

The Surrounding Area: The Call Farms 3 solar farm is located in the town of Batavia, that surrounds the outskirts of the City of Batavia, in Genessee County, New York. Roughly equidistant from Buffalo to the west and Rochester to the east, the solar farm is centrally located in the county, and the county is in the northwestern tip of the state of New York.

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The Immediate Area: The solar farm is located along State Street Road, near the interchange of the New York State Thruway (I-90) and Oak Orchard Road. The solar farm is immediately surrounded by agricultural land to the north, west, and south. To the northeast of the solar farm are two commercial properties, Battery Systems of Batavia and an Ashley Home Furniture distribution center. To the south there is a landscape company with a parcel that houses equipment storage and parking. To the east there a few residential properties on the east side of State Street Road, across the road from the solar parcel.

Real Estate Tax Information: After development of the solar farm, a sub-parcel number was created for the solar farm and a parent parcel number retained that was taxable at the agricultural land rate. By 2019 the solar parcel started being assessed and taxed separately in addition to the parent land parcel. The addition of the solar farm increased the taxes collected on the land by 18 percent.

PIN	Acres	2017 Taxes Paid	2019 Taxes Paid	Tax Increase	2017 Assessed Value	2019 Assessed Value	Value Increase
Genesee, NY							
1824004-1-26.111 (Parent)		\$ 11,646	\$ 11,540		\$ 327,900	\$ 327,300	
1824004-1-26.111/A (Solar Parcel)	81.60		\$ 2,106			\$ 900,000	
TOTAL	81.60	\$ 11,540	\$ 13,647	18%	\$ 327,300	\$ 1,227,300	275%

The map below displays the parcels containing the solar farm and adjoining properties (outlined in yellow). Properties adjoining this parcel are numbered for subsequent analysis (boxed in red).



Call Farms 3 Solar Farm - Adjoining Properties

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One adjoining residential property, Adjoining Property 4, (300 feet from the house to the nearest solar panel) was sold on April 5, 2018, which was after the solar farm was built and just before the solar farm became operational. We spoke to the selling broker, John Gerace of Gerace Realty, who was under the impression that the solar farm was operational prior to closing because the construction appeared complete prior to the closing date. We note this to illustrate that the market reacted as if the solar farm were operational at the time of sale. Gerace said that interested buyers, including the eventual buyer, expressed relief that the home would no longer face agricultural land with unknown development potential, and that there was no glare from the panels.

In addition to being an active broker in the community, Mr. Gerace previously sat on the zoning board, and he frequently attends town hall meetings. He said that typically a portion of the community expresses concerns about potential solar farms, but he never noticed a decrease in value or marketability for solar farm proximity.

PAIRED SALES ANALYSIS

Adjoining Property 4 was considered for a paired sales analysis, and we analyzed this property as a single family home use. The following table outlines the other important characteristics of Adjoining Property 4.

Call Farms 3 Solar Test Area Sale									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	Square Feet	Sale Price per SF	Sale Date
4	8053 State St Rd, Batavia	\$155,000	1.00	5	2.0	1967	2,636	\$58.80	Apr-18

We analyzed five Control Area Sales with similar construction and characteristics that sold within a reasonable time frame relative to the sale date of Adjoining Property 4. We adjusted the Control Area Sales for market conditions using a regression analysis to identify the appropriate monthly market conditions adjustment.

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Call Farms 3 Solar Farm – Test Area Sale Map

The result of our analysis for the Call Farms 3 solar farm is presented below.

CohnReznick Paired Sale Analysis Call Farms 3 Solar		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining solar farm	\$58.80
Control Area Sales (5)	No: Not adjoining solar farm	\$58.62
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		0.31%

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 Call Farms 3 Solar Farm had any negative impact on adjacent property values.

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SOLAR FARM 6: JEFFERSON COUNTY COMMUNITY SOLAR GARDEN, JEFFERSON COUNTY, COLORADO**Coordinates:** Latitude 39.859564, Longitude -105.1497**PIN:** 29-194-01-037**Total Land Size:** 13.63 acres**Date Project Announced:** November 2013**Date Project Completed:** May 2016**Output:** 1.2 MW AC

The Jefferson County Community Solar Garden is adjacent to the Whisper Creek residential subdivision, just outside the City of Arvada, and was developed by SunShare Management. This solar farm has the capacity for 1.2 Megawatts (AC) of power, which is enough to power 300 homes. After two months of operation, the solar farm was 100 percent subscribed and its three largest customers are the cities of Arvada and Northglenn, as well as the Green Mountain Water and Sanitation District.

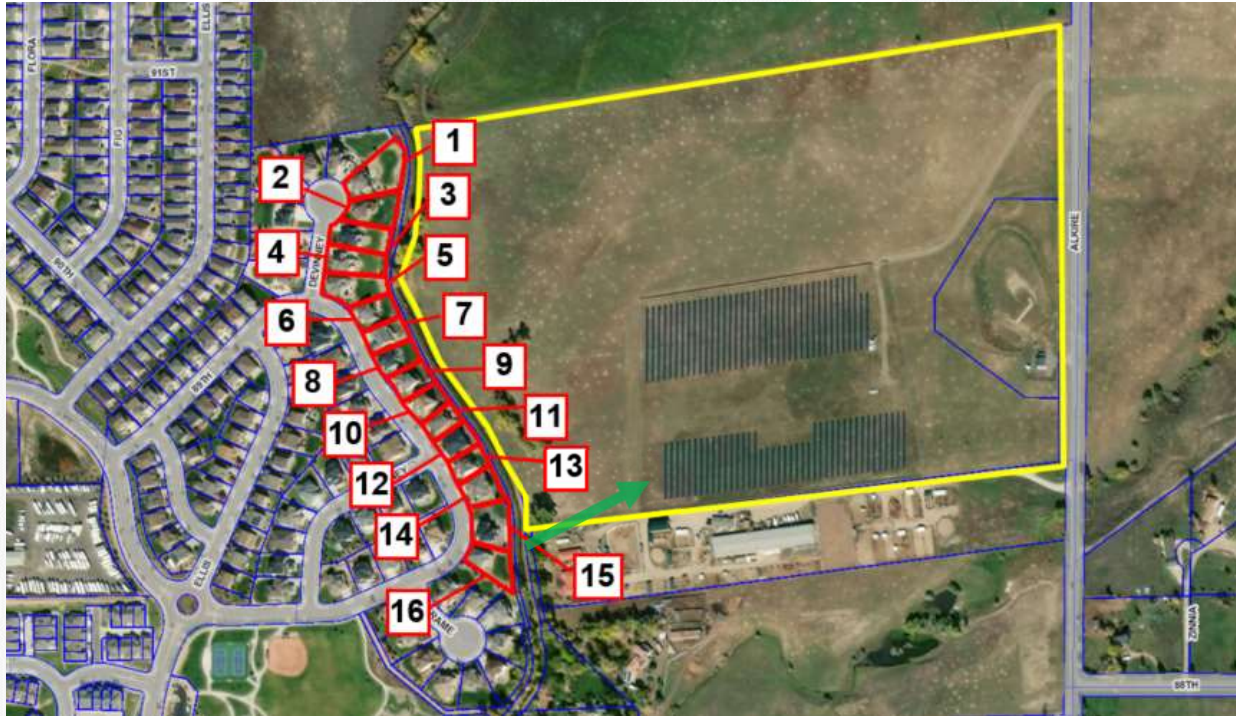
The Surrounding Area: The Whisper Creek subdivision is located between the Welton Reservoir to the west and Standley Lake to the east. To the northwest of the subdivision lies the Colorado Hills Open Space and the Rocky Flats national Wildlife Refuge. The subdivision is primarily in the City of Arvada city limits, but the municipal boundary splits the street the Test Area Sales are located on, West 89th Loop, some are in Arvada and some are in unincorporated Jefferson County. Arvada is a northwestern suburb of the City of Denver and is accessible via Interstate-25 and Interstate-70 and Interstate-76.

The Immediate Area: The immediate area has uses that consist of vacant land to the north and east, a horse and alpaca farm to the south, known as Evening Star Farms, and single-family homes and a municipal police station and vacant land to the west.

Real Estate Tax Information: In 2017, real estate taxes totaled \$79.10 for the entire parcel for the year, which is slightly less than taxes billed in 2016 and 2015.

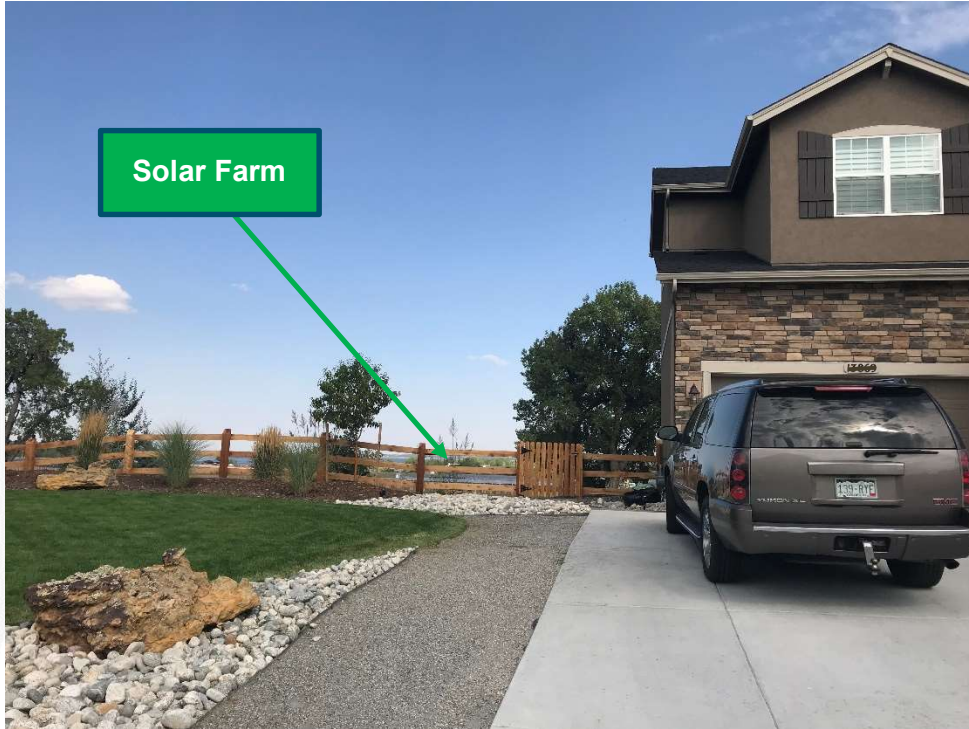
PAIRED SALES ANALYSIS

We found three Adjoining Properties that qualified for a paired sales analysis. The map below displays the solar farm parcel (outlined in yellow) and the Adjoining Properties (outlined in red) are numbered for subsequent analysis



Jefferson County Community Solar Garden - Adjoining Properties
(Q2 2016 imagery date)
(Green Arrow – Direction of Photos on Following Page)

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View from 89th Loop towards Solar Farm at rear of home



View from the rear of a Test Area Sale, towards Solar Farm

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Adjoining Properties 9, 10, and 13 (Test Area Sales 1, 2, and 3, respectively), were considered for a paired sales analysis. The Test Area Sales are two-story, single-family residential homes with four bedrooms and three and a half bathrooms, between 3,000 and 4,000 square feet of gross living area, on less than 0.30 acre of land, and each sold in 2016 as new construction homes.

Jefferson County Community Solar Garden Test Area Sales									
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
9, 10, 13	13929 W 89TH LOOP, 13919 W 89TH LOOP, 13889 W 89TH LOOP	\$635,500	0.23	4	3.5	2016	3,848	Jun-16	\$165.15

The Test Area Sales are located between 595 feet and 720 feet from the house to the solar panels. We analyzed six Control Area Sales of single-family homes that are included in this analysis that sold within a reasonable time frame from the median sale date of the Test Area Sales and are similar to the Test Area Sales in physical characteristics. The Control Area Sales are removed from the solar panels in other areas of the Whisper Creek subdivision.



Jefferson County Community Solar Garden – Test Area Sales Map

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All Control Area Sales were adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment.

The results of our analyses for the Jefferson County Community Solar Garden are presented below.

CohnReznick Paired Sale Analysis Jefferson County Community Solar Garden		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (3)	Adjoining solar farm	\$165.15
Control Area Sales (6)	No: Not Adjoining solar farm	\$164.36
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		0.48%

Noting no negative price differential, it does not appear that the Jefferson County Community Solar Garden had any negative impact on adjacent property values.

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SOLAR FARM 7: WHITETAIL SOLAR 1, FRANKLIN COUNTY, PENNSYLVANIA

Coordinates: Latitude 40.141803, Longitude -77.609787

PINs: 13-0G08.-020, 13-0G08.-032

Population Density (2021): 168 people per square mile (Franklin County)

Total Land Size: approximately 130 acres

Date Project Completed: December 2019

Output: 13.5 MW AC



The Whitetail Solar 1 project is located in the northeast portion of Franklin County, Pennsylvania, in Lurgan Township. The 13.5 MW AC solar facility became operational in December 2019 and sits on approximately 90 acres. The site was previously used as agricultural land. Whitetail Solar 1 is the first of three sites spread across 500 acres built to supply renewable energy for Pennsylvania State University. The project features 50,000 mono-facial solar modules and 617 single-axis trackers. When the three sites are complete, they will provide 25% of Pennsylvania State University's state-wide electricity use.

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The 49,000 solar panels are owned, operated, and maintained by Lightsource bp, a global leader in the development and management of solar energy projects and the project was built in partnership with Penn State University.

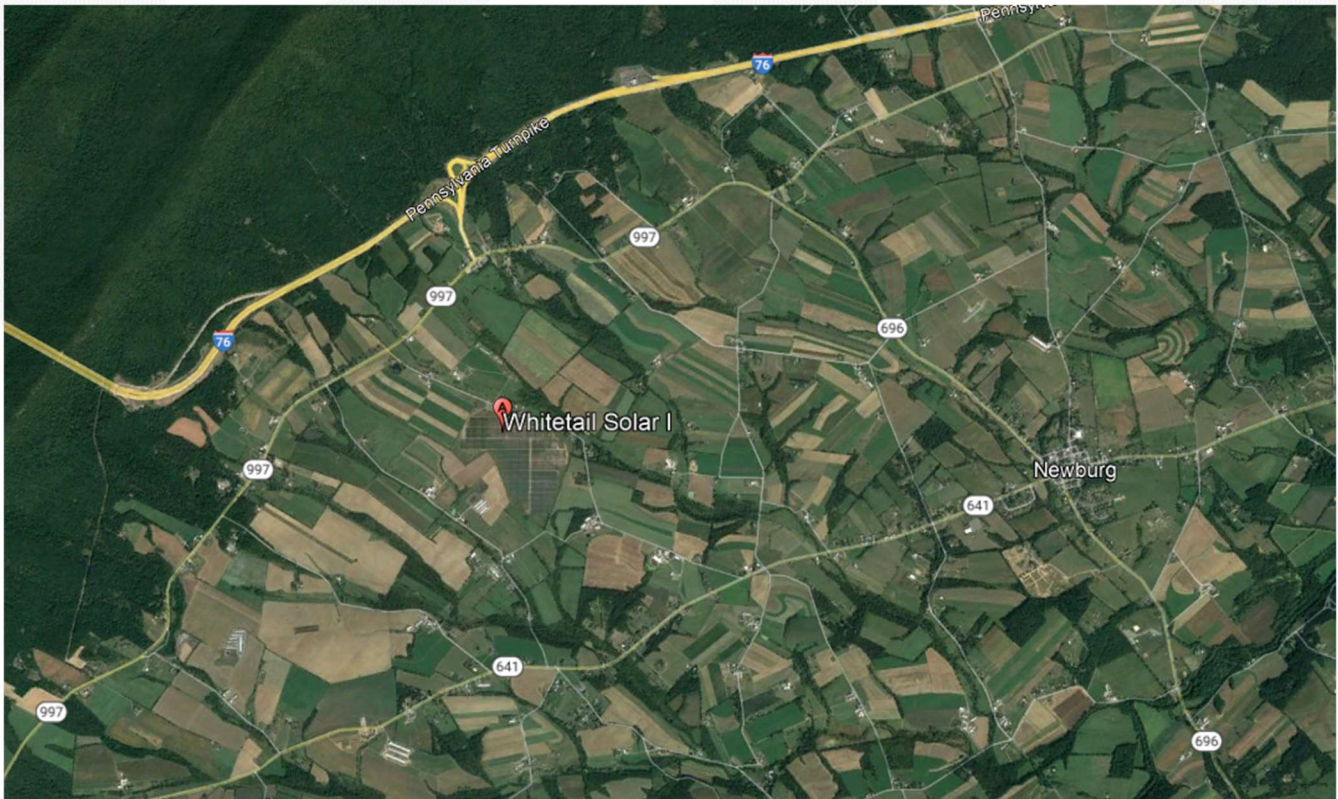
The Surrounding Area: The Whitetail Solar 1 installation is in Lurgan Township, an unincorporated community in northern Franklin County, PA. Much of the township of Lurgan's 32.8 square miles remain undeveloped and there is significant amounts of wetlands, woodlands, and agricultural space within the community.

The solar site is approximately two miles south of I-76 which serves as the Pennsylvania Turnpike, 3.4 miles west of Newburg and 18 miles north of Chambersburg. Shippensburg University is also located 10 miles south of the project.

The Immediate Area: The immediate area is primarily agricultural and single-family residential, with very little commercial use. The nearest commercial area is the town of Newburg.

The solar site is on the west side of Mowersville Road that runs roughly north-south between PA-641 and PA-997 (Cumberland Highway), which connects directly to Interstate 76 at the Blue Mountain Interchange.

The solar site is buffered from neighboring residential uses by farmland, as seen in the image below.



Whitetail Solar 1 – Overview Map of Surrounding Area

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Real Estate Tax Information: The assessed value in Beaver County has not changed for the solar parcel since 1997. Prior to development of the solar installation, in 2011, the owner of this 30.30-acre site paid real estate taxes of \$9,169 annually. In the year following the solar farm development, 2013, real estate taxes increased to approximately \$9,414, an increase of three percent, due to an increase in the millage tax rate that is determined by the local municipality, the school system, and the county.

PIN	Acres	2011 Taxes Paid	2013 Taxes Paid	Tax Increase	2011 Assessed Value	2013 Assessed Value	Value Increase
Beaver County, PA 540070200.000	30.30	\$ 9,169	\$ 9,414	3%	\$ 87,570	\$ 87,570	0%
TOTAL	30.30	\$ 9,169	\$ 9,414	3%	\$ 87,570	\$ 87,570	0%

The map below displays the properties adjoining the solar arrays and are numbered for subsequent analysis in red boxes.



Whitetail Solar 1 –Map of Adjoining Properties

Paired Sales Analysis

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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 and only group comprises the one sale in the at 9824 Mowersville Road that occurred after the completion of the solar farm.

We have excluded one home sale that was initially considered for a Test Area Sale, the home located at 9631 Mowersville Road, Adjoining Property 7. We were unable to confirm the sale details of the home and to the best of our knowledge, the property was not actively marketed for sale. Public records indicate that it is a 0 bedroom and 1 bathroom home. As such, we have excluded the sale from our analysis.

We have found Control Area Sale data through the MLS database which aggregates real estate sales from public records and verified marketing information through the network of listing brokers. 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.

Group 1

Adjoining Property 5 (Test Area Sale) was considered for a paired sales analysis, and we analyzed this property as a single-family home use, a one-story, three bedroom and one bathroom, 1,107 square foot home located on a 0.94- acre parcel that sold in December 2021. The property line is approximately 219 feet from the closest solar panel, and the improvements are approximately 333 feet from the closest solar panel. The following table outlines the other important characteristics of Adjoining Property 5.

Whitetail Solar Test Area Sales - Group 1									
Adj. Property #	Address	Sale Price	Site Size (AC)	Beds	Baths	Year Built	GLA (SF)	Sale Date	Price PSF
5	9824 Mowersville Road	\$196,400	0.94	3	1	1970	1,107	Dec-21	\$177.42

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We have utilized one-story single-family home sales for Control Area Sales also located in Franklin County with similar age, style, and bedroom count as the Test Area Sale.

We analyzed 12 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 2020 to the end of December 2021, the most recent data available, (24 months).

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 Franklin 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.¹⁸

The results of the paired sales analysis for Group 1 - Adjoining Property 5 are presented below.

¹⁸ <https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx>

CohnReznick Paired Sale Analysis Whitetail Solar Group 1		
No. of Sales	Potentially Impacted by Solar Farm	Adjusted Median Price Per SF
Test Area Sales (1)	Adjoining solar farm	\$177.42
Control Area Sales (12)	No: Not adjoining solar farm	\$168.57
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		5.25%

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.

Noting no negative price differential, it does not appear that the Whitetail Solar 1 installation impacted the sale price of the Test Area Sale, Adjoining Property 5. We note that the distance from the panels to the Test Area Sale is only 219 linear feet and that a tree line slightly interrupts views from the house to the solar panels.

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SOLAR FARM 8: 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.

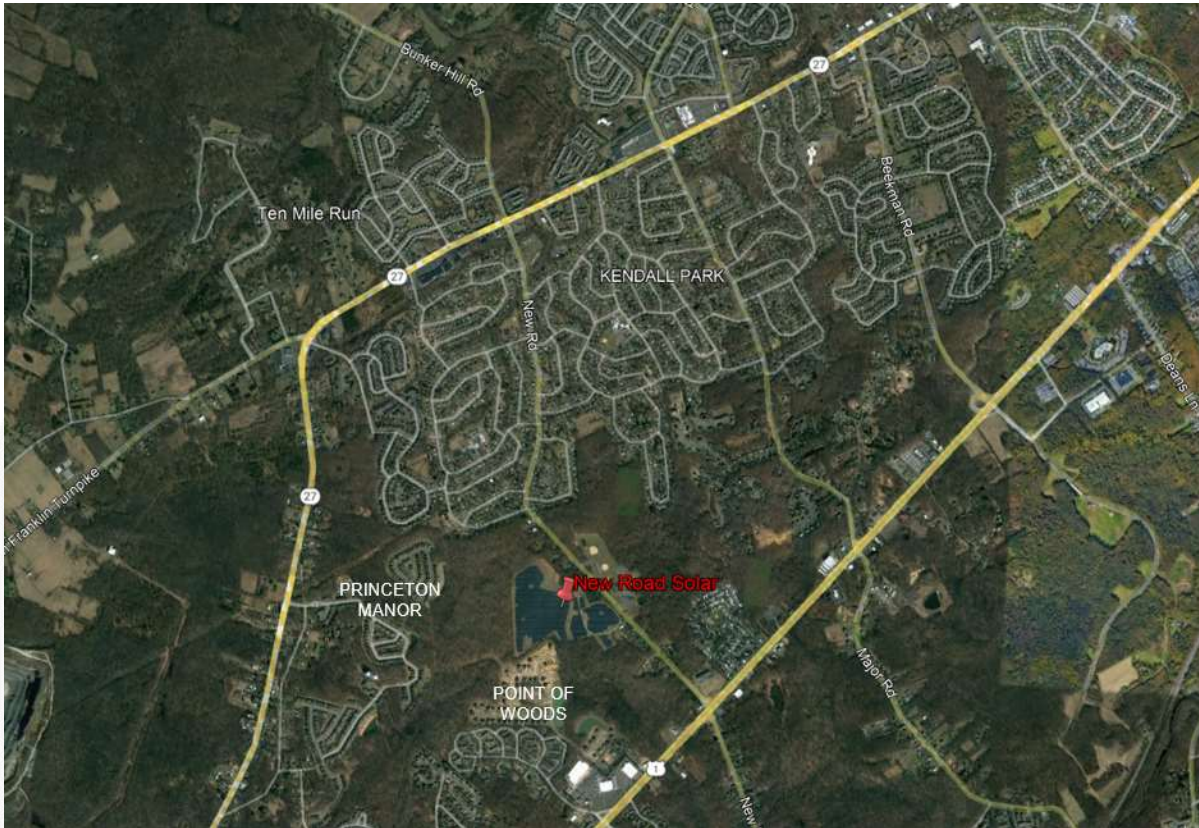
The Surrounding Area: The New Road solar installation is in Kendall Park, a census designated place, in South Brunswick Township. Much of the town of South Brunswick's 42 square miles remain undeveloped and there are still significant amounts of wetlands, woodlands, and open space within the community.

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 below.



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 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.

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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.

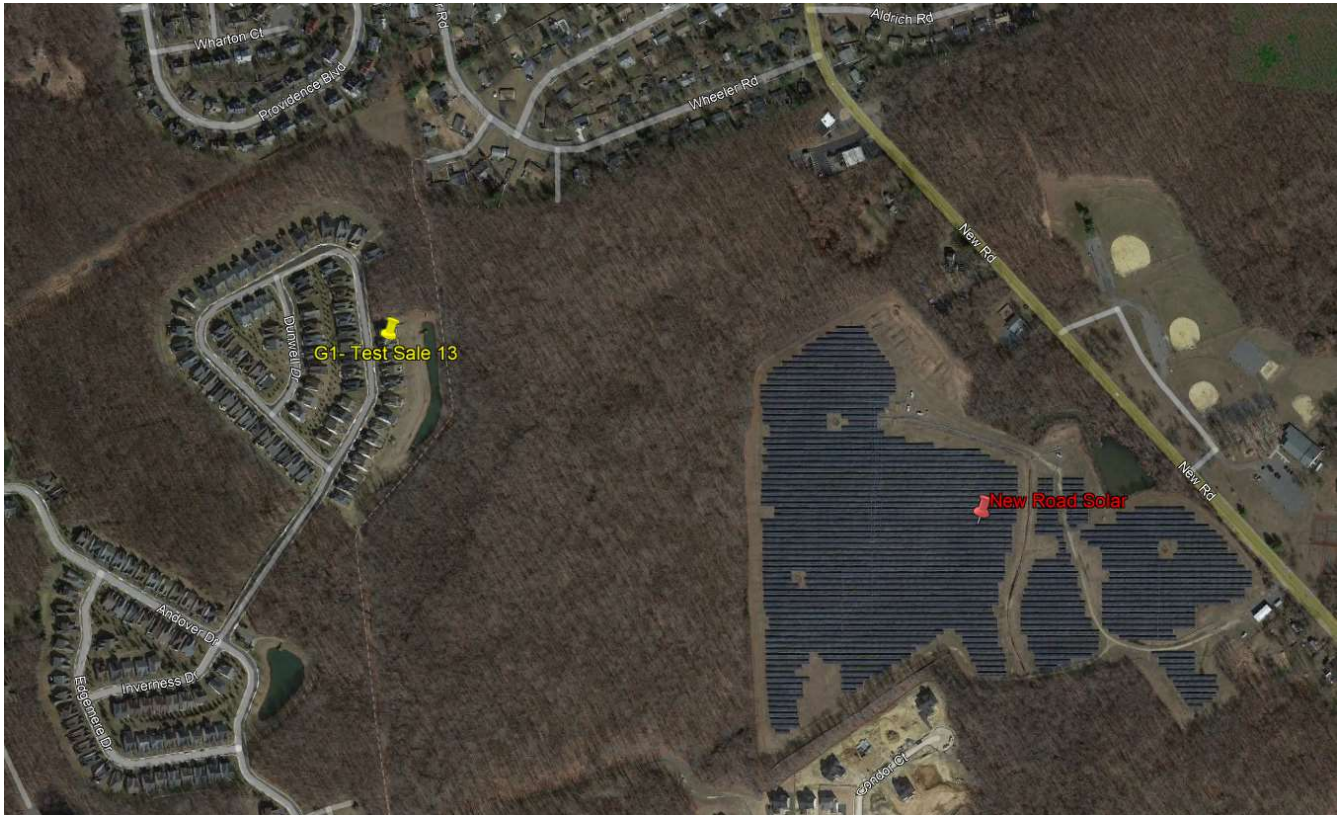
It is important to note that these Control Area Sales are not adjoining to any solar farm, nor do they have a view of one from the property. Therefore, the announcement nor the completion of the solar farm use could not have impacted the sales price of these properties.

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

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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).

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.¹⁹

The results of the paired sales analysis for Group 1 - Adjoining Property 13 are presented below.

¹⁹ <https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx>

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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.

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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 Tompkins 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.

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 from 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 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.

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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 farm 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 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.²⁰

²⁰ Chisago County Press: County Board Real Estate Update Shows No "Solar Effects" (11/03/2017)

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.

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., inverters). 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 (CO₂) emissions to fight climate change.

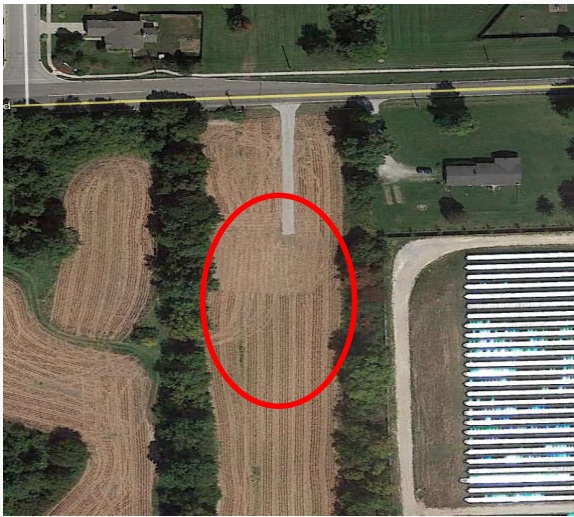
Traffic: The solar farm requires minimal daily onsite monitoring by operational employees and thus minimal operational traffic.

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.²¹ 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.

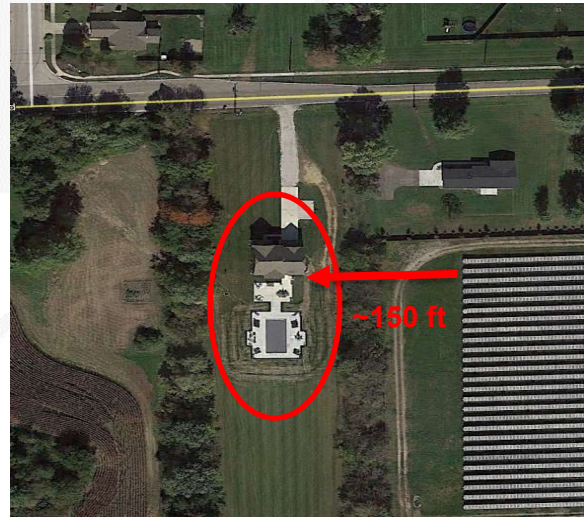
Examples of homes built adjoining to solar farms are presented on the following pages.

²¹ Virginia Solar Initiative - Weldon Cooper Center for Public Service – University of Virginia (<https://solar.coopercenter.org/taxonomy/term/5311>)

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)

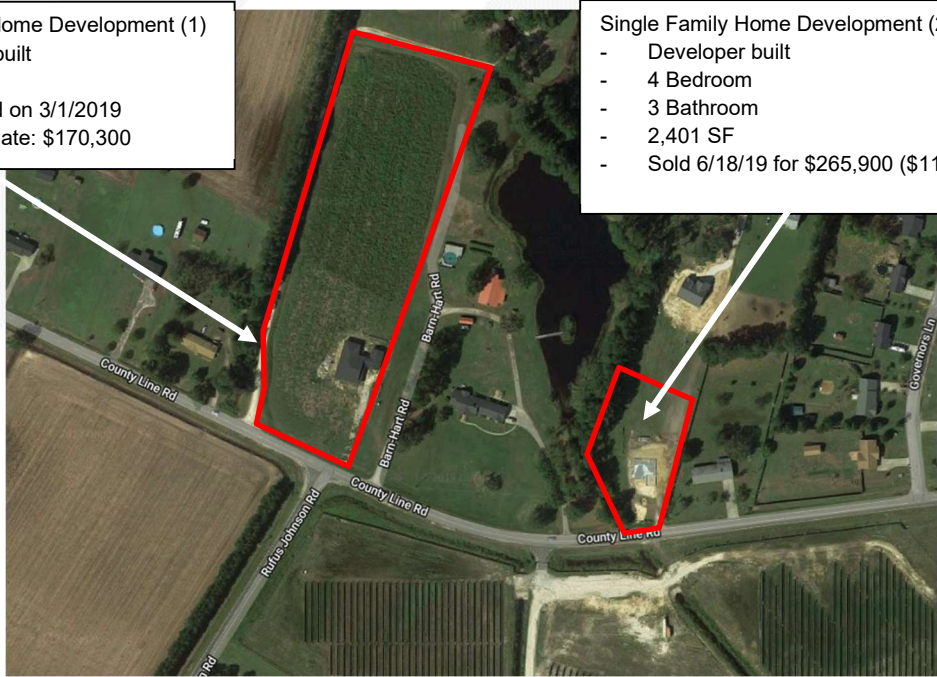
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Innovative Solar 42 (2017)
Cumberland County, NC

- 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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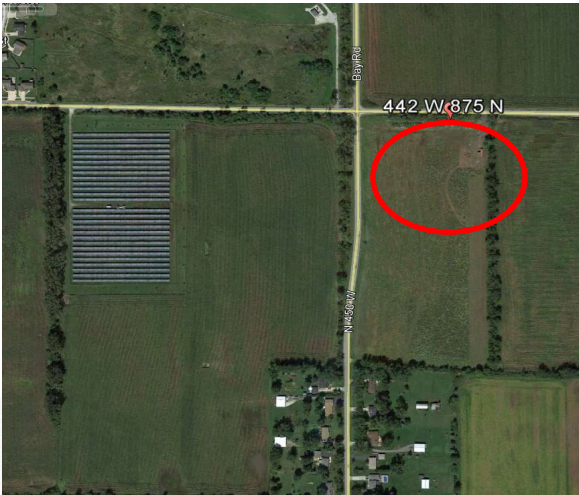


Developer Built Home

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 circled 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	Upper Marlboro	45.00%	45.00%	0.00%	0.00%	10.00%	285
2	Sunshine Farms	0.00%	80.20%	0.00%	0.00%	19.80%	590
3	Shoreham Solar Commons	52.70%	30.90%	8.30%	0.00%	8.10%	275
4	Sunfish Farm Solar	87.70%	12.30%	0.00%	0.00%	0.00%	380
5	Call Farms 3 Solar	64.00%	25.00%	3.00%	0.00%	8.00%	328
6	Jefferson County Community	73.00%	10.00%	0.00%	0.00%	16.67%	790
7	Whitetail	97.70%	2.30%	0.00%	0.00%	0.00%	334
8	New Road Solar	0.00%	51.90%	0.00%	0.00%	48.10%	1,078

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 Turning Point Energy'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 No.	Solar Farm	Number of Test Area Sales	Number of Control Area Sales	Median Adjoining Property Sale Price per Unit (Test Area Sales)	Median Control Area Sales Price per Unit	Difference (%)	Avg. Feet from Panel to Lot	Avg. Feet from Panel to House	Impact Found
Single-Family Residential									
1	Upper Marlboro Solar Group 1	1	10	\$423.08	\$384.08	+10.04%	250	265	No Impact
	Upper Marlboro Solar Group 2	1	8	\$201.66	\$189.75	+5.91%	80	307	No Impact
2	Sunshine Solar Farms Group 1	2	6	\$192.48	\$190.99	+0.78%	348	462	No Impact
3	Shoreham Solar Commons	1	6	\$166.67	\$161.08	+3.47%	110	480	No Impact
4	Sunfish Farm Solar Group 1	1	14	\$127.89	\$124.86	+2.43%	50	200	No Impact
	Sunfish Farm Solar Group 2	1	10	\$67.20	\$66.23	+1.47%	665	760	No Impact
5	Call Farms 3 Solar	1	5	\$58.80	\$58.62	+0.31%	200	297	No Impact
6	Jefferson Community Solar Garden	3	6	\$165.15	\$164.36	+0.48%	609	658	No Impact
7	Whitetail Solar	1	12	\$177.42	\$168.57	+5.25%	219	333	No Impact
8	New Road Solar Group 1	1	9	\$218.45	\$201.78	+8.26%	1,492	1,520	No Impact
	New Road Solar Group 2	4	18	\$195.53	\$199.89	-2.18%	1,054	1,113	No Impact
Median Variance in Sale Prices for Test Area Sales to Control Area Sales						+2.43%			
<i>17 Adjoining Test Area Sales studied and compared to 104 Control Area Sales</i>									
Land (Agricultural/Single Family Lots)									
2	Sunshine Solar Farms Group 1	1	9	\$67,500	\$49,900	+26.07%	320	-	No Impact
Median Variance in Sale Prices for Test to Control Areas						+26.07%			
<i>1 Adjoining Test Area Sale studied and compared to 9 Control Area Sales</i>									

As summarized above, we evaluated 17 property sales adjoining existing solar facilities (Test Area Sales) and 104 Control Area Sales

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 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**

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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.

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

Respectfully submitted,

CohnReznick LLP



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Principal
Certified General Real Estate Appraiser
Illinois License No. 553.001841
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Indiana License No. CG41500037
Expires 6/30/2024
New Jersey License No. 42RG00238700
Expires 12/31/2023
New York License No. 46000051059
Expires 6/16/2024



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National Director - Valuation Advisory Services
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Michigan License No. 1201072979
Expires 7/31/2024



Erin C. Bowen, MAI
Senior Manager
Certified General Real Estate Appraiser
Arizona License No. 32052
Expires 12/31/2022

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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 Erin C. Bowen, 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. Joseph P. B. Ficenec 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 Erin C. Bowen, 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,

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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 predicated 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.
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.

**ADDENDUM A:
APPRAISER QUALIFICATIONS**

Disclaimer: This report is limited to the intended use, intended users (TPE Development, LLC and others stated in the report as it relates to the evaluation of a proposed solar energy generating facility in Delaware, Maryland and New Jersey), 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.



Patricia L. McGarr, MAI, CRE, FRICS, CRA

Principal and CohnReznick Group –
Valuation Advisory National Director

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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)
- Chairperson of the State of Illinois Real Estate Appraisal Board (2021)

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Andrew R. Lines, MAI

Principal, CohnReznick Advisory

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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.

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 branch). 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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Erin Bowen, MAI

Senior Manager, Valuation Advisory Services

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Erin Bowen, MAI is a Senior Manager with CohnReznick in Valuation Advisory Services. Ms. Bowen is based in Phoenix, Arizona, with presence covering the west coast. Ms. Bowen's work in Commercial Real Estate valuation spans over 11 years.

Ms. Bowen specializes in lodging, cannabis, seniors housing, large scale retail and multifamily conversion properties. Lodging work includes all hotel property types and brand segments including limited, full service and resort properties; additionally, Ms. Bowen has appraised numerous hotel to multifamily conversion properties including market rate and affordable housing. Cannabis work includes dispensaries, cultivation facilities including specialized indoor facilities and greenhouse properties, processing and manufacturing facilities. Seniors housing assignments include assisted living, skilled nursing facilities and rehabilitation centers. Retail work spans power centers, lifestyle centers, outlet centers and malls. She has appraised numerous additional properties including multifamily, office, medical office, industrial, churches, and vacant land.

Ms. Bowen has expertise in appraising properties at all stages of development, including existing as is, proposed, under construction, renovations and conversion to alternate use. Valuations have been completed nationwide for a variety of assignments including mortgage financing, litigation, tax appeal, estate gifts, asset management, as well as valuation for financial reporting including purchase price allocations (ASC 805). Impact Study Reports have also been generated for zoning hearings related to the development of solar facilities, wind powered facilities

Education

- University of California, San Diego: Bachelor of Arts in Psychology and Theater; College Honors

Professional Affiliations

- Appraisal Institute, Designated Member

Licenses

- Certified General Real Estate Appraiser licensed in New Mexico, Arizona, California, and Nevada

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2.13 Glare Study



GLARE STUDY ANALYSIS

TPE DE SU163, LLC (SOLAR FARM)

11/18/2022

Introduction:

A glare study was performed by TPE Development, LLC (“TPE”) using ForgeSolar software to assess the possible effects of reflectivity created by the proposed solar project located at Gravel Hill Road, Sussex County DE (the “Project”). This report interprets and explains the inputs, assumptions and results of the study.

ForgeSolar software incorporates GlareGauge, the leading solar glare analysis tool which meets Federal Aviation Administration (“FAA”) standards and is used globally for glare analysis. It is based on the Solar Glare Hazard Analysis Tool licensed from Sandia National Laboratories. The tool assesses the possible effects of reflectivity, both glint and glare, from a proposed solar photovoltaic installation. The tool can take topography into account; however, the tool is not able to take existing vegetation (trees, shrubs, etc) or structures (fences, buildings, etc) into account. If there is a tree line or fence obstructing visibility of the array, the tool may incorrectly report glare for which the user must adjust based on site specific vegetation or structures.

A model of the Project was input into the software along with a number of user defined observation points or paths (“Receptors”). The software calculates the sun’s position relative to the Project for every minute of the year. Results are charted displaying annual glare duration and potential ocular impact type and duration for each Receptor.

Sun reflection is most noticeable when the sun is low on the horizon and sunlight reflects off the panels at a very low angle along the horizon where it can be seen by an observer standing next to the solar farm, driving along a road, or a neighboring dwelling. The assessment will capture all the possible reflection coming from the solar farm.

Reflectivity Summary:

The term ‘reflectivity’ is used in this report to refer to both reflection types (i.e. glint and glare). The definition of glint and glare can vary; however, the definitions used in this report is aligned with the FAA and are detailed below:

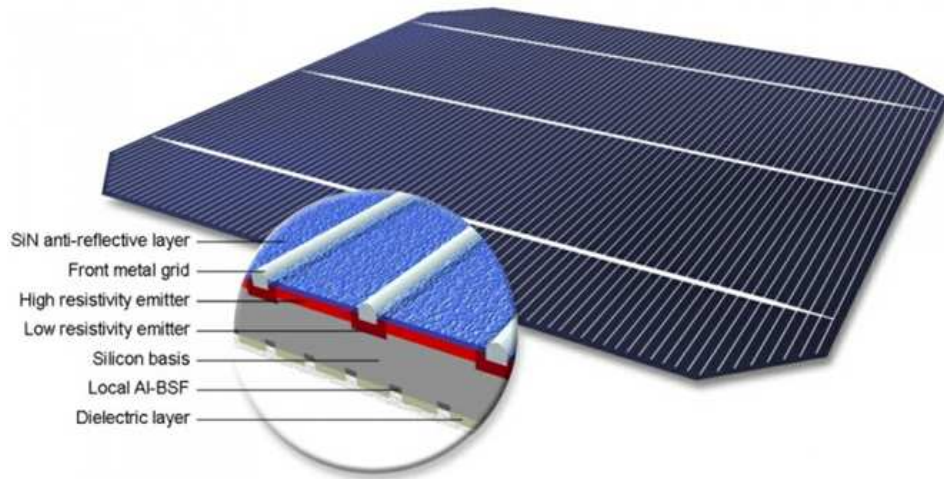
- Glint: A momentary flash of bright light typically received by moving receptors or from moving reflectors. Example: a momentary solar reflection from a moving car.
- Glare: A continuous source of bright light typically received by static Receptors or from large reflective surfaces. Glare is generally associated with stationary objects, which, due to the slow relative movement of the sun, reflect sunlight for a longer duration.

The primary difference between glint and glare is duration. The Forge Solar GlareGauge tool captures both types of reflection on the surrounding roads and dwellings.

To limit reflection and maximize conversion to electricity, solar PV panels are constructed of dark silicon wafers/cells with light-absorbing materials and the glass is covered with an anti-reflective

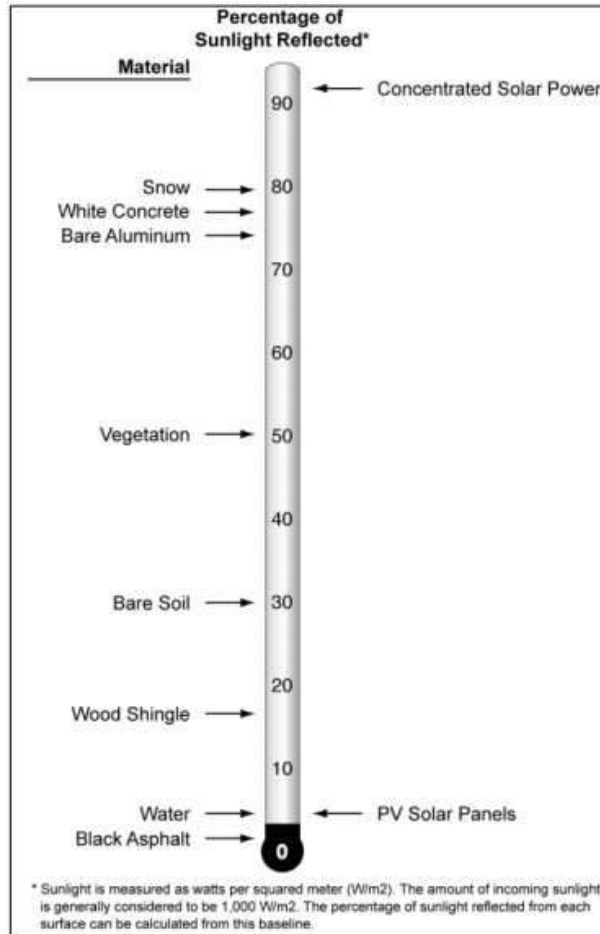
coating (ARC) as shown in Figure 1 below. These design features limit sunlight reflectance and maximize sunlight absorption.

Figure 1: Deconstructed Solar Panel



To calculate diffuse and specular reflectance of solar modules, TUV Rheinland (NRTL) performed a test using the ISO 9050 (External Light Reflectance) standards and the results are shown in Figure 2 below. The reflectivity of a typical mono-crystalline photovoltaic solar panel is approximately 5.7%, which is well below the other control samples included in the test.

Figure 2: Reflectivity of Solar Cells



ForgeSolar GlareGauge Analysis:

Inputs and Modeling Assumptions:

As input to the software, (6) Route Receptors were created along roadways in vicinity of the site. Height was measured at 5' above ground to emulate passengers in cars. Further, (15) Observation Receptors were modeled at specific dwellings located around the perimeter of the solar array. Heights were modeled at 5' above ground to emulate residents on the 1st floor of dwellings and evaluate the glare impact.

The model assumes the sun is shining 100% of the time it is above the horizon (during laylight hours). That is, it does not account for cloudy or overcast conditions when the sun is not shining, therefore the results presented would be the maximum expected glint and glare during any single year.

Existing topography is taken into account in the simulation based on LIDAR ("Light Detection and Ranging") data. Existing and planned vegetation are not considered in the simulation. The model assumed zero vegetation that may screen the Project, so this must be considered when interpreting the study results. A direct line of sight between the Project and the designated Route Receptors and Observation Receptors is required to produce any discernible glint/glare, so if there is existing or proposed vegetation between the receptor and the project, any glint/glare would be eliminated.

Solar panels will be mounted on single axis trackers with a southern azimuth and the panels will track the sun to capture as much sunlight as possible. Therefore, glare is typically not experienced during normal operational hours since any reflection would be back toward the location of the sun. Potential glare is most noticeable when the sun is low on the horizon, early in the morning or late in the afternoon, when sunlight reflects off the panels in a horizontal position (stow mode) at the opposite low angle along the horizon to the east or the west. To reduce glare in the east and west directions during these low sun periods, a 5-degree tracker resting angle was implemented during these times which avoids the main source of glare for solar projects.

Results:

Based on the project specific location, sun position throughout the year, and the above inputs/assumptions, no potential for glint or glare was identified in the analysis at any of the Route Receptors or the neighboring Observation Receptors. While excluded from the analysis, existing and planned vegetation will further shield the view of the project from nearby properties and roadways.

No additional mitigation measures are recommended since no glint or glare is anticipated based on the ForgeSolar GlareGauge results.

FORGESOLAR GLARE ANALYSIS

Project: **SU163**

Site configuration: **SU163**

Created 23 May, 2022

Updated 18 Nov, 2022

Time-step 1 minute

Timezone offset UTC-5

Site ID 69492.12292

Category 1 MW to 5 MW

DNI peaks at 1,000.0 W/m²

Ocular transmission coefficient 0.5

Pupil diameter 0.002 m

Eye focal length 0.017 m

Sun subtended angle 9.3 mrad

Methodology V2



Summary of Results No glare predicted

PV Array	Tilt °	Orient °	Annual Green Glare		Annual Yellow Glare		Energy kWh
			min	hr	min	hr	
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0	-

Total annual glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Route 1	0	0.0	0	0.0
Route 2	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0

Component Data

PV Arrays

Name: PV array 1
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 5.0°
Ground Coverage Ratio: 0.4
Rated power: -
Panel material: Smooth glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.721713	-75.317499	36.17	5.00	41.17
2	38.720470	-75.321775	39.47	5.00	44.47
3	38.719617	-75.321378	39.14	5.00	44.14
4	38.719324	-75.321195	38.65	5.00	43.65
5	38.719022	-75.320820	38.13	5.00	43.13
6	38.718662	-75.320530	38.16	5.00	43.16
7	38.718319	-75.320219	38.05	5.00	43.05
8	38.719123	-75.317429	35.59	5.00	40.59
9	38.720864	-75.318245	36.42	5.00	41.42
10	38.721157	-75.317177	36.25	5.00	41.25
11	38.721715	-75.317484	36.15	5.00	41.15

Route Receptors

Name: Route 1
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.725317	-75.319165	36.88	5.00	41.88
2	38.724380	-75.318586	36.63	5.00	41.63
3	38.723609	-75.318114	36.68	5.00	41.68
4	38.722789	-75.317685	37.05	5.00	42.05
5	38.720843	-75.316686	37.73	5.00	42.73
6	38.720290	-75.316440	38.00	5.00	43.00
7	38.719822	-75.316311	38.07	5.00	43.07
8	38.719344	-75.316343	37.68	5.00	42.68
9	38.715026	-75.316708	39.12	5.00	44.12
10	38.714314	-75.316740	38.87	5.00	43.87

Name: Route 2
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	38.718525	-75.306083	38.25	5.00	43.25
2	38.714525	-75.315781	37.87	5.00	42.87
3	38.710875	-75.326424	43.72	5.00	48.72
4	38.708146	-75.337539	41.04	5.00	46.04

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	38.723087	-75.316962	35.27	5.00
OP 2	2	38.722573	-75.316866	36.51	5.00
OP 3	3	38.722154	-75.316796	37.39	5.00
OP 4	4	38.721504	-75.316297	37.94	5.00
OP 5	5	38.720473	-75.316970	36.56	5.00
OP 6	6	38.720129	-75.316756	36.41	5.00
OP 7	7	38.719644	-75.316798	36.66	5.00
OP 8	8	38.719145	-75.316744	36.74	5.00
OP 9	9	38.718392	-75.316883	36.93	5.00
OP 10	10	38.718082	-75.317066	36.04	5.00
OP 11	11	38.718442	-75.316025	37.02	5.00
OP 12	12	38.718266	-75.315585	36.23	5.00
OP 13	13	38.718384	-75.319233	37.98	5.00
OP 14	14	38.718660	-75.318085	36.93	5.00
OP 15	15	38.716791	-75.316222	37.44	5.00
OP 16	16	38.716662	-75.316979	37.95	5.00
OP 17	17	38.716360	-75.317021	38.00	5.00
OP 18	18	38.716092	-75.317021	38.03	5.00
OP 19	19	38.715699	-75.317075	38.70	5.00
OP 20	20	38.715431	-75.317107	38.32	5.00

Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0	-

Total annual glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Route 1	0	0.0	0	0.0
Route 2	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0

PV: PV array 1 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Route 1	0	0.0	0	0.0
Route 2	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0

PV array 1 and Route 1

Receptor type: Route
No glare found

PV array 1 and Route 2

Receptor type: Route
No glare found

PV array 1 and OP 1

Receptor type: Observation Point
No glare found

PV array 1 and OP 2

Receptor type: Observation Point
No glare found

PV array 1 and OP 3

Receptor type: Observation Point
No glare found

PV array 1 and OP 4

Receptor type: Observation Point
No glare found

PV array 1 and OP 5

Receptor type: Observation Point
No glare found

PV array 1 and OP 6

Receptor type: Observation Point
No glare found

PV array 1 and OP 7

Receptor type: Observation Point
No glare found

PV array 1 and OP 8

Receptor type: Observation Point
No glare found

PV array 1 and OP 9

Receptor type: Observation Point
No glare found

PV array 1 and OP 10

Receptor type: Observation Point
No glare found

PV array 1 and OP 11

Receptor type: Observation Point
No glare found

PV array 1 and OP 12

Receptor type: Observation Point
No glare found

PV array 1 and OP 13

Receptor type: Observation Point
No glare found

PV array 1 and OP 14

Receptor type: Observation Point
No glare found

PV array 1 and OP 15

Receptor type: Observation Point
No glare found

PV array 1 and OP 16

Receptor type: Observation Point
No glare found

PV array 1 and OP 17

Receptor type: Observation Point
No glare found

PV array 1 and OP 18

Receptor type: Observation Point
No glare found

PV array 1 and OP 19

Receptor type: Observation Point
No glare found

PV array 1 and OP 20

Receptor type: Observation Point
No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.

Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.

Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.

The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.

The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)

The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.

The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.

The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.

Refer to the Help page at www.forgesolar.com/help/ for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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3.0 List of Letters – (C/U 2343 – TPE DE SU163, LLC)

3.1 Legal Description and Deed

3.2 Conditional Use #2343 – Letter to Engineer

3.3 DelDOT Service Level Evaluation Response

3.4 Public Outreach Correspondence

3.1 Legal Description and Deed



LANDS OF: Lisa A. Jester
TAX MAP NO.: 135-11.00-48.00 (portion of)

SU163 Conditional Use Boundary – 25.0 ACRES ±

All that certain lot, piece or parcel of land, situated in Sussex County, State of Delaware, lying west side of Gravel Hill Road and being more particularly described as follows to wit:

Beginning at a corner for this parcel and lands of Dale A. & Kathy H. Phillips and in line with the westerly right of way line of Gravel Hill Road; thence running with said lands of Phillips 1) South 70°08'47" West 1143.33 feet to a point at a corner for this parcel and lands of Azalea Woods LLC, thence with said lands of Azalea Woods 2) North 34°07'48" West 199.63 feet to a point; thence 3) North 40°31'40" West 186.23 feet to a point; thence 4) North 33°24'15" West 170.81 feet to a point; thence 5) North 20°39'29" West 438.84 feet to a point at a corner for this parcel; thence running across residue lands of Lisa A. Jester 6) North 70°08'47" East 1371.60 feet to a point at a corner for this parcel and in line with the westerly right of way line for Gravel Hill Road, thence with said right of way line for Gravel Hill Road 7) South 21°43'51" East 319.74 feet to a point at a corner for this parcel and lands of CMH Homes Inc; thence with said lands of CMH Homes 8) South 70°08'47" West 355.11 feet to a point; thence in part with lands of CMH Homes, lands of Hinton, lands of Tabor and lands of Tolliver 9) South 21°43'51" East 591.80 feet to a point at a corner for this parcel and lands of Tolliver; thence with said lands of Tolliver 10) North 70°08'47" East 285.16 feet to a point at a corner for this parcel and in line with the westerly right of way line for Gravel Hill Road, thence with said right of way line for Gravel Hill Road 11) South 03°52'04" West 67.18 feet to the point and place of beginning, containing 25.0 acres of land be the same, more or less.

Above description prepared by Becker Morgan Group, Inc.:
Jeffrey C. Dodd – P.L.S. 782

00.00	05/22/2007	000000
Total	State	County
0.00	0.00	0.00
Exempt Code: A	Consideration: \$0.00	

Parcel No. 1-35 11.00 48.00
 Prepared by:
 Sergovic & Ellis, P.A.(SPE)
 9 North Front Street
 Georgetown, DE 19947-0875

This Corrective Deed, made this 16th day of May, 2007,

BETWEEN Barbara A. Manship as Successor Trustee of the William H. Pettyjohn Irrevocable Trust and the Hilda Mae Pettyjohn Irrevocable Trust and as Executrix of the Estate of Arthur H. Pettyjohn, of 16771 Gravel Hill Road, Milton, Delaware 19968, party of the first part,

- A N D -

Lisa Jester, of 18117 Pettyjohn Road, Milton, Delaware 19968, party of the second part,

WITNESSETH, that the said party of the first part, for and in consideration of the sum of One Dollar and 00/100 (\$1.00), lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grants and conveys unto the said party of the second part, her successors and assigns,

ALL that certain tract, piece and parcel of land situate, lying and being on the road leading from Milton, Delaware to Georgetown, Delaware, adjoining lands now or formerly of the heirs of Lloyd Davidson, lands now or formerly of Nina Moore, lands now or formerly of Henry Graves, and lands now or formerly of Houston and White and said to contain 66 acres of land, more or less.

BEING the same lands conveyed to Arthur H. Pettyjohn, Trustee, by deeds of: 1) William H. Pettyjohn, dated November 17, 1982 and recorded on November 18, 1982 in the Office of the Recorder of Deeds, in and for Sussex County, Delaware, in Deed Book 1148, Page 131 and 2) Hilda Mae Pettyjohn, dated November 17, 1982 and recorded on November 18, 1982 in the Office of the Recorder of Deeds, in and for Sussex County, Delaware in Deed Book 1148, Page 134.

William H. Pettyjohn died on December 26, 1986 and in accordance with Article IV of his Irrevocable Trust Agreement, upon his death, the herein described real estate was directed to be distributed to Arthur H. Pettyjohn. Hilda Mae Pettyjohn died on May 13, 1994 and in accordance with Article IV of her Irrevocable Trust Agreement, upon her death, the herein described real estate was directed to be distributed to Arthur H. Pettyjohn. Arthur H. Pettyjohn died testate a resident of Delaware on June 1, 2005 and Barbara A. Manship was appointed Executrix of his estate by the Register of Wills, in and for Sussex County. Articles IV of the William H. Pettyjohn and Hilda Mae Pettyjohn Irrevocable Trust Agreements dated November 17, 1982 appointed Barbara A. Manship as Successor Trustee. The Last Will and Testament of Arthur H. Pettyjohn was admitted to probate in the Office of the Register of Wills, in and for Sussex County. Paragraph Sixth of said Will directed the distribution of the real estate herein to his granddaughter, Lisa Jester.

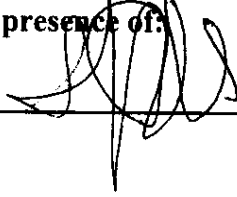
000024720
 BK03452 PG00279



THIS Corrective Deed is being recorded to reflect the correct paragraph reference of the Last Will and Testament of Arthur H. Pettyjohn devising the herein described property to Lisa Jester on the Deed dated September 14, 2006 and filed for record in the Office of the Recorder of Deeds, in and for Sussex County, at Georgetown, Delaware, in Deed Book 3361, at Page 187.

IN WITNESS WHEREOF, the said party of the first part has hereunto set her hand and seal the day and year first hereinbefore written.

Signed, Sealed and Delivered
in the presence of:



Barbara A. Manship {SEAL}
Barbara A. Manship, Successor Trustee
and Executrix of the Estate of Arthur H.
Pettyjohn

State of Delaware)
: S.S.
County of Sussex)

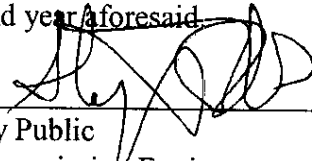
BE IT REMEMBERED, that on May 16th, 2007, personally came before me, the Subscriber, Barbara A. Manship, Successor Trustee and Executrix, party to this Indenture, known to me personally to be such, and acknowledged this Indenture to be her act and deed.

Given under my Hand and Seal of office the day and year aforesaid.

RECEIVED

MAY 23 2007

**ASSESSMENT DIVISION
OF SUSSEX COUNTY**



Notary Public
My Commission Expires: _____

Stephen P. Ellis
Attorney
29 Del. C. §4323

Return to:

Lisa Jester
18117 Pettyjohn Road
Milton, Delaware 19968

~~000024720~~
~~BK03452 PG00279~~
Consideration: \$0.00 Exempt Code: A

State Total
0.00 0.00
Date: 05/22/2007
counter1

RECORDER OF DEEDS
JOHN F. BRADY
05/22/2007 11:47A
SUSSEX COUNTY
DOC. SURCHARGE PAID

000024720
BK03452 PG00280

3.2 Letter to Engineer



Sussex County

DELAWARE
sussexcountyde.gov

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

November 17, 2022

Becker Morgan Group
309 South Governors Avenue
Dover, DE 19904

Email: jfalkowski@beckermorgan.com

Dear Becker Morgan Group:

C/U 2343 Turning Point Energy - TPE DE SU163, LLC

AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR A SOLAR FARM TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN GEORGETOWN HUNDRED, SUSSEX COUNTY, CONTAINING 25.00 ACRES, MORE OR LESS. The property is lying on the west side of Gravel Hill Road (S.C.R. 248) approximately 0.37 mile north of the intersection of Gravel Hill Road (S.C.R. 248) and Lewes Georgetown Highway (Rt. 9). 911 Address: N/A. Tax Parcel: 135-11.00-48.00 (p/o).

The **Planning and Zoning Commission** will hold a Public Hearing on **Thursday, December 15, 2022, at 5:00 pm** in the Sussex County Council Chambers located in the County Administrative Office at 2 The Circle Georgetown, DE, 19947.

The **Sussex County Council** will hold a Public Hearing on **Tuesday, February 21, 2023, at 1:30 pm** in the Sussex County Council Chambers located in the County Administrative Office at 2 The Circle Georgetown, DE, 19947.

It will be necessary for you the applicant to participate at the hearings before both the Commission and County Council. If you do not participate or are not represented, the Commission and/or County Council reserve the right to refuse to act on your application and may require that a new application be filed, and fees paid at your expense.

If an attorney, or agent, will be representing you, the applicant, it is your duty to notify them as to the dates and times of the hearings as herein set forth, as the Commission and County Council will not notify your counsel.

Further instructions describing the method of public participation and the manner of viewing the hearings will be contained within the Agendas for both of these meetings that will be posted at least 7 days in advance of each meeting at sussexcountyde.gov.

Sincerely,
Planning and Zoning Department



3.3 DelDOT Service Level Evaluation Response



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

NICOLE MAJESKI
SECRETARY

December 30, 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 **TPE DE SU163, LLC c/o Adam Beal** proposed land use application, which we received on December 16, 2021. This application is for an approximately 39.69-acre parcel (Tax Parcel: 135-11.00-48.00). The subject land is located on the west side of Gravel Hill Road (Sussex Road 248) about 1,900 ft north of the intersection with Lewes Georgetown Highway (US Route 9). The subject land is currently zoned AR-1 (Agriculture Residential), and the applicant seeks a conditional use approval to build a solar energy system.

Per the 2019 Delaware Vehicle Volume Summary, the annual average daily traffic volumes along Gravel Hill Road from Shingle Point Road (Sussex Road 249) to Lewes Georgetown Highway, is 3,577 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 DeIDOT's minimum warrants for determining that a Traffic Impact Study (TIS) should be required for a particular development. DeIDOT'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. DeIDOT'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.

Mr. Jamie Whitehouse
Page 2 of 2
December 30, 2021

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

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

Sincerely,



T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:afm

cc: TPE DE SU163, LLC co Adam Beal, Applicant
Sussex Reviewer, Sussex County Planning & Zoning
David 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
Claudy Joinville, Project Engineer, Development Coordination
Annamaria Furrato, Project Engineer, Development Coordination

3.4 Public Outreach Correspondence

November 15, 2022

Hello,

My name is Jordan Belknap. I am writing on behalf of TPE DE SU163, LLC, an affiliate of TurningPoint Energy (TPE). TPE is proposing to develop a Community Solar Energy Facility located on county tax parcel 135-11.00-48.00 west of Gravel Hill Road, Georgetown DE 19947 (the "Facility"). The proposed Facility would be located on an approximately 25-acre portion of the parcel west of Gravel Hill Road.

The proposed Facility will consist of a fenced in solar array and components to connect the Facility the Delmarva Power's electric grid. The proposed Facility is designed to participate in Delaware's Community Solar Program. The Community Solar Facility will allow residents of Georgetown and Sussex County, who are customers of Delmarva Power, to save financially by subscribing to the Facility to receive credits on their electric bills. I would like to share some details about the Facility and design considerations that will be incorporated. The 4-Megawatt AC Facility would provide:

- Clean Energy Benefits: ~ 8,982,000 kWh of energy production per year will reduce pollutants emitted compared to generating the same amount of energy from a fossil fuel, equivalent to:
 - ~ 6,365 tons of carbon avoided annually
 - ~ 1,372 cars taken off the road for one year
 - ~ 1,239 US homes powered for one year
- Buffer & Array Landscaping: The Facility will install and maintain a vegetative buffer between the solar array and abutting properties. It will also incorporate native and pollinator friendly plantings.
- No Ongoing Noise and Traffic: Beyond short-term construction traffic, only a few trips are required per year for maintenance.
- Project Oversight: The Facility will comply with all County and State permitting requirements to ensure no adverse impacts to neighboring properties or the natural environment.
- Local benefits:
 - Sussex County residents can subscribe to receive credits from locally produced, clean energy at a discount from Delmarva Power's retail standard offer residential rate.
 - Approximately 30-50 development and construction jobs over a 24-month period.
 - The TPE team is already using local companies for initial development support and plans to use local services and providers for completion of the Facility when available.

Should you have any questions or would like any additional information, please contact me. I may be reached by phone at 617-312-6553 or e-mail at jbelknap@tpoint-e.com. If you would like to learn more about the project or ask questions in person, I will be hosting a Community Meeting to discuss the project at the CHEER Community Center (20520 Sand Hill Rd, Georgetown, DE 19947) on Monday December 5th, from 7-9 p.m.

Sincerely,



Jordan Belknap
Director of Development

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

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **12/9/2022**

APPLICATION: **CU 2344 Turning Point Energy**

APPLICANT: **TPE DE SU 113, LLC c/o Adam Beal**

FILE NO: **WSPA-5.02**

TAX MAP &
PARCEL(S): **135-22.00-23.00**

LOCATION: **Lying on the southeast side of East Trap Pond Road, 1,750
feet northeast of Substation Road**

NO. OF UNITS: **Solar Field**

GROSS
ACREAGE: **35.01**

RECEIVED

DEC 12 2022

SUSSEX COUNTY
PLANNING & ZONING

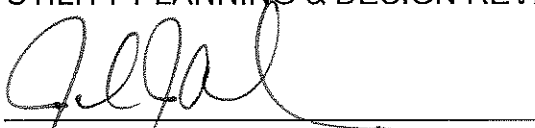
SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

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? **Municipal Growth & annexation Area**
- (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? **N/A** 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? **No**
- (8). Comments: **The proposed Conditional Use is within the boundary of the Growth and Annexation Area of the Town of Georgetown.**
- (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
Director of Utility Planning & Design Review

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

BECKER
MORGAN

G R O U P

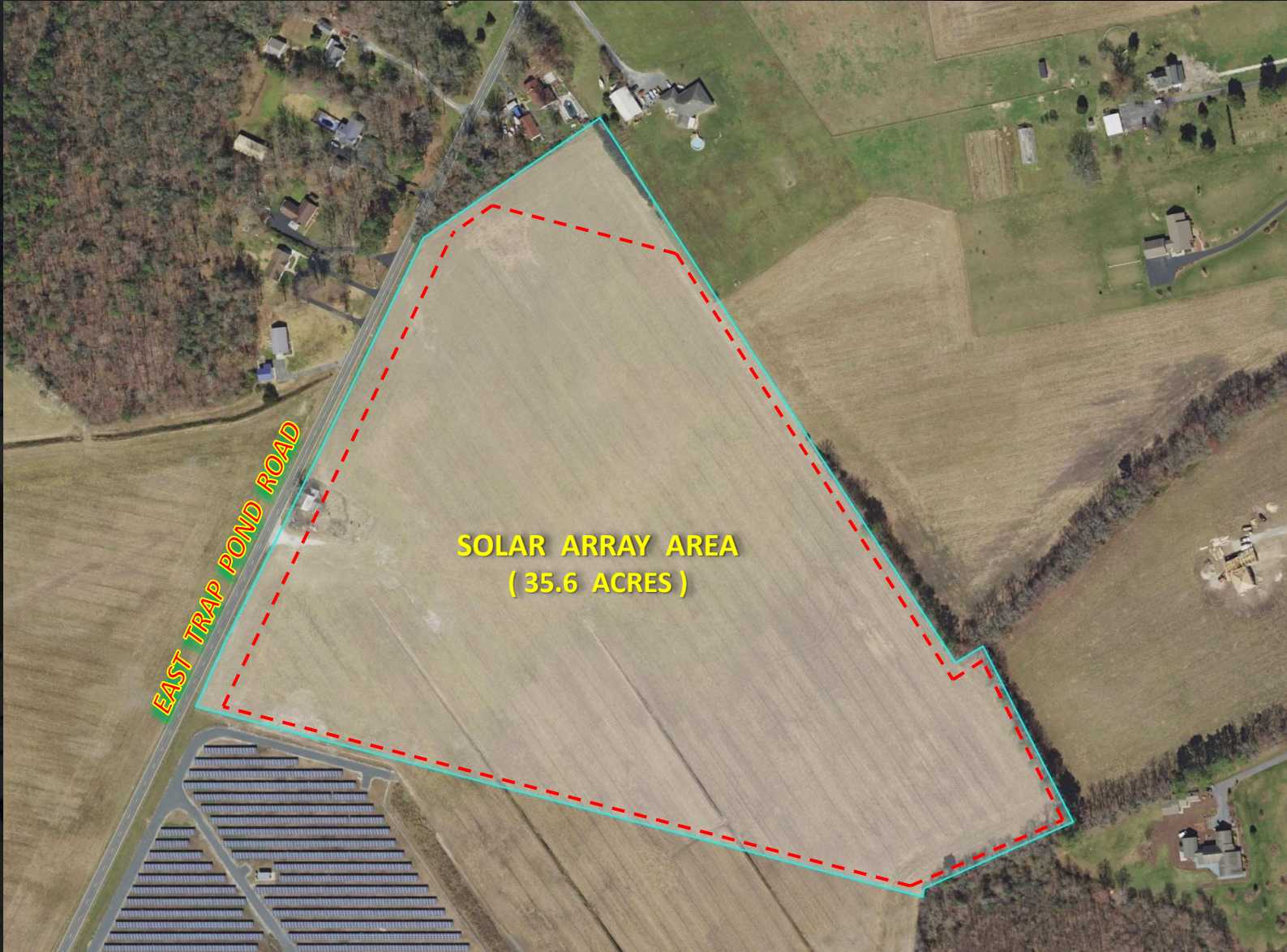
ARCHITECTURE
ENGINEERING

SUSSEX COUNTY - SOLAR ENERGY SYSTEM

PLANNING & ZONING COMMISSION

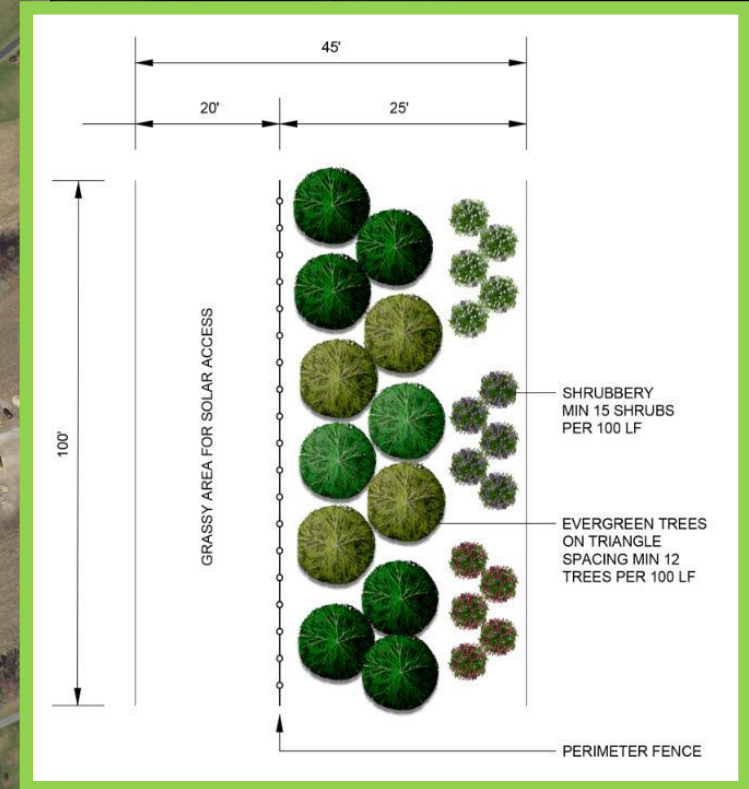
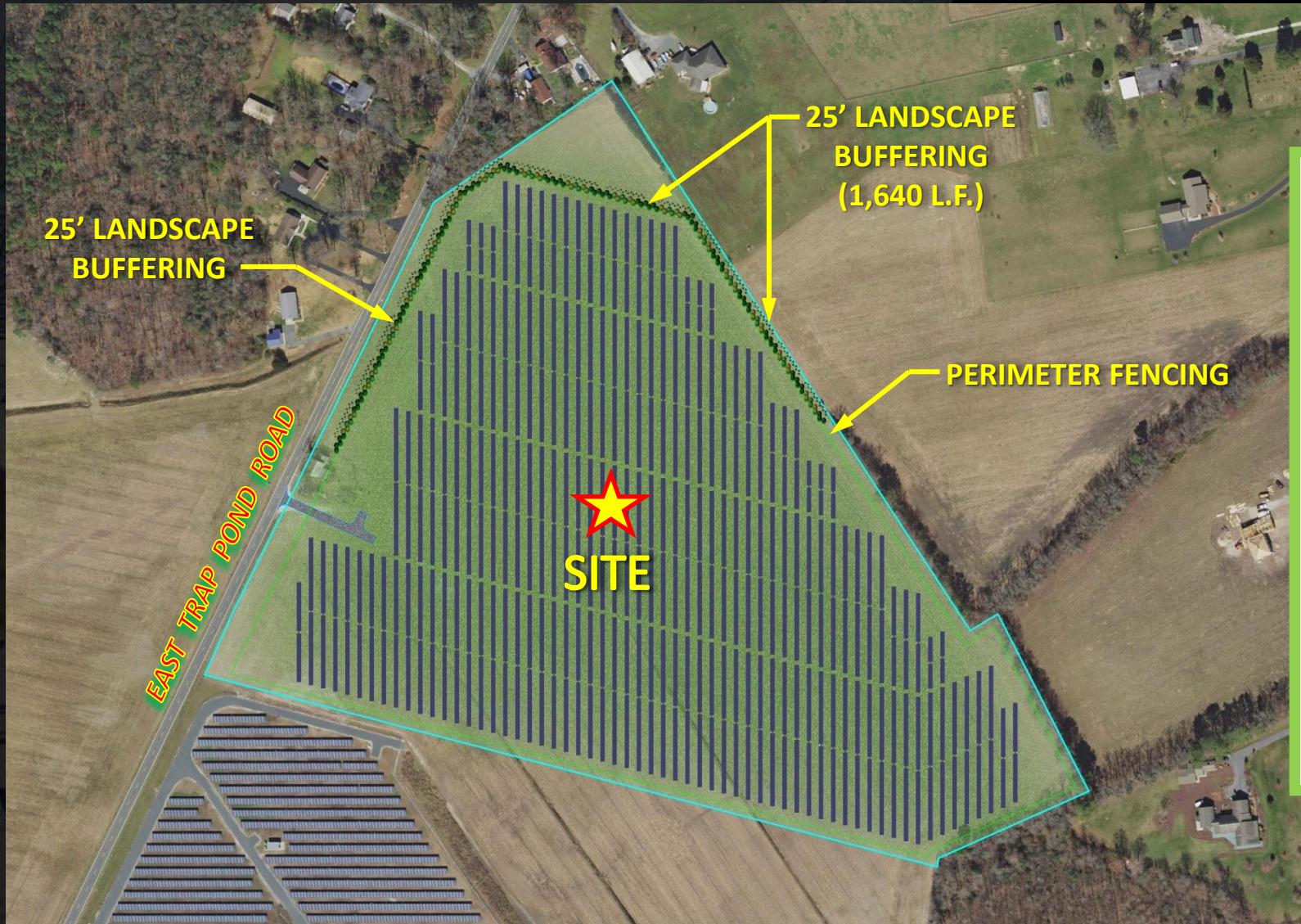
PUBLIC HEARING / TPE DE SU113 / 12.15.2022

PROJECT AREA - EXISTING CONDITIONS



- LOCATION: GEORGETOWN
- ZONING: AR-1
- EXISTING USE: AGRICULTURE
- PROPOSED USE: SOLAR
- C/U AREA: 35.6 AC.

PROJECT AREA - SOLAR ARRAY



PROJECT OVERVIEW & DESIGN STANDARDS

- COMMUNITY SOLAR FACILITY - GROUND MOUNT TRACKING SYSTEM / 3 MEGAWATT AC
- BENEFITS LOCAL RESIDENTIAL, BUSINESS AND MUNICIPAL SUBSCRIBERS WITH LOWER POWER COSTS
- NO INCREASE IN TRAFFIC (1-2 MAINTENANCE VISITS PER MONTH)
- RENEWABLE ENERGY SOURCE WHICH PRODUCES NO ODORS, DUST, GAS, SMOKE OR FUMES
- LOW TO NO NOISE FROM POWER INVERTERS (65 Dba at 1 Meter)
- GLARE STUDY COMPLETED (NO IMPACTS)
- REDUCED STORMWATER RUNOFF BY PROVIDING POLLINATOR FRIENDLY GROUND COVER AND PLANTINGS
- 25' LANDSCAPE SCREENING
- PERIMETER FENCING WITH EMERGENCY ACCESS PROVISIONS
- COMMUNITY OUTREACH MEETING HELD DECEMBER 5, 2022
- DECOMMISSIONING AT THE END OF OPERATION LIFE OF THE PROJECT

PROJECT SUMMARY

- THE FACILITY IS A PUBLIC UTILITY USE UNDER SUSSEX COUNTY ZONING CODE AND MEETS THE PURPOSES OF A CONDITIONAL USE IN THAT IT IS OF PUBLIC OR SEMI-PUBLIC CHARACTER THAT IS ESSENTIAL AND DESIREABLE FOR THE GENERAL CONVENIENCE AND WELFARE OF SUSSEX COUNTY RESIDENTS.
- THE PROPOSED FACILITY PROMOTES GOAL 7.3 OF THE SUSSEX COUNTY COMPREHENSIVE PLAN, WHICH ENCOURAGES THE USE OF RENEWABLE ENERGY OPTIONS SUCH AS SOLAR FARMS
- THE PROPOSED USE WILL NOT HAVE ANY ADVERSE IMPACT ON THE NEIGHBORING AND ADJACENT PROPERTIES AND PROVIDES ADEQUATE LANDSCAPE BUFFERING AND PERIMETER FENCING
- THE FACILITY WILL NOT RESULT IN ANY NOTICEABLE INCREASE IN TRAFFIC ON ADJACENT AND NEIGHBORING ROADWAYS. THERE ARE NO REGULAR EMPLOYEES AT THE SITE, ONLY PERIODIC VISITS FOR INSPECTIONS, MAINTENANCE, OR REPAIR OF THE SOLAR PANELS
- NO SIGNIFICANT NOISE, DUST OR ODOR WILL BE GENERATED BY THE FACILITY