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June 25, 2021

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Via Email and Hand Delivery
Hon. Paul M. Mayhew
Office of Administrative Hearings
Jefferson Building, first floor
105 W. Chesapeake Avenue
Towson, MD 21204

Re: Case No. 2017-108-X
20450 Middletown Road
Request for Extension of Time

Judge Mayhew:

This firm represents the solar company developing a ground mounted solar facility on the above-referenced property located in the Freeland area of Baltimore County (the "Property"). On April 25, 2019, we successfully obtained a special exception in Case No. 2017-108-X to develop a portion of the Property with a solar facility. The Order is attached hereto for your convenience.

The Order did not specify a time by which the special exception must be utilized to prevent it from expiring. Pursuant to Section 502.3 of the Baltimore County Zoning Regulations ("BCZR"), when an order does not specify a time for expiration, a special exception which has not been utilized within a period of 2 years from the date of the final order shall thereafter be void. I am writing: (1) to confirm that this special exception is still valid due to an Executive Order passed by the Governor of Maryland, and (2) to request an extension of time of 1 year for the owner to utilize, and therefore vest, the special exception.

To say that the events of the past year have been unprecedented is an understatement. As you can imagine, the owner had no concept when we obtained his special exception that the world would essentially shut down a year after the relief was granted. Had we anticipated the events of 2020, it would have been easy to request an extension of time to utilize this special exception for a period of up to 5 years from the date of the original order. However, there were no signs of the impending global crisis, so we did not make any request at our hearing with respect to timing.

Fortunately, Governor Hogan took action through Executive Order to extend the time for utilization of all licenses, permits, and other authorizations issued by local governments such as Baltimore County. Order No. 21-03-09-03, which is attached hereto for your convenience,

extends the time for any such authorizations that would have expired on or after March 12, 2020 to June 30, 2021. In this case, the special exception, if not utilized, would have expired on April 25, 2021 two years from the date of the Order granting the relief. Governor Hogan's Executive Order extends the date to utilize the special exception until June 30, 2021.

While the owner is diligently working to utilize the special exception, we are respectfully requesting an extension of time of a period of one year to ensure that our client can finalize the approvals needed to begin site work and formally utilize the special exception. This request is consistent with Section 502.3 of the BCZR, which allows the Administrative Law Judge to issue one or more extensions of time to utilize a special exception, provided the total time is not extended for a period of more than 5 years from the date of the final order. Here, extending the time for utilization to June 30, 2022 would provide a total of approximately 3 years from the date of the final order, well within the time provided in BCZR Section 502.3.

If you are in agreement that the time for utilization of the special exception in Case No. 2017-108-X should be extended until June 30, 2022, we would greatly appreciate your countersigning this letter so that it can be provided as needed during the owner's permitting process. As suggested, we contacted the Office of People's Counsel, who, through their Deputy, consented to this requested extension.

Thank you for your time and consideration.

Sincerely

Adam M. Rosenblatt

AGREED AND ACCEPTED. THE TIME FOR UTILIZATION OF THE SPECIAL EXEPTION IN CASE NO. 2017-108-X IS HEREBY EXTENDED UNTIL JUNE 30, 2022.

Hon. Paul M. Mayhew
Managing Administrative Law Judge

Board of Appeals of Baltimore County

JEFFERSON BUILDING
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April 25, 2019

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RE: *In the Matter of: David William Mathews – Legal Owner*
Bluefin Origination 2, LLC – Lessee
Case No.: 17-108-X

Dear Counsel:

Enclosed please find a copy of the final Opinion and Order issued this date by the Board of Appeals of Baltimore County in the above subject matter.

Any petition for judicial review from this decision must be made in accordance with Rule 7-201 through Rule 7-210 of the *Maryland Rules*, **WITH A PHOTOCOPY PROVIDED TO THIS OFFICE CONCURRENT WITH FILING IN CIRCUIT COURT. Please note that all Petitions for Judicial Review filed from this decision should be noted under the same civil action number.** If no such petition is filed within 30 days from the date of the enclosed Order, the subject file will be closed.

Very truly yours,

Sunny Cannington Hay

Krysundra "Sunny" Cannington
Administrator

KLC/taz
Enclosure
Multiple Original Cover Letters

c: See Attached Distribution List

David William Mathews
Geoff Fallon/Bluefin Origination 2, LLC
Freeland Legacy Alliance, Inc.
Richard and Rhonda Ryan
Jeanne Bowman
Scott Dykes
Beverly & Salvatore Scavone
Theresa & Christopher Norton
Kathleen and Christopher Marciniak
Christine Pignateri
Laverne Poe
Diana Householder
Betty Lou Holmes
Lawrence M. Stahl, Managing Administrative Law Judge
Jeff Mayhew, Acting Director/Department of Planning
Michael Mohler, Acting Director/PAI
Nancy C. West, Assistance County Attorney/Office of Law
Michael E. Field, County Attorney/Office of Law

Therese Sassler
Paul Hoeckel
Beverly Kram
Rhonda and William Rollins
Ed and Debra Myslinski
Matthew Myslinski
Matthew Myslinski
Lynne Jones
Debbie Frank
Patricia Trump
Kathleen Pieper
Lisa Arthur
Robin Arrington

IN THE MATTER OF DAVID WILLIAM MATHEWS - Legal Owner BLUEFIN ORIGINATION 2, LLC - Lessee 20450 Middletown Road Freeland, MD 21053	*	BEFORE THE BOARD OF APPEALS OF
RE: Petition for a Solar Facility	*	BALTIMORE COUNTY
	*	Case No. 17-108-X

* * * * * * * * * * *

OPINION

This case comes before the Board on appeal of the final decision of the Administrative Law Judge ("ALJ") in which the ALJ granted a Petition for a Solar Facility by Opinion and Order dated January 22, 2018. Protestants, Freeland Legacy Alliance, Inc., Richard and Rhonda Ryan, Jeanne Bowman, Scott Dykes, Beverly and Salvatore Scavone, Theresa and Christopher Norton, Kathleen and Christopher Marciniak, Christine Pignateri, Laverne Poe, Diana Householder, Betty Lou Holmes, Therese Sassler, Paul Hoeckel, Beverly Kram, Rhonda and William Rollins, Ed and Debra Myslinski, Matthew Myslinski, Michael Myslinski, Lynne Jones, Debbie Frank, Patricia Trump, Kathleen Pieper, Lisa Arthur, and Robin Arrington (collectively the "Protestants") filed an appeal.

A *de novo* hearing was held before this Board on July 12, October 16, and October 25, 2018. The Petitioners, David William Mathews and Bluefin Origination 2, LLC (the "Petitioners") were represented by Christopher D. Mudd, Esquire, Patricia A. Malone, Esquire and Venable, LLP. The Protestants were represented by H. Barnes Mowell, Esquire. People's Counsel also participated in the hearing. A public deliberation was held on January 24, 2019.

Factual Background

The subject property is located at 20450 Middletown Road and consists of 71 acres+/- on the south side of Middletown Road, east of Flintstone Road (the "Property"). It is split-zoned

RC2, RC4, RC5 and RC8. Middletown Road is a designated scenic route. The Property was previously a farm but no farming activities presently take place there. The Petitioners are proposing to use 16.71 acres for a solar facility on a cleared area of the Property pursuant to Baltimore County Zoning Regulations ("BCZR"), Article 4F.[1] The solar facility will generate 1.9 Mw of AC electricity. The remaining acreage of the Property (35.7 acres+/-) is wooded and is subject to a Forest Buffer Easement and Forest Conservation Easement recorded in Land Records at Liber 12794, folio 716. (Pet. Ex. 2).

Solar Facilities Law

On July 17, 2017, the County Council enacted Bill 37-17 permitting solar facilities by special exception in certain zones, including RC2, RC4, RC5, and RC8. BCZR, §4F-102.A. The County Council imposed limits on the number of facilities per councilmanic district (*i.e.* 10 per district), and on the maximum area for each facility (*i.e.* the amount of acreage that produces no more than 2 megawatts alternating current (AC) of electricity). (BCZR, §4F-102.B.1 and 2.)

In addition to the special exception factors, there are 10 requirements set forth in BCZR, §4F-104.A:

> 1. The land on which a solar facility is proposed may not be encumbered by an agricultural preservation easement, an environmental preservation easement, or a rural legacy easement.
>
> 2. The land on which a solar facility is proposed may not be located in a Baltimore County historic district or on a property that is listed on the Baltimore County Final Landmarks List.
>
> 3. The portion of land on which a solar facility is proposed may not be in a forest conservation easement, or be in a designated conservancy area in an RC 4 or RC 6 Zone.
>
> 4. Above ground components of the solar facility, including solar collector panels, inverters, and similar equipment, must be set back a minimum of 50 feet from the tract boundary. This setback

[1] The Petition filed before ALJ requested an area of 18.73 acres for the solar facility.

does not apply to the installation of the associated landscaping, security fencing, wiring, or power lines.

5. A structure may not exceed 20 feet in height.

6. A landscaping buffer shall be provided around the perimeter of any portion of a solar facility that is visible from an adjacent residentially used property or a public street. Screening of state and local scenic routes and scenic views is required in accordance with the Baltimore County Landscape Manual.

7. Security fencing shall be provided between the landscaping buffer and the solar facility.

8. A solar collector panel or combination of solar collector panels shall be designed and located in an arrangement that minimizes glare or reflection onto adjacent properties and adjacent roadways, and does not interfere with traffic or create a safety hazard.

9. A petitioner shall comply with the plan requirements of § 33-3-108 of the County Code.

10. In granting a special exception, the Administrative Law Judge, or Board of Appeals on appeal, may impose conditions or restrictions on the solar facility use as necessary to protect the environment and scenic views, and to lessen the impact of the facility on the health, safety, and general welfare of surrounding residential properties and communities, taking into account such factors as the topography of adjacent land, the presence of natural forest buffers, and proximity of streams and wetlands.

There are also provisions regarding maintenance of the facilities:

§ 4F-106. - Maintenance.

A. All parties having a lease or ownership interest in a solar facility are responsible for the maintenance of the facility.

B. Maintenance shall include painting, structural repairs, landscape buffers and vegetation under and around solar panel structures, and integrity of security measures. Access to the facility shall be maintained in a manner acceptable to the Fire Department. The owner, operator, or lessee are responsible for the cost of maintaining the facility and any access roads.

C. Appropriate vegetation is permitted under and around the solar collector panels, and the tract may be used for accessory agricultural purposes, including grazing of livestock, apiculture, and similar uses.

D. The provisions on this section shall be enforced in accordance with Article 3, Title 6 of the County Code.

A solar facility which has reached the end of its useful life must be removed in accordance with §4F-107 which states:

§ 4F-107. - Abandonment; removal.

A. A solar facility that has reached the end of its useful life or has been abandoned shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the County by certified mail of the proposed date of discontinued operations and plans for removal.

B. Removal shall consist of the:
   1. Physical removal of all solar energy systems, structures, equipment, security barriers and transmission lines from the site;
   2. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations; and
   3. Stabilization or revegetation of the site as necessary to minimize erosion.

C. If the owner or operator fails to remove the facility within 150 days of abandonment, the County retains the right to enter and remove the facility. As a condition of special exception approval, the petitioner and landowner agree to allow entry to remove an abandoned facility.

D. The Code Official may issue a citation to the owner or operator for removal of a solar facility if:
   1. The Code Official determines that the solar facility has not been in actual and continuous use for 12 consecutive months;
   2. The owner or operator failed to correct an unsafe or hazardous condition or failed to maintain the solar facility under Section 4F-106 within the time prescribed in a correction notice issued by the Code Official; or
   3. The owner or operator has failed to remove the solar facility in accordance with Paragraph C.

In order to grant a request for a special exception under BCZR, §502.1, it must appear that the use for which the special exception is requested will not:

A. Be detrimental to the health, safety or general welfare of the locality involved;
B. Tend to create congestion in roads, streets or alleys therein;
C. Create a potential hazard from fire, panic or other danger;
D. Tend to overcrowd land and cause undue concentration of population;
E. Interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements;
F. Interfere with adequate light and air;
G. Be inconsistent with the purposes of the property's zoning classification nor in any other way inconsistent with the spirit and intent of these Zoning Regulations;
H. Be inconsistent with the impermeable surface and vegetative retention provisions of these Zoning Regulations; nor
I. Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5 or R.C.7 Zone.

In *Schultz v. Pritts*, 291 Md. 1, 22-23, 432 A.2d at 1331 (1981), the Court of Appeals held that "the appropriate standard to be used in determining whether a requested special exception use would have an adverse effect and therefore should be denied, is whether there are facts and circumstances that show that the particular use proposed at the particular location proposed would have any adverse effects above and beyond those inherently associated with such a special exception use irrespective of its location within the zone."

The Court of Appeals in *People's Counsel for Baltimore County v. Loyola College in Md.* 406 Md. 54, 106, 956 A.2d 166 (2008) upheld that longstanding *Shultz* analysis, explaining that a special exception use has "certain [inherent] adverse effects...[which] are likely to occur". In its analysis, the *Loyola* Court observed that "[t]he special exception adds flexibility to a comprehensive legislative zoning scheme by serving as a 'middle ground' between permitted use and prohibited uses in a particular zone." *Id.*, 406 Md. at 71, 956 A.2d at 176 (2008).

The *Schultz* and *Loyola* Courts, and more recently in *Attar v. DMS Tollgate, LLC*, 451 Md. 272, 285 (2017) have expressly recognized that "[a] special exception is presumed to be in

the interest of the general welfare, and therefore a special exception enjoys a presumption of validity." (See also *Loyola*, 406 Md. at 84, 88; 105 *Schultz*, 291 Md. at 11). Based on this standard, once an applicant puts on its *prima facie* evidence in support of a special exception, the opponents must then "set forth sufficient evidence to indicate that the proposed [use] would have any adverse effects above and beyond those inherently associated with such use under the *Schultz* standard." *Attar*, 451 Md. at 287. (*See Montgomery County v. Butler*, 417 Md.271, 276-77 (2010) (opponent must show "non-inherent adverse effects" to "undercut the presumption of compatibility enjoyed by a proposed special exception use"). (*See also, Clarksville Residents Against Mortuary Defense Fund, Inc. v. Donaldson Properties*, 453 Md. 516, 543 (2017) ("there is a presumption that the [special exception] use is in the interest of the general welfare, a presumption that may only be overcome by probative evidence of unique adverse effects").

Motions to Dismiss

1. Timeliness of Petition Filing.

The Protestants argued in their Post Hearing Memorandum that the Petition should be dismissed because it was filed on October 17, 2016 and Bill 37-17 applied retroactively to petitions filed after October 18, 2016. However, it is undisputed that an Amended Petition was filed after October 18, 2016. As a result, we find that the Amended Petition satisfies the October 18, 2016 filing date and the Motion to Dismiss is denied.

2. Failure to File a Cross-appeal.

In his Post Hearing Memorandum, People's Counsel argues that Petitioner failed to appeal the ALJ's Order dated January 22, 2018, which conditioned the approval of the special exception on the submittal of a redlined plan with a special exception area of 13 acres. Protestants filed a Motion for Reconsideration of the Order and in response, Petitioner submitted a redlined

plan showing a special exception area of 12.99 acres +/-. Thereafter, the Protestants appealed both the Opinion and Order, and the Order denying the Motion for Reconsideration.

All issues appealed are heard by this Board *de novo*. (*Halle Co. v. Crofton Civic Ass'n*, 339 Md. 131, 141-45 (1995). *Daihl v. County Board of Appeal*, 258 Md.157, 161-64 (1970)). The Protestants did not exclude any specific issues in their appeal. Accordingly, the entirety of the ALJ's Opinion and Order was heard before this Board including the size of the special exception area, and a cross appeal was not required.

3. Plan Compliance with BCC, §33-3-108(c).

At the close of the Petitioner's case in chief, Protestants, through counsel, orally moved to dismiss the case on the basis that Article 4F-104.A.9 requires the Site Plan to comply with BCC, §33-3-108, but the Site Plan failed to list some of the items require in Subsection 33-3-108(c)1-18. We deny this Motion to Dismiss for the reasons set forth below.

Evidence

The Petitioner had several witnesses who testified on its behalf in the merits of the case:

1. Parker Sloan – Cypress Creek.

Parker Sloan is the zoning and outreach manager for Cypress Creek Renewables located in Ashville, NC. (Pet. Ex. 1). Bluefin Origination 2, LLC is a wholly-owned subsidiary of Cypress Creek Renewables. Cypress Creek owns and operates 250 solar facility projects nationwide.

Mr. Sloan works with local governments and communities to advocate for the construction of solar facilities. He explained that the facility proposed to be constructed in this case is ground-mounted with steel poles and the solar panels rotate on a system which tracks the sun. The solar panels will be installed on aluminum racks in a north/south direction to maximize

collection of the sun's rays which are then converted into energy through an inverter. The energy from the inverter is then directed to a grid connected to the existing distribution power lines along Middletown Rd. Mr. Sloan testified that this facility will generate 1.9 megawatts of alternating current (AC).

Mr. Sloan identified three (3) main criteria for prospective, solar facility properties: (1) existing power lines with a capacity for connection to the solar panel facility; (2) flat, cleared land; and (3) a property owner who is willing to enter into a long term lease.

A site plan for the proposed facility showed that the solar panel array will encompass 13 acres (the "Site Plan"). (Pet. Ex. 2). The requested special exception area would consume 16.71 acres. Mr. Sloan explained that the minimum spacing between the rows of panels must be between 12-14 ft. If that spacing were further narrowed, it would create shading and reduced the amount of electricity produced.

The facility will be placed on the highest point on the Property. The height of the structure is 9 ft. The maximum height of the panels when tilted toward the sun will not exceed 11ft. The motor, connected to underground wiring, will rotate the solar panels. The sound of the motor equates to a hairdryer on low speed. Additionally, 2 or 3 utility poles will be erected near the existing power lines along Middletown Rd. to connect the electricity generated from the new facility to the existing transformer.

A Schematic Landscape Plan was prepared and accompanied the Petition for Special Exception. (Pet. Exs. 6, 7). The installation of the solar facility in this case will not require grading or clearing of land as that area has already been cleared. A security fence (without barbed wire), measuring 7 ft. in height will surround the Property. A row of evergreen trees exists along Middletown Rd. No trees or existing vegetation will be removed; however, additional deciduous

trees will be planted in accordance with the direction of the Baltimore County Landscape Architect.

Approximately 8 times per year, maintenance of the solar panel facility will take place including lawn mowing. A water truck will be used to clean the panels. At the end of the lease term, the solar facility will be removed and the holes filled in, restoring the ground.

As to the special exception factors, Mr. Sloan testified that it will not be detrimental to the health, safety or general welfare of the locality. He explained that any aesthetic complaints are inherent in solar facilities. (BCZR, §502.1.A). There is little to no noise generated day or night. The movement of the tracking system is very slow. Existing deciduous trees and those to be planted, will block the view of the facility from Middletown Rd.

Mr. Sloan further stated that the facility will not create congestion in the roads, streets or alleys as there is minimal traffic generated by this use, other than periodic maintenance. (BCZR, §502.1.B). Additionally, the facility will not create a fire hazard or other danger. (BCZR, §502.1.C). There are no flammable materials contained within the parts of the solar facility. The closest fire station is on Middletown Rd. (Pet. Ex. 3A). The security fence will keep out trespassers and animals. An alarm system on the facility is monitored remotely by the Petitioner such that, if the facility is not operating properly, an alarm will sound and it can be shut down.

Because this use does not generate traffic or attract people, there is no overcrowding of the land or undue concentration of population. (BCZR, §502.1.D). Likewise, Mr. Sloan confirmed that there is no impact from this use on adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements. (BCZR, §502.1.E).

Finally, Mr. Sloan testified that the facility will not be detrimental to the environmental or natural resources of the Property or vicinity, including forests, streams, wetlands aquifers and floodplains. (BCZR, §502.1.I). The solar facility will not be located in the designated and recorded forest conservation area or forest buffers. The special exception area is the cleared area which was previously used for farming. There is no permanent disturbance of the soil because, after removal of the poles supporting the solar facility, the land may be used for farming or other purposes.

Mr. Sloan stated that there is nothing unique about this Property or this solar facility as compared to other similarly situated properties within the RC zones. He said that this particular location does not cause any adverse impacts which are not already inherent in solar facilities.

2. David Martin – Landscape Architect.

David Martin, a landscape architect with Daft, McCune and Walker, was admitted as an expert in the area of landscape architecture and land planning. (Pet. Ex. 4). Mr. Martin prepared a Schematic Landscape Plan based on information he obtained from the Baltimore County GIS System. (Pet. Exs. 6 and 7). Cypress Creek provided Mr. Martin with the layout of the solar facility. The metes and bound description of the 16.71 acre special exception area was also provided to him. (Pet. Ex. 5).

Mr. Martin testified that he superimposed onto the Landscape Plan, the Minor Subdivision Plan which was approved by the County on May 24, 2000. (Pet. Ex. 2). The Minor Subdivision Plan delineated the wetlands and created the forest buffer easement and forest conservation easement. Mr. Martin explained that the terrain slopes and drains from the highest point at Middletown Rd. to the farm pond.

Mr. Martin testified that the proposed solar facility met each of the requirements set forth in BCZR, §4F-104.A. First, the Property is not encumbered by an agricultural preservation easement, environmental easement or rural legacy easement. (§4F-104.A.1). Second, the Property is not located in a Baltimore County historic district or on the Baltimore County Final Landmarks List. (§4F-104.A.2). Third, the solar facility proposed will not be located in the forest conservation easement or in a designated conservancy area in an RC4 or RC6 zone. (Pet. Exs. 2, 6 and 7). (§4F-104.A.3). Fourth, the aboveground components of the solar facility, including the solar collector panels, inverters and similar equipment will be set back a minimum of 50 feet from the tract boundary. (Pet. Exs. 2, 6 and 7). (§4F-104.A.4). Fifth, the solar facility will not exceed 20' in height. (§4F-104.A.5).

With regard to the landscape buffer requirement, photographs of the existing evergreen trees were provided. (Pet. Ex. 11 a –v). He opined that these existing evergreen trees along Middletown Rd. provide a natural and effective screen of the facility. Baltimore County representative, Wally Lippencott, reviewed the Landscape Plan and the photos of the Property. Mr. Lippencott requested that, along Middletown Rd., the Petitioner plant a sub-canopy of deciduous trees, such as maples and oaks. Mr. Martin explained that the screening of Middletown Rd. will be in compliance with that required for scenic routes and views in accordance with the Baltimore County Landscape Manual. (§4F-104.A.6). With regard to the security fence, Mr. Martin reiterated Mr. Sloan's testimony that a 7 ft. security fence with no barbed wire will be installed around the perimeter of the Property. (§4F-104.A.7).

Mr. Martin also opined that the Site Plan complied with the plan requirements in BCC, §33-3-108. (§4F-104.A.9). Mr. Martin explained that, in his experience, the Petitioner must first obtain special exception relief before the Department of Environmental Protection and

Sustainability ("EPS") will review the plan for the requirements listed in Section 33-3-108(c). The Zoning Advisory Committee ("ZAC") comments recommended approval of the Site Plan. (Pet. Ex. 12).

Mr. Martin also testified about the remaining special exceptions factors and in doing so, he opined that the solar facility use meets all of the factors. He described this use as "benign" in that it is not permanent. Said another way, it was Mr. Martin's opinion that there were no adverse effects above and beyond those which are inherent with solar facility use.

As to BCZR, §502.1.F, given that the maximum height of the solar panels when tilted toward the sun is 11 ft., and the facility will be installed in the clear field of the Property away from neighboring residences as shown on Pet. Exh. 2, Mr. Martin testified that it would not interfere with adequate light or air.

Mr. Martin testified that solar facilities are consistent with the purpose of the RC zones and with the spirit and intent of the BCZR under §502.1.G, in that the use supports farming; it helps the farmer generate income and does not interfere with agricultural production because the soil type will remain the same after the removal of the facility as it is now. (BCZR, §502.1.G). Mr. Martin pointed out that Northern Baltimore County is primarily designated as Agricultural Priority Preservation Area.

With regard to impermeable surface and vegetative retention provisions of §502.1.H, and the environmental and natural resources of the site under BCZR, §502.1.I, Mr. Martin highlighted that no impermeable surface exists underneath the solar panels. Rain water which falls onto the panels will be absorbed into the ground. The spacing between the rows of panels is designed to allow rainwater to penetrate into the ground. Thus, there is no concentration of storm water flowing into streams as there is when water flows onto pavement. Additionally, the solar facility

will not be located in the designated forest buffer easement or forest conservation easement on the Property. (Pet. Ex. 2).

In summary, Mr. Martin opined that there are no adverse effects from this use above and beyond those inherent in solar facilities.

3. Thomas Cleveland – Glare Study.

The Petitioner contracted with Thomas Cleveland, an employee of Advanced Energy Corporation,[2] to conduct a study on whether the proposed solar facility panels will produce glare from the sun's rays. (§4F-104.A.8). Mr. Cleveland prepared a glare study using computer software which is widely used in the industry. (Pet. Ex. 15). The computer software considers the topography of the land and any obstructions but excludes existing trees.

In the 20 glare studies Mr. Cleveland has conducted, typically he finds glare is produced by solar panels. However, in this study, no glare will be produced because the proposed design of the tracking system causes the panels to continuously move while tracking the sun. As a result, in his opinion, no glare of low or high intensity will be created.

Protestants' Case.

The Protestants opposed this case for a number of reasons. These reasons include: a) visibility of facility from the property; b) the environmental impacts of run-off from the steep slopes on the property; c) dissatisfaction with the solar bill and related regulations concerning the maintenance and dismantling of the facility; and d) the negative impact to the agricultural industry. The Protestants called several witnesses.

[2] Advanced Energy Corporation is not associated with or owned by either Cypress Creek or Bluefin Origination 2, LLC.

1. Lois Jean Bowman.

Lois Jean Bowman lives at 2709 Flintstone Rd. which is adjacent to the Property. (Pet. Ex. 2). Ms. Bowman testified that her family, the Dykes, owned the Property prior to 2005. It was originally 70 acres. She was quite familiar with the Property in that she lived there, farmed it and used it for hunting. In later years, the Dykes leased the land to Arthur and Joan Tracy for farming. She said the cleared area where the solar facility is proposed to be installed provided a good yield of crops depending on the weather.

Sometime in the 1970s, Ms. Bowman's father and brothers dug the farm pond which is located near Margaret Jones Curtis' property (2705 Flintstone Rd.). On May 24, 2000, Ms. Bowman's brother, Warren Scott Dykes, received approval for a Minor Subdivision Plan (PAI #00030M) for his own house which sits on 2 acres of land. In 2001, her family placed 40 acres in a forest conservation easement and the forest buffers delineated on the Site Plan were created and recorded in the Land Records. (Pet. Ex. 2). The streams on and surrounding the Property were also surveyed at that time.

In 2005, Ms. Bowman sold the Property for approximately $400,000.00 to the uncle of Petitioner, William Mathews. The sale did not restrict the use to agriculture. Ms. Bowman testified that she also declined to put the Property into rural conservation. The farmhouse has been vacant since the sale. Ms. Bowman admitted that she researched the cost of installing solar panels on her own home but it was not feasible. In the winter, she will have a direct view of the solar facility. In the summer, the forest buffer easement will block her view.

2. John Altmeyer.

John Altmeyer lives at 21722 Orwig Rd., Freeland, MD 21053 which is at least 3 ½ miles away from the Property. He is a retired building inspector who worked for Baltimore County for

32 years. He was not offered as an expert in this case. Mr. Altmeyer calculated slope percentages for 3 areas on the Property using a topographical map provided to him by Protestant Lynne Jones. (Prot. Ex. 5). That map was a photocopy of the original Site Plan (later changed) obtained by Ms. Jones at the ALJ hearing. Mr. Altmeyer admitted that it was not to scale and that at least one of his handwritten calculations was not correct.

Relying on Maryland Department of Environment ("MDE") Stormwater Design Guidance for Solar Panel Installations (Prot. Ex. 6), Mr. Altmeyer testified that, in his opinion, if a slope is ≥5% - ≤ 10%, the Petitioner would need "level spreaders" to catch the water runoff from the solar panels. He stated that if the slope is more than 10%, a full engineering study would have to be conducted and submitted to EPS. Mr. Altmeyer expressed his concern that the Site Plan does not show any stormwater management facilities. Without such controls, he believes that the water runoff will negatively affect Dykes Creek and Prettyboy Reservoir.

3. Lynne Jones.

Lynne Jones lives at 815 State Church Rd., Parkton, MD. Her home is a 150 acre farm where her family has lived for 7 generations beginning in 1745. Ms. Jones testified individually and as President of Sparks-Glencoe Community Planning Council ("Sparks-Glencoe Council"). Sparks-Glencoe Council has 400 members and its boundaries run in a heart-shaped pattern from Hunt Valley in the south, to the Harford County/Baltimore County line in the east, to the Carroll County/Baltimore County line in the west. The northern boundary is the top of the heart-shape figure as shown on the boundary map. (Pet. Ex. 16). Not only is Sparks-Glencoe Council not a party to this case, more importantly, the Property is not located within its boundaries. (Pet. Exs. 3, 16).

Those facts notwithstanding, Sparks Glencoe Council submitted a letter, signed by Ms. Jones, which described general opposition to solar facilities on farmland in northern Baltimore County. (Prot. Ex. 7).

Ms. Jones' farm is located 6-7 miles from the Property. She expressed her concerns about water runoff, flooding and the negative impact on the agriculture industry created by using farmland for solar facilities. Her testimony centered on her dissatisfaction with the enactment of Bill 37-17 and development in general. Ms. Jones believes that solar facilities should be located in business and manufacturing zones. She is worried that the language in BCZR 4F-102.A and 4F-107 are not strong enough with regard to the issuance of a bond for maintenance and dismantling of the facility.

4. Kathleen Pieper.

Kathleen Pieper lives at 4310 Beckeysville Rd., Hampstead, MD which is 10 miles from the Property. Ms. Pieper presented Rule 8 papers for the North County Community Group, LLC for which she is the President ("North County"). North County is a volunteer organization of 500 members formed in 2015 with boundaries from the Maryland-Pennsylvania line in the north, York Rd. in the east, the Baltimore/Carroll County line in the west and Mt. Carmel Rd. in the south. The Property is within the boundaries of North County.

Ms. Pieper expressed concern that the special exception area is composed of prime and productive soils, and that solar facilities in general remove available farmland and crop production. Much of her testimony focused on 'Targeted Ecological Areas' or 'TEAs' which are designated as such because the land contains: forests; wildlife and rare habitats; non-tidal streams and fisheries; wetland adaptation areas; and tidal fisheries, bay and coastal ecosystems. (Prot. Ex. 32 and 33). Ms. Pieper explained when land is designated as having a TEA designation, it has

the opportunity to receive state funding from Project Open Space ("POS"). (*Id.*). Ms. Pieper testified that this Property is an unprotected TEA, and without any recorded conservation easement.

Decision

As set forth above in BCZR, §4F-102.A, solar facilities are only permitted by special exception under the factors set forth in BCZR §502.1. The testimony of Mr. Sloan and Mr. Cleveland support the Petitioner's position that the proposed solar facility would not be detrimental to the health, safety or general welfare of the locality involved. To the contrary, the Protestants' collective concerns are impacts which are inherent with this particular use. It was apparent that the Protestants' complaints center on their dissatisfaction with the County Council's enactment of Bill 37-17 which is codified in BCZR, Article 4F. Understandably, the Protestants want the land in RC zones to remain farm land.

However, it is beyond the jurisdiction of this Board to rewrite Bill 37-17 or Article 4F. Applying the standard in *Shultz*, *Loyola* and *Attar*, the Protestants were required to present evidence that the adverse effects stemming from this solar facility, at this location, are unique and different than the inherent impacts associated with this use in general. We did not have such evidence here.

As described in detail above, Mr. Sloan testified that the solar facility would not create congestion in the roads as it is not a use that generates traffic into or out of the Property. (BCZR, §502.1.B.) Further, Mr. Sloan confirmed that there are no flammable materials used in this solar facility and there is fire station on Middletown Rd. (BCZR, §502.1.C.) As with the lack of traffic, Mr. Martin repeated that this use does not generate people and therefore it would not tend to overcrowd the land or cause an undue concentration of population. (BCZR, §502.1.D.)

Additionally, both Mr. Sloan and Mr. Martin confirmed that this use does not interfere with schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements. (BCZR, §502.1.E.) To the contrary, the Board finds that it produces electricity which benefits the surrounding community.

Mr. Martin confirmed that the height of the facility will be 11 feet and would therefore not interfere with adequate light or air. (BCZR, §502.1.F.) The facility will stand in the cleared area of the Property, removed from any adjacent homes. Accordingly, the Board finds that shadowing and air circulation are not areas of concern.

As to the consistency of this use with the purposes of the RC zones and with the spirit and intent of the BCZR, solar facilities are consistent uses because they are temporary and are removed at the end of a lease term. There was much testimony and argument about removing 'prime and productive' soil from the agriculture industry. However, the evidence showed that the soil type remains the same before, during and after removal.

The County Council deemed solar facilities are uses consistent with the RC zone, provided they meet the special exception standard, as explained in *Shultz*, *Loyola* and *Attar*. The Protestants' argument that farming is the primary use and therefore solar facilities are inconsistent with the RC zones, is an argument which should be directed to the County Council. This Board is not required to determine whether a solar facility is detrimental to agricultural uses. Our authority to approve this use is contained in Article 4F and §502.1 factors. Moreover, even if this Property contains 'prime and productive' soil (an alleged fact which we are not deciding), the owner cannot be compelled to farm, or to lease the Property to a farmer.

Mr. Martin explained that the use is consistent with impermeable surface and vegetative retention provisions of the BCZR because there will not be any clearing or grading of land, and

no tree removal. Rain will propel off the solar panels and soak into the ground between the rows. Mr. Martin described to the Board that the separation between the rows of panels is designed so that there is no concentrated flow of water as there would be with water flowing off an impermeable surface such as pavement. This fact notwithstanding, Mr. Martin added that the Department of Environmental Protection and Sustainability ("EPS") will determine whether any further storm water management retention measures are needed.

Finally, Mr. Sloan and Mr. Martin testified that this use, at this location, would not be detrimental to the environmental or natural resources of the Property, including the forest, streams, wetlands, aquifers and floodplains. The 2000 Minor Subdivision Plan defined and recorded the forest buffer easements and forest conservation easements of the Property and the facility will not be placed within, or disturb, those areas. (Pet. Ex. 2). Ms. Bowman testified that her mother placed 40 acres into the forest conservation easement and that her brother, Warren Dykes, filed the Minor Subdivision Plan outlining those environmental and natural resources. Accordingly, there is no dispute as to the precise location of these natural resources within the Property, and that this facility will not be located in those areas.

Having analyzed the special exception factors, the requirements of BCZR, §4F-102.B.1 and BCZR, §4F-104.A. 1-9, must also be satisfied by the Petitioner. Mr. Sloan testified that the 16.71 acre special exception area and 13 acre solar panel array is the minimum acreage needed to produce 1.9 megawatts AC of electricity. (BCZR, §4F-102.B.1.) The Protestants urged this Board to adopt the reasoning of the ALJ in his decision wherein he looked at the special exception areas and electricity generated in other recently approved solar facility cases and decided that the special exception area here should be restricted to 13 acres. (Prot. Ex. 21).

While the ALJ's decision was admitted as evidence at the request of Protestants (Prot. Ex. 21), the Board has traditionally accepted copies of ALJ opinions as well as copies of statutes or regulations, as a courtesy to the parties. Since this case is heard *de novo*, the ALJ's decision is not part of the record and his analysis is not binding on the Board. Based on the evidence presented to the Board, we find that there was no compelling evidence submitted by the Protestants here which contradicts the Petitioner's plan that 16.71 acre special exception area is the minimum area needed to produce less than 2 megawatts AC electricity. The Protestants did not have an expert testify on this issue. Accordingly, we find that the Petitioner has met this burden.

Mr. Martin testified that the Property is not encumbered by an agricultural preservation easement, an environmental preservation easement or rural legacy easement, nor is it in a Baltimore County historic district or on the Baltimore County Final Landmarks list. (BCZR, §§4F-104.A.1 and 2.) In addition, as with the special exception factors, Mr. Martin testified that the solar facility will not be located in the forest conservation easement or designated conservancy area. (BCZR, §§4F-104.A.3.) There was no evidence by the Protestants which contradicted either of these requirements.

As to the setback and height requirements, Mr. Martin made clear that the facility at its highest peak will not exceed 11 ft. and will not be located within 50 ft. from the tract boundary. BCZR, §§4F-104.A.4 and 5. Accordingly, both the height and setback requirements have been met. There was no evidence by the Protestants which contradicted either of these requirements.

With regard to the requirement for a landscape buffer on the perimeter, the photographs presented reveal the existing row of evergreen trees along Middletown Rd. (BCZR, §4F-104.6). (Pet. Ex. 11a-u) (Prot. Ex. 9a-o). The comments from the Department of Planning recommended

supplementing the existing row of trees with additional deciduous trees to form a subcanopy. (Pet. Ex. 12). The Petitioner is amenable to planting these additional trees and prepared a schematic Landscaping Plan in support of its Petition which was reviewed by the County. (Pet. Exs. 6, 7). Moreover, the Plan proposes a 7 ft. chain link fence without barbed wire between the landscape buffer and the solar facility. (BCZR, §4F-104.7). We find that these requirements have been satisfied.

Additionally, there is a requirement that the solar panels minimize glare in order to prevent vehicle collisions and safety hazards. (BCZR, §4F-104.8). In this case, the Petitioner had Mr. Cleveland testify and present his glare study. (Pet. Ex. 15). The Protestants did not present an expert to contradict Mr. Cleveland. The glare study indicated that there would be no glare produced by the solar panels here. Thus we find that requirement is satisfied.

Finally, the Site Plan must comply with BCC, §33-3-108. (BCZR, §4F-104.A.9). The Protestants argued that the Petition should be dismissed because the Site Plan failed to list each of the 18 elements in Subsection (c). In our review of BCC, §33-3-108, we find the that language in Subsection (a) is unambiguous. That Subsection requires the Department of Environmental Protection and Sustainability ("EPS") (as defined in §33-3-101(f)), to approve the Site Plan. Further, Subsection (b) directs that the Site Plan shall generally include such information (graphs, charts, etc.) to enable EPS to "make a reasonably informed decision regarding the proposed activity." Additionally, a plan submitted to EPS for approval must also contain the information listed in Subsection (c).

As a result, the specific items listed in Subsection (c) must be considered by EPS when it reviews and approves the Plan under that Section, not this Board. The testimony of Mr. Martin was that EPS' policy is that they will not approve a site plan until after the special exception

relief is granted. We find his testimony to be consistent with the language in Section 33-3-105 (1) and (2) which provides that EPS is "responsible for enforcing the provisions of [Title 33]" and the Director of EPS "may adopt policies and regulations as necessary to implement the provisions of [Title 33]."

Given the express wording of Section 33-3-108 that EPS shall approve the Site Plan, and that EPS is responsible for ensuring that the Site Plan comply with both the general and specific requirements of Subsections (b) and (c), we find that the appropriate resolution for this Board is to place a condition in the Order reiterating the words of §4F-104.A.9, that the Petitioner shall comply with Section 33-3-108. To do otherwise would be to overstep this Board's statutory authority.

Conclusion

After reviewing all of the testimony and evidence presented, the Board finds that Petition for Special Exception pursuant to BCZR, Article 4F should be granted.

ORDER

THEREFORE, IT IS THIS 25th day of April, 2019, by the Board of Appeals of Baltimore County,

ORDERED, that the Protestants' Motion to Dismiss the Petition on the basis that the Petition was filed on October 17, 2016 and Bill 37-17 applied retroactively to petitions filed after October 18, 2016, be and the same is hereby **DENIED** for the reasons set forth herein, and it is further,

ORDERED, that the Protestants' Motion to Dismiss the Petition after the close of the Petitioner's case-in-chief on the basis that the proposed Plan failed to provide some of the

information required in BCZR, §33-3-108(c), be and the same is hereby **DENIED** for the reasons set forth herein, and it is further,

ORDERED, that People's Counsel's Motion to Dismiss the Petition on the basis that the Petitioner submitted a red-lined Plan for a 13 acre special exception area as directed by the ALJ in his Opinion and Order dated March 1, 2018, but failed to file a cross-appeal of the ALJ's condition, be and the same is hereby **DENIED** for the reasons set forth herein and it is further,

ORDERED that the Petition for Special Exception for a solar facility pursuant to BCZR, Article 4F as set forth on the Site Plan (Pet. Ex. 2), and the Landscape Plan (Pet. Exs. 6 and 7) be, and the same is hereby **GRANTED**, subject to the following conditions under the Board's authority in §4F-104.A.10:

1. Petitioners shall submit for approval by Baltimore County a landscape plan for the Property demonstrating appropriate screening and vegetation is provided along Middletown Rd, a scenic route, as required by the Landscape Manual and as set forth in the Zoning Advisory Committee Comments dated November 28, 2017 (Pet. Ex. 12) and as under BCZR, §4F-104.A.6.

2. Petitioners shall install a 7 ft. high, security fence, without barbed wire, between the landscaping buffer and the solar facility as required by BCZR, §4F-104.A.7. Attached to the fence in a conspicuous place, while the solar facility is in operation, shall be the current contact information (name, address, telephone number with a 24-hour operator, website and email address) of the operator of the solar facility.

3. Prior to the issuance of a building permit, Petitioner must satisfy the environmental regulations set forth in BCC, §33-3-108 pertaining to the protection of water quality, streams, wetlands and floodplains and obtain approval of the Site Plan from the Department of Environmental Protection and Sustainability as required in that Section.

Any petition for judicial review from this decision must be made in accordance with Rule 7-201 through Rule 7-210 of the *Maryland Rules*.

BOARD OF APPEALS
OF BALTIMORE COUNTY

Maureen E. Murphy, Panel Chair

Andrew M. Belt

William A. McComas

BOARD OF APPEALS OF BALTIMORE COUNTY
MINUTES OF DELIBERATION

IN THE MATTER OF: David Williams Mathews – Legal Owner
Bluefin Origination 2 LLC – Lessee

17-108-X

DATE: January 24, 2019

BOARD/PANEL: Maureen E. Murphy, Panel Chairman
Andrew M. Belt
William A. McComas

RECORDED BY: Tammy A. Zahner, Legal Secretary

PURPOSE: To deliberate the following:

1. Petition for Special Exception pursuant to BCZR § 4E-102 to operate a solar facility on approximately 16.71 acres of the subject property.

PANEL MEMBERS DISCUSSED THE FOLLOWING:

STANDING

- The Board first discussed the Motion to Dismiss which alleges that the Petition should be dismissed as it was filed before the effective date of the County Council Bill. The Board noted that there was an Amended Petition filed after the effective date, and accordingly unanimously denied the Motion to Dismiss.

- The Board then discussed People Counsel's Motion and argument that the special exception area should be limited to 13 acres as ordered by the Opinion of the Administrative Law Judge ("ALJ"). The Board noted that zoning appeals are *de novo*, and the appeal was of the entire ALJ Opinion not just a portion. There is nothing that precludes the Petitioners from seeking the 16.71 acre special exception area.

- The Board discussed the specific requirements of BCZR Section 502.1, Conditions determining granting of a Special Exception, as follows:

  A) The Board noted the Protestants objections are inherent of solar facilities in general. The Board found there would be no detriment to the health, safety or general welfare of the locality.

  B) The Board noted there was testimony that after the initial installation, the solar facility would be accessed approximately 8 times per year. The Board found there would be no impact on traffic or roads.

  C) The Board noted there is a Fire Department on Middletown Road, and there is also a remote turn-off from North Carolina. There is nothing hazardous, and there was no testimony of constant fires at solar facilities. The Board found there will be no potential hazard from fire, panic or other danger.

  D) There will be no population increase as a result of the solar array, and according will not overcrowd land or cause an undue concentration of population.

E) The Board noted there was testimony that if water is needed, it will be brought in by truck to the property. The Board found the project will not have an impact on schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements.

F) The Board noted that the height will not exceed 20 ft., and there will be no glare or impact from the sun on neighboring homes.

G) The Board noted that County Council Bill 37-17 permits solar facilities in the RC2 zone as long as it meets the special exception requirements. There was a lot of testimony about land use and the importance of farmland and the RC2 zone to the County. However, there is no requirement that farm land must be farmed. It was also noted that the Planning Board recommendations were submitted to the County Council for review but were not part of the Bill.

H) There was testimony that there will be no grading or clearing of land. The solar array will not be located in the buffer area, and there will be vegetative screening. The soil will not be changed, and if the solar array is removed the property can be farmed again. The Board found the proposal is consistent with the impermeable surface and vegetative retention provisions of the Zoning Regulations.

I) There will be no building or solar panels in the forest buffer or forest conservation areas. The Board found the project will not be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains, etc.

- The Board noted there was testimony that there are other properties in the area that would be better suited for a solar facility. However, there is no requirement to compare to other properties.

- The Board discussed the Motion to Dismiss, and the requirements contained in BCZR Section 4F-104, as follows:

1) Not applicable. The land is not encumbered by an agricultural preservation easement, an environmental preservation easement or a rural legacy easement.

2) Not applicable. The land is not located in a historic district or on property listed on the Baltimore County Final Landmarks List.

3) Not applicable. The solar facility will not be located in a forest conservation easement, or in a designated conservancy area.

4) Meets requirement. The components of the solar facility will meet the minimum setback requirement of 50 ft. from the tract boundary.

5) Meets requirement. The structure does not exceed 20 ft. in height.

6) The landscaping buffer will be complied with. Trees currently exist in the area, and there will be additional plantings made in accordance with Baltimore County Landscape Manual.

7) The security fencing will be complied with. There will be a 7 ft. fence, but without any barbed wire on top as agreed to by Counsel for Petitioner at hearing.

8) The solar panels will be designed to minimize glare or reflection onto adjacent properties and roads. It was noted there was no expert testimony by the Protestants about glare from the solar panels.

9) The Petitioner shall comply with the plan requirements of Section 33-3-108 of the County Code. This requirement was contested and was part of the Motion to Dismiss which argues that the project does not meet all of the requirements contained in subsection (c). There was discussion by the Board that the plan requirement contains all of Section 33-3-108, and is not limited to subsection (c). The proposed solar array will be located in the prior approved development area. The Board discussed Section 33-3-108 as follows:

(a) Required. A plan approved by the Department is required for all development, forest harvesting operations, surface mining operations, and agricultural operations.
(b) Details of plan – in general.
(c) Specific requirements. (Contains 18 requirements)

The Board finds this Section to be confusing. The Board is not the Department, and note that Environmental Protection and Sustainability is the Department in accordance with BCZR Section 33-3-101, Definitions. The Board found that Section (a) is clear and unambiguous and that it is standing practice in Baltimore County that the Department won't approve a plan until zoning has been approved. The Board finds it compelling that the language includes the entire Section 33-3-108, and not limited to (c). Accordingly, this Order will be conditioned upon the Petitioner complying with 33-3-108 prior to the issuance of any permits.

The Board found the requirement is to comply with the full development procedures, although they are sympathetic to the Protestants who presented a compelling argument. However, they must apply the statute as it reads, and conditions will be imposed to insure that all requirements are complied with.

- The Board addressed the ALJ Opinion and its limit of the solar array field to 13 acres. The Board noted that the Protestants entered the ALJ Opinion as an Exhibit. The Petitioners are requesting a 16.71 acre solar array. It was again noted that appeals of zoning decisions to the Board are heard *de novo*. There is nothing which imposes a limitation on acreage, only a limitation on Mega Watt.

- There was discussion about Bluefin Origination 2 LLC being a "shell" company and concern about who to contact in the event of an emergency. The Board will impose a condition requiring direct contact information be posted on the fence or another location in the event of an emergency.

- One Board Member briefly discussed the testimony of Lynne Jones, who filed Rule 8 papers to speak on behalf of the Sparks-Glenco Community Planning Council. The subject property is not located within the boundaries of the Planning Council, and the personal residence of Lynne Jones is located 6-7 miles away. The Member wished an objection would have been made sooner to her testimony.

CONCLUSION: After thorough review of the facts, testimony, and law in the matter, the Board unanimously agreed to GRANT the Petition for Special Exception with conditions imposed.

NOTE: These minutes, which will become part of the case file, are intended to indicate for the record that a public deliberation took place on the above date regarding this matter. The Board's final decision and the facts and findings thereto will be set out in the written Opinion and Order to be issued by the Board.

Respectfully Submitted,

Tammy A. Zahner

BOARD OF APPEALS OF BALTIMORE COUNTY
MINUTES OF DELIBERATION

IN THE MATTER OF: David Williams Mathews – Legal Owner 17-108-X
Bluefin Origination 2 LLC – Lessee

DATE: January 24, 2019

BOARD/PANEL: Maureen E. Murphy, Panel Chairman
Andrew M. Belt
William A. McComas

RECORDED BY: Tammy A. Zahner, Legal Secretary

PURPOSE: To deliberate the following:

1. Petition for Special Exception pursuant to BCZR § 4E-102 to operate a solar facility on approximately 16.71 acres of the subject property.

PANEL MEMBERS DISCUSSED THE FOLLOWING:

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  D) There will be no population increase as a result of the solar array, and according will not overcrowd land or cause an undue concentration of population.

E) The Board noted there was testimony that if water is needed, it will be brought in by truck to the property. The Board found the project will not have an impact on schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements.

F) The Board noted that the height will not exceed 20 ft., and there will be no glare or impact from the sun on neighboring homes.

G) The Board noted that County Council Bill 37-17 permits solar facilities in the RC2 zone as long as it meets the special exception requirements. There was a lot of testimony about land use and the importance of farmland and the RC2 zone to the County. However, there is no requirement that farm land must be farmed. It was also noted that the Planning Board recommendations were submitted to the County Council for review but were not part of the Bill.

H) There was testimony that there will be no grading or clearing of land. The solar array will not be located in the buffer area, and there will be vegetative screening. The soil will not be changed, and if the solar array is removed the property can be farmed again. The Board found the proposal is consistent with the impermeable surface and vegetative retention provisions of the Zoning Regulations.

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CONCLUSION: After thorough review of the facts, testimony, and law in the matter, the Board unanimously agreed to GRANT the Petition for Special Exception with conditions imposed.

NOTE: These minutes, which will become part of the case file, are intended to indicate for the record that a public deliberation took place on the above date regarding this matter. The Board's final decision and the facts and findings thereto will be set out in the written Opinion and Order to be issued by the Board.

Respectfully Submitted,

/s
Tammy A. Zahner

RECEIVED
DEC - 7 2018
BALTIMORE COUNTY
BOARD OF APPEALS

RE:	PETITION FOR SPECIAL EXCEPTION 20450 Middletown Road; SW/S Middletown Road, 30' SE Flintstone Road 6th Election & 3rd Councilmanic Districts Legal Owner(s): David William Matthews Contract Purchaser(s): Bluefin Origination 2 LLC (and/or Bluefin Solar LLC) Petitioner(s)	*	BEFORE THE BOARD OF APPEALS FOR BALTIMORE COUNTY 2017-108-X

* * * * * * * * * * * * *

PEOPLE'S COUNSEL FOR BALTIMORE COUNTY'S POST HEARING MEMORANDUM

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RE:	PETITION FOR SPECIAL EXCEPTION 20450 Middletown Road; SW/S Middletown Road, 30' SE Flintstone Road 6th Election & 3rd Councilmanic Districts Legal Owner(s): David William Matthews Contract Purchaser(s): Bluefin Origination 2 LLC (and/or Bluefin Solar LLC) Petitioner(s)	*	BEFORE THE BOARD OF APPEALS FOR BALTIMORE COUNTY 2017-108-X

* * * * * * * * * * * * *

PEOPLE'S COUNSEL FOR BALTIMORE COUNTY'S POST HEARING MEMORANDUM

People's Counsel for Baltimore County submits this post hearing memorandum:

Introduction

This solar facility special exception zoning case involves property at 20450 Middletown Road in the northern Freeland area Resource Conservation Zone. Petitioners David Matthews (White Hall, Maryland) and Bluefin Solar, LLC (Bethesda, Maryland) filed a petition on October 17, 2016. There was subsequently an amended petition by Matthews and Bluefin Origination 2 (Santa Monica, California).

This *de novo* appeal follows Administrative Law Judge (ALJ) John Beverungen's January 22, 2018 conditional approval. Appellants are Freeland Legacy Alliance and 29 area citizens, including adjacent neighbors.

The County Council enacted Bill 37-17 to govern land use of community solar facilities, limited to 2 megawatts of electricity. P.C. Exh.1. The law is now codified in Baltimore County Zoning Regulation (BCZR). Article 4F. App. 15.The Bill permits solar facilities by special exception in the R.C. 2 through R.C. 8 Zones and Business and Manufacturing Zones. BCZR Sec. 4F-102.A.1. This brings into play special exception standards delineated in BCZR Sec. 502.1. App. 18. The solar facility law also adds area and other standards. BCZR Secs. 4F-102.B, 4F-104.

This is the first of many solar facility cases to reach decision stage at the County Board of Appeals (CBA). There have emerged issues of statutory construction which are integral to the special exception issues. This case is of great public interest.

The Parties: Petitioners and Protestant/Appellants

Petitioner David Matthews owns the property. He did not testify. Bluefin Origination 2 (Bluefin 2) is a corporation formed by Cypress Creek Renewables for Maryland projects. Parker Sloan described the structure. He operates out of their North Carolina regional office as Zoning and Outreach Manager. Pet. Exh. 1. The facility would be monitored remotely. But Bluefin 2 appears to be a Maryland shell corporation. There is to be a lease between Matthews and Bluefin 2. But they did not produce a lease or any other agreement. The Cypress Creek/Bluefin structure presents issues as to the Bluefin shell's ability to function and responsibility generally.

For Appellants, Lynne Jones testified individually and as Sparks-Glencoe Community Council (SGCC) President. (Prot. Exh. 7-8). Kathleen Pieper did likewise for herself and for the North County Community Group (NCCG) (Prot. Exh. 23). Adjacent resident Jeanne Bowman provided helpful testimony on a number of issues.

Petitioners elicited that Ms. Jones and Ms. Pieper live miles away from the site; and the SGCC boundary is to the south. The property is within the NCCG boundaries.

It should be kept in mind must that there are "... liberal standards under Maryland law for party status at an administrative hearing." Dorsey v. Bethel A.M.E. Church 375 Md. 59, 72 (2003). It is settled that anyone expressing an interest may properly be a party, absent a specific rule to the contrary. The gist is that "... the format for proceedings before administrative agencies is intentionally designed to be informal so as to encourage citizen participation ...." Ibid. There is no County rule which precludes or limits any interested party from participating here based on their distance from the site.

Moreover, protestants have legitimate and logical interests. This case has implications for solar facility special exception cases across the expansive R.C. 2 Zone and other R.C. Zones. The GIS Map shows the R.C. 2 Zone occupies 139,053 acres and spans the SGCC and NCCG areas. P.C. Exh. 8. As stated in Pattey v. Board of County Comm'rs 271 Md. 352, 363 (1974),

> "... the "concept of a 'neighborhood' is a flexible one and will vary according to the geographical location involved, it being axiomatic that in rural or semi-rural areas, ... the 'neighborhood' will be larger and more fluid than in a city or suburban area."

People's Counsel's Role in Land Use Cases

People's Counsel for Baltimore County appears in zoning cases to defend the comprehensive zoning maps and master plan in the public interest. Baltimore County Charter Sec. 524.1. App. 1. The office's function extends broadly to zoning and related cases, including special hearings and development cases with zoning issues.

In 1974, the citizens of Baltimore County approved the charter office to defend the comprehensive zoning maps. Bill 61-74, voted November 5, 1974. A 1978 amendment added defense of the master plan. Bill 90-78, voted November 7, 1978. As it now reads, Section 524.1(a)(3)A, states in pertinent part,

> "***Powers and duties.*** **The People's Counsel shall have the following powers and duties:**
>
> **He shall appear as a party before the zoning commissioner of Baltimore County,** his deputy, the county board of appeals, the planning board**,** and the courts **on behalf of the interests of the public in general to defend any duly enacted master plan and/or comprehensive zoning maps as adopted by the county council, and** in any matter or proceeding now pending or hereafter brought involving zoning reclassification and/or variance from or special exception under the Baltimore County Zoning Regulations **as now or hereafter in force or effect, in which he may deem the public interest to be involved.**" (Emphasis supplied).

The office participates routinely in special exception cases. This includes recognition in reported opinions. See, People's Counsel v. Webster 65 Md. App. 694 (1986); People's Counsel v. Mangione 85 Md. App. 738 (1991); Umerley v. People's Counsel 108 Md. App. 497, cert. denied 342 Md. 584 (1996); Riffin v. People's Counsel 137 Md. App. 90, cert. denied 363 Md. 660 (2001); People's Counsel v. Country Ridge Shopping Center 144 Md. App. 580 (2002); Lucas v. People's Counsel 147 Md. App. 209 (2002), People's Counsel v. Loyola College 406 Md. 54 (2008); Attar v. DMS Tollgate 451 Md. 272 (2017). Numerous other cases concluded without judicial review. The Court of Appeals has also confirmed People's Counsel's authority to participate in special hearings to determine issues of law. People's Counsel v. Maryland Marine Mfg. Co. 316 Md. 491 (1989); Board of Child Care v. Harker 316 Md. 683 (1989). Later cases include Marzullo v. Kahl 366 Md. 158 (2001); Antwerpen v. Baltimore County 163 Md. App. 194 (2005) and People's Counsel v. Surina 400 Md. 662 (2007).

The Court of Appeals described the office's "broad charge to protect the public interest in zoning and related matters" in People's Counsel v. Crown Development Corp. 328 Md. 303 (1992). The case arose in a residential development proceeding which included a zoning issue on transfer of density. Judge McAuliffe wrote, 328 Md. at 317,

> "People's Counsel has been given a broad charge to protect the public interest in zoning and related matters. See Baltimore County Charter Sec. 524.1. Density regulation is an important part of the zoning process. West Mont. Assn. V. MNCP & P Com'n 309 Md. 183 (1987). Although participation in the development process may often be outside the intended ambit of People's Counsel's authority, where protection against a violation of a density regulation is involved, People's Counsel has a legitimate interest."

Sycamore Realty Co. v. People's Counsel 344 Md. 57 (1996) was a landmark development case on zoning estoppel. The current leading development case involving master plan defense is HNS Development v. People's Counsel 425 Md. 436 (2012).

The Primary Function of the Local Zoning Process for Land Use Review of Solar Facilities in the Community Solar Pilot Program: the Only Public Hearing

Maryland has set up a Community Solar Pilot Program for facilities producing up to 2 megawatts. The county solar facility law provides land use review for such facilities.

Maryland Public Utilities law governs the application process for generating stations. As explained in Board of County Commissioners v. Perennial Solar ___ Md. App. ___, 2018 WL 59983599 (2018), the large solar generating stations are subject exclusively to Public Service Commission land use review for Certificates of Convenience and Necessity. But the law exempts from such PSC review certain facilities, including those which produce less than 70 megawatts and serving the local utility. This explains how our local zoning process functions within the legislative scheme and BGE local program. This also means the special exception process here provides the only public hearing for land use review.

On the other end of the spectrum, Baltimore County has a development process. Procedurally, the present special exception zoning process is the only process here involving a public hearing. Petitioners mentioned the grant of a limited development exemption. The attached County record shows Development Review Committee approval of a "B-2 minor subdivision refinement" for construction of a solar facility. App. 46. The bilateral DRC process involves only internet notice and a relatively informal meeting, no hearing, no

citizen participatory rights, and no public notice of the decision. It is a mystery how any decision-maker could accept this solar facility as a "minor subdivision refinement." In any event, this limited exemption excuses the project from any additional or further development hearing. County Code Sec. 32-4-106(b).

The present special exception process is thus the one and only time for an opportunity for a public hearing where citizens to have an opportunity to be heard.

Setting the Scene

The Site, the Immediate Neighborhood, and Area of Interest

The geographic facts are not genuinely in dispute. The key questions comprise application and interpretation of special exception standards and the solar facility law.

The evidence includes GIS aerial photos of the property and neighborhood, including topography and property ownership configuration. (P.C. Exh. 6A, 6B, and 9). There are photos produced by Petitioners (Pet. Exh. 11A-U), and Protestants (Prot. Exh. 2, 3, 20). There is also a GIS map of the entire county, including a graphic delineation of the entire R.C. 2 Zone, which occupies 139,053 acres.

James Brewer prepared a detailed USDA Soil Survey of the property. P.C. Exh. 10. Kathleen Pieper also did a USDA website survey of soils configurations, both for a Northern Baltimore County (Freeland) 78,157 acre Area of Interest (Prot. Exh. 24, 29) and again for the property (Prot. Exh. 25-28).

Based on these exhibits, this is how we set the scene.

The subject property comprises 72.2 acres with about an 1100 feet width border on the southwest side of Middletown Road, a Master Plan designated scenic road. The property is split-zoned. It is listed as including R.C.2 (Agricultural), R.C. 4 (Watershed Protection), R.C. 5 (Rural-Residential) and R.C. 8 (Environmental Enhancement). But this is misleading. The relatively flat cropland bordering Middletown Road is zoned R.C. 2. BCZR Sec. 1A01, App. 3.This is where the 16.7 acre solar facility is proposed. The property narrows and slopes downward more steeply to the rear, a forested area with spring, stream, and/or wetland features. This area is zoned predominantly R.C. 8. BCZR Sec. 1A09. App. 9. The other two zones are nominal.

The GIS topography shows the elevation along Middletown Road at 790 feet above sea level. P.C. Exh. 9. The R.C. 2 Zone frontage slopes gently down to about 750-760 feet. To the rear, the forested R.C. 8 Zone slopes down more sharply to 650 feet.

The frontage includes 22.4 acres of prime farmland and 19.8 acres of farmland of statewide importance, adding up to 42.2 acres, or 58% of the property. The GdB, Glenelg Loam, 3-8% slopes, prime, occupy 15.9 acres dominating the plateau adjacent to Middletown Road. The GeC, Glenelg Channerry Loam, 8-15% slopes, statewide importance, occupy 10 acres surrounding the GdB. These and the other prime or statewide importance soils characterize the extensively utilized cropland at the front of the property. They have been in tenant farm use. In contrast, the soils in the R.C. 8 Zone forested area consist of silt loam and steep soils which are not prime farmland.

The immediate neighborhood is mainly a mix of R.C.2 (Agricultural), R.C. 4 (Watershed Protection) and R.C. 8 (Environmental Enhancement) Zones.

The area includes expansive open farmland to the northwest on the same side of Middletown Road (Greenland Farm and Tracey) and to the northeast, across Middletown Road (Mowell). There is forested farm property to the south (Freefollie Farms). Along the southeast border is Hereford Recreation property.

The Eklo Inn is at 20418 Middletown Road, bordering southeast. It stands by itself. There are several residences bordering to the northwest along Flintstone Road, including that of Jeanne Bowman, who testified, and her brother.

There is a modest commercial area zoned B.L. (Business-Local) a little over a third of a mile to the southeast with local businesses on both sides of Middletown Road. There are residences nearby along Keeney Mill Road and Becksleyville and Cotter Roads, respectively. Ibid.

In terms of size and scale, the farmland properties predominate. This is a very productive farm area. As the Planning Department reported, this is in an Agricultural Priority Preservation Area. It is also in a Targeted Ecological Area.

The larger North County/Freeland Area of Interest is more diverse. It comprises 78,157 acres. A review of the GIS Zone map (P.C. Exh. 8) shows it is predominantly in the

R.C. 2 Zone, as would be expected. But it is diverse as to soils. As Kathleen Pieper's USDA website survey showed (Prot. Exh. 24, 29), the area has roughly proportional area of prime farmland, farmland of statewide importance, and nonprime farmland, with nonprime occupying the plurality at 37%.

Ms. Pieper was even able to identify four specific locations without prime and productive soils, which otherwise looked like candidates for a solar facility. Prot. Exh. 35. They are all in the north county rural area.

Location of the Proposed Solar Facility

The proposed solar facility would occupy and span 16.7 acres fronting on Middletown Road. As shown both in Mr. Brewer's chart, P. C. Exh. 10, and zeroed in on Ms. Pieper's USDA map and chart, Prot. Exh, 26, these 16.7 acres consist of 10 acres of prime farmland (9.1 GdB, .9GdA) and 5.9 acres of statewide importance (4.0 GeC, 1.9 GhC). This means 15.9 acres of the 16.7 are either prime or of statewide importance. This translates to 95% of the key area. As Ms. Pieper's survey shows, Prot. Exh. 27-28, the frontal location blocks access to open farmland in back of the facility. The effect is to destroy the entire primary farm use.

Petitioners downplay the destruction of the farm as temporary and potentially remedied by future removal of the facility and restoration of the soils, but "temporary" translates to 25 years or more, and restoration is speculative.

The facility's location also disrupts the scenic character of the road. This cannot be alleviated or remedied by landscaping. It is also adjacent to or near the Flintstone Road residences to the west and Hereford Recreation property to the east. In addition, there are stormwater runoff issues involving the downhill slope in this Prettyboy Watershed area.

Uses Permitted by Right vs. Special Exception

Adverse Impacts Tolerated for Uses by Right Not Acceptable for Special Exceptions

Baltimore County tracks the traditional structure of comprehensive zoning with use, height, and area regulations. Village of Euclid v. Ambler Realty Co. 272 U.S. 365, 380 (1926). This is known as Euclidean Zoning. See Loyola College 406 Md. at 70.

There are provided for each zone an enumerated list of uses permitted by right and by special exception. Unless a use is affirmatively listed, it is prohibited. BCZR Sec. 102.1; Kowalski v. Lamar 25 Md. App. 493, 496-99 (1975); People's Counsel v. Surina 400 Md. 662, 688 (2007). Judge Rita Davidson elucidated the special exception concept and standards in Schultz v. Pritts 291 Md. 1 (1981), still a landmark opinion.

Schultz underlined the major differences between uses by right and special exception. A use permitted by right is permitted in the designated zone without a zoning hearing even if there are potential adverse impacts particular to the location and there is disharmony or incompatibility with the area's comprehensive zoning plan. But a special exception use must go to hearing and satisfy that there are no adverse impacts or disharmony particular to the location in the zone.

Many locations may be appropriate, but others inappropriate. The task is to differentiate or distinguish the appropriate and inappropriate, the concordant and discordant. This involves an integral evaluation of the proposed use, site, location, neighborhood, impacts, and legislative intent of the zone.

In each case, it is necessary to identify potential adverse impacts. If there are such impacts, then the next step is to evaluate whether they are above and beyond those likely at other locations. This does not require that the location be the worst in the zone, just that the impacts relate particularly to the location and not "inherent" throughout the zone. A classic "inherent" impact, i.e., not particular, would be the arguable depressing effect of a funeral home, which would occur similarly anywhere in the zone.

It is also necessary to identify the area's comprehensive zone plan, its character, and whether there is harmony or disharmony. To be sure, this involves judgment. The issue is sometimes clear and sometimes debatable.

Bill 37-17 designates solar facilities as special exception uses rather than uses permitted by right. This means some locations are inappropriate. Otherwise, the Council would have made them by right. The Bill's legislative findings, discussed below, confirm this distinction, highlighting the necessity to safeguard the County's agricultural land.

Prologue to Interpretation Maryland Special Exception Law

"Sometimes, in an acute situation, such as this, often what is right can take on multiple interpretations." Jared Cohen in the film Margin Call (2011)

Maryland special exception law has evolved for 65 years. There are a multitude of appellate cases. Yet the standards are complex and polychromatic, susceptible to different points of emphasis and interpretation. It is inevitable that parties will tend to take the slant which most favors the result they seek. It is our office's goal and responsibility to try to navigate the path of the law with accuracy and objectivity.

The contextual interpretation and application of special exception law here is so important that we will undertake to plumb the depths. In this first solar facility special exception case here, we ask the CBA panel's patience as we explore this subject yet again, but with the additional dimension of the solar facility law.

We discern special exception issues about prime and productive soils, scenic road and visual impact, and other environmental factors. There also arises a question about the excessive size of the facility based on the maximum limitation of acreage necessary to produce 2MW (AC) of electricity.

Genesis

Montgomery County v. Merlands 202 Md. 279, 290 (1953) begins this tale. The zoning board had treated the private club special exception like a variance, requiring proof of "urgent necessity." Judge Hall Hammond explained (pages 287-88) the different legislative intent for the special exception to,

> "... delegate to the Zoning Board a ***limited authority*** to permit enumerated uses which legislative body finds in effect ***prima facie*** properly residential, absent any fact or circumstance in a particular case which changes this ***presumptive finding***. The duties given the Board are to ***judge whether the neighboring properties and the general neighborhood would be adversely affected, and whether the use, in the particular case, is in harmony with the general purpose and intent of the zoning plan.*** " Emphasis supplied.

Judge Hammond went on to delineate the applicant's burden of proof,

> "The applicant for such a use need not show either practical difficulty, unnecessary hardship or great urgency, but only that the project is a private club and that it would be in general harmony with the zoning plan and would not adversely affect the neighboring properties and the general neighborhood." 202 Md. at 290.

Merlands did these notable things: 1) recognize the special exception; 2) articulate the adverse effect/zoning plan disharmony standards; 3) affirm applicant's burden of proof; and 4) differentiate the variance and its more onerous standards.

Merlands in Context and Subsequent Cases

Special Exception Scrutiny Not Perfunctory, Routine, or Semi-Automatic

Merlands' allusions to *"prima facie"* and "presumptive finding" functioned to distinguish special exceptions from variances. They did not relieve an applicant from the burden of proof. They did not signal a *carte blanche,* green light, or perfunctory review.

In the ensuing decades, with the Court of Appeals then taking appeals directly from the Circuit Court, there were a plethora of special exception opinions. These illustrated the application of the adverse impact/zoning disharmony standards.

Oursler v. Board of Zoning Appeals 204 Md. 397 (1954) came next, affirming restaurant grant, with conditions. The Court cited Merlands for the applicant's burden, called the use *prima facie* permitted, and sustained the conditional finding of no adverse effects. Erdman v. Board of Zoning Appeals 212 Md. 288 (1957) echoed this in affirming a gas station approval. But Dorsey Enterprises v. Shpak 219 Md. 16 (1959), affirmed denial of a junkyard – unsightliness, depreciation of property values ---, focusing on particular facts and the burden of proof. Likewise, Crowther v. Johnson 225 Md. 378 (1961) affirmed a trailer park denial, reviewing adverse impacts and the area, finding sufficient facts to support denial – departure from zoning plan, depreciation of property values.

In the 1960s, the Court continued to scrutinize adverse impacts based on the property and neighborhood geography: Montgomery County v. Mossburg 228 Md. 555 (1962), affirms restaurant grant with conditions; Bonhage v. Cruse 233 Md. 10 (1963), reverses convalescent home grant, inadequate access; Deen v. BGE 240 Md. 377 (1965), affirms transmission line grant; Bd. of Co. Comm'rs v. Luria 249 Md. 1 (1968), affirms gas station denial, failure to prove harmony with zoning plan; Brouillett v. Eudowood Shopping Plaza 249 Md. 606 (1968), affirms self-service carwash denial, failure to prove conformity with zoning plan, absence of adverse impacts; Neumann v. Mayor & City Council 251 Md. 92 (1968), affirms grant of apartment building medical office; Eger v. Stone 253 Md. 533

(1969), affirms offstreet parking denial, traffic congestion; Tauber v. County Bd. of Appeals 257 Md. 202 (1970), affirms offstreet parking denial, traffic access; City of Takoma Park v. County Board of Appeals 259 Md. 619 (1970), affirms home occupation (slipcovers, reupholstering furniture); Gerachis v. Montgomery Co. Board of Appeals 261 Md. 153 (1971), affirms medical clinic addition denial, traffic congestion, property values, incompatibility; Cason v. Bd. Of Co. Comm'rs 261 Md. 699 (1971), affirms conditions for sand and gravel pit approval; Prince George's County v. Meininger 264 Md. 148 (1972), affirms gas station denial, traffic, lack of need; Skipjack Cove Marina v. Bd. Of Co. Comm'rs 264 Md. 381 (1972), affirms conditions for marina/motel approval; Sembly v. County Bd. Of Appeals 269 Md. 177 (1973), affirms community building grant.

The above cases included 5 approvals, 4 approvals with conditions (two over applicant's objection), and 9 denials. The Court thus treated special exceptions as involving applicant's fair and normal burden of proof with careful, detailed scrutiny. The message here is that they are not semi-automatic but rather undergo careful scrutiny.

The Path to Schultz v. Pritts (1981)

The Standards Elaborated; Uses by Right and Special Exception Differentiated

The Court of Appeals decisions came less frequently with the inauguration of the Court of Special Appeals (CSA) and the advent of certiorari jurisdiction. Such cases as Rockville Fuel & Feed Co. v. Gaithersburg 257 Md. 183 (1970) and Turner v. Hammond 270 Md. 41 (1973) restated and applied both the Merlands presumption and the applicant's affirmative burden of proof.

In 1974, for the relatively new CSA, Judge Rita Davidson authored an important decision in Anderson v. Sawyer 23 Md. App. 612. This foreshadowed her landmark Court of Appeals opinion in Schultz v. Pritts 291 Md. 1 (1981). Both involved funeral homes in residential areas. Anderson dissected opposition testimony as not probative of adverse traffic and other impacts. Judge Davidson explained detail that an "inherent" adverse impact, regardless of location, could not justify denial, i.e. the "depressing" effect of a funeral home. Rather, the "particular" adverse effects must be above and beyond those likely to occur generally in the zone.

Judge Davidson explained that by designating a use permitted by right, the legislature is deemed to understand that there would be particular adverse impacts. But such impacts would not be acceptable for a special exception.

The Court had occasion to review and overrule Gowl v. Atlantic Richfield 27 Md. App. 410, 417-18 (1975). The CSA had held that if an applicant could show the special exception adverse impacts to be no worse than some use permitted by right, then it would be entitled to approval.

Judge Davidson rejected this purported equivalency and brought the focus back to a proper analysis of adverse impacts and zoning disharmony. This included her frequently quoted interpretation of special exception criteria, 291 Md. at 11,

> "This Court has frequently expressed the applicable standards for judicial review of the grant or denial of a special exception use. The special exception use is a part of the comprehensive zoning plan sharing the presumption that, as such, it is in the interest of the general welfare, and therefore, valid. The special exception use is a valid zoning mechanism that delegates to an administrative board a limited authority to allow enumerated uses which the legislature has determined to be permissible absent any fact or circumstance negating the presumption. The duties given the Board are to judge whether the neighboring properties in the general neighborhood would be adversely affected and whether the use in the particular case is in harmony with the general purpose and intent of the plan.
>
> Whereas, the applicant has the burden of adducing testimony which will show that his use meets the prescribed standards and requirements, he does not have the burden of establishing affirmatively that his proposed use would be a benefit to the community. If he shows to the satisfaction of the Board that the proposed use would be conducted without real detriment to the neighborhood and would not actually adversely affect the public interest, he has met his burden. The extent of any harm or disturbance to the neighboring area and uses is, of course, material. If the evidence makes the question of harm or disturbance or the question of the disruption of the harmony of the comprehensive plan of zoning fairly debatable, the matter is one for the Board to decide. But if there is no probative evidence of harm or disturbance in light of the nature of the zone involved or of factors causing disharmony to the operation of the comprehensive plan, a denial of an application for a special exception use is arbitrary, capricious, and illegal."

The "presumption" is thus not a free pass. Judge Davidson described the zoning board's "limited authority," its duty to judge adverse impact and harmony with the comprehensive zoning plan. She reminded that the burden of proof is on the applicant to satisfy the prescribed standards relating to detriment to the neighborhood and, significantly, the public interest. She proceeded to discuss various scenarios.

Because the CSA had applied an incorrect standard, the Court vacated its decision and remanded for further consideration, especially as to the disputed traffic access issue.

Then came Board of Co. Comm'rs v. Holbrook 314 Md. 210 (1988). The Court sustained denial of a special exception for a mobile home based on the particular adverse visual impact and depreciation of value of a single-family detached dwelling. Judge Cole wrote, "The Schultz test accords with the general standard for judicial review of the ruling of an administrative agency." 314 Md. at 218. The Court reviewed the facts and deferred to the zoning board's finding of particular adverse impacts. The Court described "countless locations in the zone" where there would be no such adverse impact.

Court of Special Appeals Cases: Mangione, Country Ridge, Lucas. All Denied

We pause to illustrate the CSA's application of Schultz criteria in three important Baltimore County cases where the appellate court sustained this CBA's denials of special exceptions: People's Counsel v. Mangione 85 Md. App. 738 (1991), People's Counsel v. Country Ridge Shopping Center 144 Md. App. 580 (2002) and Lucas v. People's Counsel 147 Md. App. 209 (2002). These cases involved, respectively, a convalescent home in a Lutherville residential zone; a pawnshop in an Essex business zone; and a helicopter landing area in a Greenspring Valley R.C. 2 agricultural zone. To make a long story short, this CBA focused on evidence of adverse impacts particular to the property and neighborhood. Such adverse effects were found, explicitly or by inference, above and beyond those likely to occur generally in the zone.

People's Counsel v. Loyola College: The Harry Potter Series "Sorting Hat" and Judge Joseph Murphy's Rules of Engagement

This brings us to People's Counsel v. Loyola College 406 Md. 54 (2008). Judge Glenn Harrell provided an encyclopedic 38-page discussion of special exception history and analysis. 406 Md. at 70-107. This CBA had approved a special exception for a retreat center in the R.C. 2 Zone. We argued the CBA had failed expressly to review the evidence relative to other sites we considered less problematic. Judge Harrell ultimately determined that such review is not necessarily required where the evidence indicates an absence of particular adverse effects or incompatibility with the area. He also observed that a zoning board could

find particular adverse effects inferentially without doing a comparative analysis based on an individualized review of the evidence.

Judge Harrell did not say that a comparative analysis is irrelevant or impermissible, just that it is not required under some circumstances. Remarkably, Judge Harrell compared special exception analysis to a Harry Potter "Sorting Hat," 406 Md. at 106,

> "In that sense, the legislature puts on its 'Sorting Hat,' and separates permitted uses, special exceptions and all other uses."

He added footnote 33,

> "In the Harry Potter series of books, the 'Sorting Hat' is a magical artifact that is used to determine which house [names omitted] first-year students at Hogwarts School of Wizardry and Witchcraft are to be assigned.'"

Judge Joseph Murphy added a very helpful concurring opinion. 406 Md. at. 107-10. He provided a concise primer for the rules of engagement, 406 Md. at 109-10,

> "It may be helpful to restate the rules of engagement in special exception litigation, and review how those rules were applied in the case at bar. Although it is of no real consequence whether we say that an applicant "is entitled to a special exception, *provided that,*" or that an applicant "is *not* entitled to a special exception, *unless,*" the applicant for a special exception bears both the burden of production and the burden of persuasion on the issue of whether the special exception should be granted. If the zoning authority is presented with evidence that generates a genuine question of fact as to whether the grant of a special exception would violate the applicable legislation and/or the requirements of *Schultz,* the applicant must persuade the zoning authority by a preponderance of the evidence that the special exception will conform to all applicable requirements.
>
> In the case at bar, the petitioners presented evidence that generated a genuine question of fact as to whether (1) an adverse "thermal" impact would result from stormwater ponds draining into a trout stream near the property, and (2) there would be an adverse "traffic impact" on the main public road used by persons traveling to and from the proposed Retreat Center. Respondent was not entitled to a special exception unless it persuaded the Board of Appeals that neither of those adverse impacts would result if the special exception was granted. The Board, applying the correct burden of persuasion, found in favor of respondent on both of these issues. Under the applicable standard of review, this Court must affirm the Board's decision."

Notably, all the parties provided substantive evidence about the traffic and environmental impacts. These were not deferred to the development process.

To be sure, the CBA has a fair amount of discretion to apply the law to the facts. As Judge Murphy observed in his rules of engagement, this must conform to the applicable legislation and the Schultz special exception criteria and be based on the evidence.

The Court recently issued Attar v. DMS Tollgate 451 Md. 272 (2017). The Court affirmed, as fairly debatable, this CBA's evidentiary finding and legal conclusion that the Owings Mills fuel service station/convenience store site did not pose sufficiently adverse traffic and stormwater management impacts to warrant denial.

The Solar Facility Law Special Exception, Agricultural Land, and Prime and Productive Soils

A key issue is the relevance and significance of agricultural lands with prime and productive soils to this R.C. 2 Zone special exception. Petitioners suggest they are irrelevant. We disagree.

Bill 37-17's statement of purpose includes, in pertinent part, BCZR Sec. 4F-101,

> "The purpose and intent of this article is to permit solar facilities **in parts of the rural and commercial areas** of the County by **special exception**, and to **balance the benefits of solar energy production with its potential impact upon the County's land use policies by ensuring sufficient safeguards are in place to protect the County's communities and its agricultural land, forests, waterways, and other natural resources.**

This statement of purpose alone should resolve any question as to the relevance of prime and productive soils. But there is much more.

While Bill 37-17 does not add any direct explicit references to soils, these are unnecessary and superfluous because the Bill incorporates special exception standards. As we show in the argument below, this includes BCZR 502.1.A, G, and I: health, safety and welfare of the locality; legislative intent and purpose of the zone, and impact on natural resources in the R.C. 2 Zone. Six of the seven R.C. 2 legislative findings refer to agricultural lands and/or prime and productive soils. BCZR Sec. 1A01.1.A. The legislative purpose is "... to foster conditions favorable to a continued agricultural use of the productive agricultural areas of Baltimore County ..." BCZR Sec. 1A01.1.B. In this context, the R.C. 2 has extraordinarily strong residential density restrictions, at 1 dwelling per 50 acres (2 dwellings between 2 and 100 acres, and 1 per 50 thereafter). BCZR Sec. 1A01.3.B.1.

Petitioners avoid the prime and productive soils issue. They resist even showing readily available soils information on their site plan. They appear to suggest that Bill 37-17 precludes review of the soils issue because it makes no direct mention of them.

They decontextualize. They distort the meaning of Bill 37-17. They assume that lack of a direct soils standard in the body of the bill precludes consideration. They cherry-pick this idea in isolation and disregard entirely Bill 37-17's statement of purpose and its incorporation by reference of the special exception standards, including the nexus to the R.C. 2 Zone legislative findings and purpose.

Statutory construction depends on context. This includes the principle that related provisions should be integrated so as to give function and meaning to each to the extent possible. Kaczorowski v. Baltimore, 309 Md. 505, 513-16 (1987) stated that legislation "... usually has some objective, goal, or purpose. It seeks to remedy some evil, to advance some interest, to attain some end." 309 Md., at 513. Judge Adkins wrote:

> "Moreover, despite Kaczorowski's pleas that we examine the trees so closely that we do not see the forest, the plain-meaning rule does not force us to read legislative provisions in rote fashion and in isolation. What we are engaged in is the divination of legislative purpose or goal... The 'meaning of the plainest language' is controlled by the context in which it appears." 309 Md., at 514.

He cited Justice Holmes' concept that "the general purpose is a more important aid than any rule which grammar or formal logic may lay down." *Ibid.*

Board of Physicians v. Mullan 381 Md. 157, 168 (2004) reiterated,

> "...we 'avoid constructions that are illogical, unreasonable, or inconsistent with common sense..., and instead interpret and harmonize statutes as a whole, giving meaning and effect to all parts of the statutory language and refraining from interpretations that render any part of a law surplusage or contradictory."

Legislation "... usually has some objective, goal, or purpose. It seeks to remedy some evil, to advance some interest, to attain some end."

Baltimore County Coalition Against Unfair Taxes v. Baltimore County, 321 Md. 184, 203-04 (1990) also explained the importance of context,

> "Thus, we have said that a statute must be construed in context, because the meaning of the 'plainest language may be governed by the context in which it appears.'... In this regard, words in a statute must be read in a way that advances the legislative policy involved. ... Courts may, therefore, consider not only the literal or usual meaning of those

On the other hand, where a petitioner proposes a deviation from these standards, there must be a request for special exception as well as variances. Umerley v. People's Counsel 108 Md. App. 497, cert. denied 342 Md. 584 (1996), trucking facility in manufacturing zone; Riffin v. People's Counsel 137 Md. App. 90, cert. denied 363 Md. 660 (2001), commercial recreation in manufacturing zone.

Otherwise stated, Petitioners here must satisfy each BCZR Sec. 502.1 special exception standard whether or not they satisfy the height, area, and other standards. Their repeated assertions that they comply with the detailed standards of BCZR Sec. 4F-104 does not translate to satisfaction of the independent special exception standards.

For example, as to scenic roads and viewsheds, Bill 37-17 requires screening in accordance with the Baltimore County Landscape Manual. BCZR 4F-104.A.6. This is a minimum standard. Even with landscaping, there still must be satisfaction of the BCZR Sec. 502.1 criteria concerning visual impact. Depending on location and situation, the landscaping may not be sufficient to prevent particular adverse impacts.

Land Use Breadth and Context: Master Plan, Zoning, and Development Their Integral Roles in the Special Exception Process

The master plan, zoning, and subdivision (i.e. development) regulations are three integral parts of adequate land planning. In Board of County Comm'rs v. Gaster 285 Md. 233, 246 (1979), Judge Marvin Smith instructed, 285 Md. at 249-50,

> "Subdivision regulations perhaps have a certain analogy to special exceptions to which the floating zone concept has been likened in this Court's discussion in such cases as Bigenho v. Montgomery County, 248 Md. 386, 391, 237 A.2d 53 (1968); Board v. Turf Valley, 247 Md. 556, 561-62, 233 A.2d 753 (1967); and Chatham Corp. v. Beltram, 243 Md. 138, 149-50, 220 A.2d 589 (1966). The county here has preordained by its subdivision regulations that one who seeks to cut up a larger tract by creating a subdivision must not disrupt the master plan and that the subdivision must be compatible with that master plan."

Similarly, a special exception must be in harmony with the comprehensive zoning plan. Otherwise stated, land use law generally, and the special exception especially, blend the master plan, zoning, and development law.

Judge Glenn Harrell subsequently revisited in depth the integral relationship between these land use elements People's Counsel v. Surina 400 Md. 662, 688-93 (2007). He explained that zoning and development controls are "intended to complement each other in

> words, but their meaning and effect in the context in which the words were used, and in light of the setting, the objectives, and purpose of the enactment. ... Moreover, in such circumstances, courts may consider the consequences that may result from one meaning rather than another, with real intent prevailing over literal intent."

The Court revisited statutory construction in Lipitz v. Hurwitz 435 Md. 273, 281-91 (2013); Blue v. Prince George's County 434 Md. 681, 689 (2013); In re Adoption of Tracy K 434 Md. 198, 206-07 (2013); and Bourgeois v. Live Nation 430 Md. 14, 26-28 (2013). The gist is to focus on statute in context, including structure, inter-related sections, parts, clauses, words, history and other relevant information.

Here, Bill 37-17 does not contain any language which excludes consideration of prime and productive soils, either literally or by implication. Rather, based on the express legislative intent and special exception designation in the R.C. 2 Zone, it definitively requires such consideration by reference to the related statutory criteria.

Differentiation of Special Exception Standards and Other Standards

The solar facility law is a recent special regulation. In every zone, and for every "special regulation" use, there are area and/or other specific standards. Such standards apply both to uses permitted by right and by special exception.

This is reflected in the many special regulations. A partial list includes Farm and Agricultural Operations, Sec. 404; Fuel Service Stations, Sec. 405; Junkyards, Sec. 408; Offstreet Parking, Sec. 409; Trucking Facilities, Sec. 410; Sanitary Landfills, Sec. 412; Wireless Telecommunications Facilities, Sec. 426; and Pawnshops, BCZR Sec. 436.

So, as is typical, Bill 37-17 adds height, area, and other standards. BCZR Sec. 4F-104. Even if such standards are satisfied, this does not displace or alleviate a petitioner's independent burden to satisfy the BCZR Sec. 502.1 special exception standards. It just means no variances are necessary. This is illustrated by People's Counsel v. Webster 65 Md. App. 694 (1986); People's Counsel v. Mangione 85 Md. App. 738 (1991), convalescent home in residential zone; People's Counsel v. Country Ridge Shopping Center 144 Md. App. 580 (2002), pawnshop in business zone; Lucas v. People's Counsel 147 Md. App. 209 (2002), helicopter landing area in agricultural zone, People's Counsel v. Loyola College 406 Md. 54 (2008), retreat center in agricultural zone.

terms of the safety, health, and general welfare of the community at large." They "... serve additional common [land use] objectives ..." 400 Md. at 689. He quoted Wesley Chapel Bluemount Ass'n v. Baltimore County 347 Md. 125, 129 (1997) to illustrate that these complementary land use controls "... to some extent, coalesce, in that they are all designed to assure that land development occurs in a manner that is consistent with overall legislative policy and community welfare." 400 Md. at 690.

Baltimore County includes zoning and development law in both the Zoning Regulations (BCZR) and the County Code, primarily Article 32. BCZR Sec. 600 illuminates the integral relationship. This provides, in essence, that the zoning regulations are minimum land and building use requirements. App. 18. Correlatively, any other laws, ordinances, or regulations which impose higher standards must also be satisfied.

Moreover, Bill 37-17 links zoning to development law in BCZR Sec. 4F-104.A.9. This requires the applicant to comply with County Code Sec. 33-3-108, "Plan Information," under Article 33, Title 3, "Protection of Water Quality, Streams, Wetland, and Floodplains." App. 19. This includes multiple environmental elements, including streams, springs, wetlands, soils, slopes, species habitat, and stormwater management, Other requirements of Sec. 4F-104 blend zoning/development requirements, such as for easements, historic districts, conservancy areas, landscaping, and lighting.

In sum, zoning and development law are linked both conceptually and specifically under BCZR Sec. 600 and Article 4F, Sec. 4F-104. App. 15.

Baltimore County Master Plan 2020 also plays a role. Baltimore County Charter Sec. 523 (1978) sets the stage, App. 1:

> "Sec. 523. - The master plan and the zoning maps.
>
> (a) *Definition and implementation of the master plan.* The master plan shall be a composite of mapped and written proposals setting forth comprehensive objectives, policies and standards to serve as a guide for the development of the county. Upon receipt of the master plan from the office of planning and zoning, the county council shall accept or modify and then adopt it by resolution.
>
> (b) *Definition and implementation of the zoning maps.* The zoning maps shall show the boundaries of the proposed districts, divisions and zones into which the county is to be divided consistent with the master plan. Upon receipt of the zoning map from the office of planning and zoning, the county council shall accept or modify and then adopt it by legislative act.

The Court of Appeals has recognized the master plan as advisory in zoning matters. Nottingham Village v. Baltimore County 266 Md. 339, 353-55 (1972). In HNS Development v. People's Counsel 425 Md. 436, 457-58 (2012), quoting Mayor & City Council v. Rylyns Enterprises 372 Md. 514, 530 (2002), Judge Harrell explained that master plans are guides, but not mandatory or "regulatory" unless there is a statutory mandate, such as in this County's development law.

Comment: Expert and Lay Opinions

During the course of the hearing, there have arisen the comparative functions of expert and lay testimony. Petitioners have placed emphasis especially on expert landscape planner David Martin. It is common in zoning cases for petitioners to bring in consultants whose work includes processing of zoning plans and the rendering of mixed factual/legal opinions. Protestants more often produce lay witnesses and opinions. It appears helpful to put these in perspective.

For every expert opinion, there must be a valid factual and legal basis. This is a frequent problem in zoning cases, where expert opinions tend to be highly subjective.

In People's Counsel v. Beachwood 107 Md. App. 627, 649-50 (1995), cert. denied 342 Md. 472 (1996), the Court rejected a series of planning opinions, coincidentally by David Martin. Judge Charles Moylan wrote,

> "A part of that *Boyce v. Sembly* opinion, ... not yet discussed in this opinion, and quoted with approval by the *Dorsey* opinion, observed,
>
> > The Court of Appeals and this Court have stated than an opinion, even that of an expert, is not evidence strong or substantial enough to show some error in the comprehensive rezoning unless the reasons given by the witness as the basis for his opinion, or other supporting facts relied on by him, are themselves substantial and strong enough to do so. ..." Internal citations omitted.

This applies here. We shall show that Martin's favorable opinions are inadequate. Ironically, the best expert evidence came from James Brewer's soil survey.

In zoning cases, moreover, area citizens often have knowledge and experience which puts them in a better position than so-called experts to depict the neighborhood and its

characteristics. Inevitably, their observations mix coalesce with opinions concerning the relevant adverse impacts and the function or intent of the zone in the locality.

To illustrate, Eger v. Stone 253 Md. 533, 540-43 (1969) involved a special exception for offstreet parking in a rural-residential zone to serve an adjacent shopping center. The Court held admissible the testimony of area resident Irma Raker. She did a traffic investigation of the frequency of accidents. She presented a detailed list for the key intersection. The Court found her lay research and opinion legitimately contributed to the denial. It was also recognized that hearsay evidence is admissible. Tauber v. County Board of Appeals 257 Md. 202, 213 (1970) elaborated,

> "The applicants also urge that some of the evidence produced by the protestants was 'hearsay' and not entitled to weight in overcoming the opinion and testimony of their traffic expert, but as we stated in Eger v. Stone, *supra,*
>
> > 'We have recently decided, however, that not only is hearsay evidence admissible in administrative proceedings in contested cases but that such evidence, if credible and of sufficient probative force, may indeed be the sole basis for the decision of the administrative body. ...."

In the present case, along the same lines, Protestants produced much helpful opinion testimony. Jeanne Bowman described the property and area, including opinions on the adverse visual impacts and environmental situation. She emphasized that the solar facility will occupy the high ground. This is confirmed by the GIS topography. She also identified the Dykes Creak, a spring, and wetland features as the property slopes more sharply to the rear. Ms. Bowman also confirmed the accuracy of the ADC Street Atlas. P.C. Exh. 4. This facilitates differentiation of scenic roads from those not so designated.

As noted, Kathleen Pieper produced remarkable additional and corroborative testimony about the prime and productive soils. She did this for the property. She zoomed in on the location of the solar facility. She also zoomed out for a large surrounding area of interest. Prot. Exh. 24-28. Her unique background combining engineering and farming added a level of knowledge over and above the usual lay witness. This put her in an even stronger position than that of Ms. Raker in the Eger case.

Ms. Pieper derived her testimony in large part from USDA website sources. Such government website evidence is admissible even under the more exacting federal

evidentiary rules. Williams v. Long 585 F. Supp. 2d 679, 690-91 (D. Md. 2008); Shantillo v. Aramark Healthcare Support Services 2011 WL 3651048 (D. Md. 2011); United States v. DeNius 330 F. 3d 919, 925-26 (7th Cir. 2003).

John Altmeyer added a mix of expert and lay evidence, reviewing the slopes on the property, including slopes up to 17% even where the solar facility is proposed. He reviewed potential stormwater management scenarios. This is discussed in more detail in Protestants' memorandum. His supervisory experience with Baltimore County relating to building inspections contributed to his expertise.

Argument

"And therefore never send to know for whom the bell tolls; "It tolls for thee."
John Donne, No Man Is an Island (1624)

The R.C. 2 Zone theme is that each agricultural property is part of an integrated network or web of agricultural land. Therefore, the scope of impacts is broad. It includes the property and the surrounding area. The USDA frames areas of interest. John Donne's poem conveys our connectedness in the world. This resonates in our analysis here of the impacts on agricultural lands, scenic roads, and the environment.

I. The Proposed Solar Facility Produces Particular Adverse Effects and Disharmony with the Comprehensive Zone Because of the Impact on Agricultural Preservation and Prime and Productive Soils

Statement of Facts

In our introductory section setting the scene, we described and charted the zoning, geography, land uses, and soil maps and types for the property, the neighborhood and the north county area of interest. We have also focused on the area of the proposed solar facility. With this background, we turn to the positions of the parties.

Petitioners paid no attention to the prime and productive soils. They suggested the soils do not matter. Parker Sloan, the Cypress Creek representative, conceded that they played no part in site selection. David Martin resisted providing even basic soils information. Anyway, he is a landscape planner. He is not an expert on soils. He is aware, as are many people, that the USDA National Resources Conservation Service is the agency with expertise and responsibility in this field.

Our office views the soils issue as perhaps the most important public interest issue for an R.C. 2 Zone special exception. We have already referred to NRCS Soils Scientist James Brewer's 55-page Custom Soil Resource Report and its findings. P.C. Exh. 10. To make a long story short, he concluded in his October 2, 2018 cover letter,

> **"The Glenelg soils found on the site are considered Prime Farmland soils (GdA, GdB, and GhB) and statewide importance soils (GaC, GhC). Also the Brinklow soil found in the BhC map is considered a statewide importance soil. As stated in the report document (page 28) these soils are best suited to food, feed, fiber, forage, and oilseed crops. The Glenelg and Glenville soils have some of the highest ratings for crop productivity on the site (page 41)."**

The report included soil descriptions, aerial maps and legends, and explanatory charts, tables, and breakdowns. These are provided for the Soil Map (9-11), Farmland Classification (29-32), Hydric Ratings (34-36), National Commodity Crop Productivity (39-41), and Drainage Class (44-46). As noted, his data reveals 95% of the soils covered by the proposed solar facility are prime and productive or of statewide importance.

Kathleen Pieper's USDA website survey testimony and exhibits corroborated Mr. Brewer's report. Prot. Exh. 25-26. She showed, moreover, that the solar facility would block access to the remaining cropland to the rear. Prot. Exh. 27-28. This showed that placement of the facility would effectively eviscerate farming on the entire property.

As also noted, she assembled USDA NRCS website data for a North County area of interest. Prot. Exh. 24. This confirms the diversity of soil types, with prime and statewide importance soils combining for 63%, but a 37% plurality as non-prime. Again, the GIS county map shows most of the Freeland area is zoned R.C. 2. P.C. Exh. 8.

Ms. Pieper was even able to identify four specific locations without prime and productive soils, which otherwise looked reasonably like candidates for a solar facility. Prot. Exh. 35. They are all in the north county rural area.

As we also noted, Ms. Pieper showed that placement of the facility would essentially displace and block the entire farm. This is a tenant farm; Matthews lives elsewhere, in White Hall. This would not only destroy tenant farming here, but also likely discourage tenant farmers in the area because of concern that the area was becoming more commercial and/or that other owners would decide to shift to solar facilities or other commercial uses.

Lynne Jones also produced observations, documents and photographs, including Master Plan 2020 excerpts, and maps of the Agricultural Priority Preservation Areas and Targeted Ecological Areas. Prot. Exh. 7-20.

Analysis

To facilitate review, we quote BCZR Sec. 502.1 and the prefatory Note, App.18.

"NOTE: Certain types of uses are required to secure a permit to allow them to be placed in one or more zones in which their uncontrolled occurrence might cause unsatisfactory results of one kind or another. A few uses, such as dumps and junkyards, are inherently so objectionable as to make extra regulations and controls advisable even in the M.H. Zone, to which they are restricted. Others, like a cemetery, do not fit into any of the zone categories, that is, residential, business and industrial, and therefore must be located with discrimination in relation to their surroundings. All the items listed are proper uses of land, but have certain aspects which call for special consideration of each proposal. Because under certain conditions they could be detrimental to the health, safety or general welfare of the public, the uses listed as special exceptions are permitted only if granted by the Zoning Commissioner, and subject to an appeal to the County Board of Appeals.

In granting any special exception, the Zoning Commissioner and the County Board of Appeals, upon appeal, shall be governed by the following principles and conditions.

§ 502.1. - Conditions determining granting of special exception.

Before any special exception may be granted, it must appear that the use for which the special exception is requested will not:

A. Be detrimental to the health, safety or general welfare of the locality involved;
B. Tend to create congestion in roads, streets or alleys therein;
C. Create a potential hazard from fire, panic or other danger;
D. Tend to overcrowd land and cause undue concentration of population;
E. Interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements;
F. Interfere with adequate light and air; [Bill No. 45-1982]
G. Be inconsistent with the purposes of the property's zoning classification nor in any other way inconsistent with the spirit and intent of these Zoning Regulations; [Bill No. 45-1982]
H. Be inconsistent with the impermeable surface and vegetative retention provisions of these Zoning Regulations; nor [Bill No. 45-1982]
I. Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5 or R.C.7 Zone, and for consideration of a solar facility use under Article 4F, the inclusion of the R.C. 3, R.C. 6, and R.C. 8 Zones."

We focus first on BCZR Sec. 502.1.G, as to whether the use will:

"G. Be inconsistent with the purposes of the property's zoning classification nor in any other way inconsistent with the spirit and intent of these Zoning Regulations; [Bill No. 45-1982]"

The Baltimore County Council established the initial Resource Conservation Zones in 1975: R.C. 2, R.C. 3, R.C. 4, and R.C. 5, Bill 98-75. BCZR Sec. 1A00 provides "General Provisions for All R.C. Classifications." BCZR Sec. 1A00.1 sets forth the Findings. Among other things, BCZR Sec. 1A00.1.F refers to the cost of development which involves "the consumption and use of prime agricultural land ..." Sec. 1A00.2 sets forth the Purposes. This includes BCZR Sec. 1A00.2.C:

"C. Protect both natural and man-made resources from compromising effects of specific forms and densities of development"

For the R.C. 2 Zone, BCZR Sec. 1A01, subsection 1A01.1.A provides the Legislative statement of findings, App. 3.:

"A. Legislative statement of findings.

1. Declaration of findings. It is found:

a. That Baltimore County is fortunate in that it is endowed with a variety of very productive agricultural soil types which should not be lost unnecessarily to urbanized development;

b. That the agricultural industry is an integral part of the Baltimore economy and that a continued conversion of agricultural land will continue to undermine this basic industry;

c. That scattered development is occurring in a sporadic fashion in areas of Baltimore County containing productive agricultural land;

d. That continued urban intrusion into productive agricultural areas not only destroys the specific area upon which the development occurs but is incompatible with the agricultural use of the surrounding area;

e. That heretofore Baltimore County has been unable to effectively stem the tide of new residential subdivisions in productive agricultural areas of Baltimore County;

f. That Baltimore County has certain wetlands along Chesapeake Bay and its tributaries which serve as breeding grounds and nursery areas for the bay's biotic life; and

g. That Baltimore County possesses numerous areas which are highly suitable for urban development, including residential subdivisions which are not located in areas of productive agricultural land."

Six of these seven findings refer to preservation and protection from loss of "very productive agricultural soil types," "agricultural industry" and "agricultural land," "productive agricultural land," and "productive agricultural areas." They intend to protect such areas from scattered suburban and commercial uses.

There follow the purposes. BCZR Sec. 1A01.1.B:

> "B. Purposes. The R.C.2 zoning classification is established pursuant to the legislative findings above in order to foster conditions favorable to a continued agricultural use of the productive agricultural areas of Baltimore County by preventing incompatible forms and degrees of urban uses."

These findings and purposes have remained intact since 1975.

To repeat, the Bill 37-17 Statement of Purpose recognizes the special exception as a vehicle to protect agricultural lands. BCZR Sec, 4F-101. The text refers to Code Sec. 33-3-108, which requires that the plan include "Soils mapped and labeled in accordance with the soil survey of the county."

Master Plan 2020 reinforces these legislative statements in its section on Rural Communities. Pages 91-102. App. 20. This includes the establishment of Agricultural Priority Preservation Areas. Pages 92-93. It is stated,

> "Despite the diligent efforts to maintain and expand the agricultural zoning, incremental development continues to threaten the protection of resources and the viability of the agricultural industry."

Consideration of prime and productive soils is thus a central inquiry in an R.C. 2 Zone special exception case, both with respect to the subject property and the integral relationship with the surrounding agricultural area. This includes preservation of the critical mass of properties to sustain the agricultural industry.

The undisputed facts show that this solar facility is so situated as to destroy this sizable prime farmland. Nor is it an excuse that the destruction will be "temporary" and remediable in generations to come. Petitioners have failed to meet their burden to satisfy the legislative intent of the zone and the facts show they could not meet it if they tried.

In turn, the inquiry under BCZR Sec. 502.1.I is whether the use will:

> "I. Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5 or R.C.7 Zone, and for consideration of a solar facility use under Article 4F, the inclusion of the R.C. 3, R.C. 6, and R.C. 8 Zones. [Bill Nos. 74-2000; 37-2017]"

The prime and productive soils and soils of statewide importance are logically the most important R.C. 2 Zone environmental and natural resources targeted by this subsection. This also shows the scope of review includes the site and surrounding vicinity.

David Martin suggested this subsection does not cover soils because they are not explicitly identified in the list of several areas described in the section. We disagree.

It is axiomatic linguistically that prime and productive soils are natural resources. To illustrate, the United Nations Food and Agriculture Organization recognizes it as a finite non-renewable resource. www.fao.org.soils. App. 27.

> "It is therefore a highly valuable natural resource, yet it is often overlooked. The natural area of productive soils is limited – it is under increasing pressure of intensification ...."

As stated at soil-net.com, "Soil is one of the world's most important natural resources." App. 29. A basic Google search for soil as a natural resource brings up multiple worldwide links. App. 30. We also append a comprehensive article by the Swiss Confederation, "Soil – A Precious Natural Resource." App. 35.

Furthermore, the placement of the word "including" prior to "forests, streams, wetland, aquifers and floodplains" does not express or imply the exclusivity of these listed resources. It is not exclusive either literally or in the R.C. 2 Zone context.

To confirm and verify this point, Judge Alan Wilner wrote in Housing Authority v. Bennett 359 Md. 356, 371 (2000):

> "Although this Court has stated that "'[o]rdinarily, the word "including" means comprising by illustration and not by way of limitation,' " *State v. Wiegmann,* 350 Md. 585, 593, 714 A.2d 841, 845 (1998), quoting *Group Health Ass'n v. Blumenthal,* 295 Md. 104, 111, 453 A.2d 1198, 1203 (1983), we have also recognized that, "[w]hile 'include' or 'including' may introduce illustrations of a general term, the words also may signal an expansion in meaning of previous language." *Pacific Indem. v. Interstate Fire & Cas.,* 302 Md. 383, 396, 488 A.2d 486, 492 (1985).

In Wiegmann, Judge Dale Cathell had prefaced the above quote, 350 Md. at 593,

> "In construing the rule here, we are mindful of the principle that the expression of one thing is generally the exclusion of another. *Long,* 343 Md. at 666, 684 A.2d 445; *Leppo,* 330 Md. at 423, 624 A.2d 539. On the other hand, the use of the word "including" suggests that the seven enumerated powers are not exclusive."

Contextually, it is apparent here from the name of the zone, legislative findings, and legislative purpose, that preservation of prime and productive soils is critical to environmental and natural resources protection in the Agricultural Zone. The Council likely added forests, streams, wetlands, aquifers and floodplains to make sure these additional

areas were not excluded. Once again, Petitioners have failed to meet their burden, and the undisputed facts show the major detriment to these prime natural resources.

In addition, BCZR Sec. 502.1.A compels review whether the use will:

"Be detrimental to the health, safety, or general welfare of the locality involved."

The "health, safety, or general welfare" clause translates to the state and local police power. This is an essential function of government and is construed broadly. This is illustrated by the landmark comprehensive zoning decision in Village of Euclid v. Ambler Realty Co. 272 U.S. 365 (1926). The Court of Appeals has confirmed the police power extends to natural resources and the environment. Potomac Sand and Gravel Co. v. Governor 266 Md. 358, 370-75 (1972); Mayor and City Council of Annapolis v. Annapolis Waterfront Co. 284 Md. 383 (1979).

While the locality in special exception cases usually focuses on the surrounding area, the locality here contextually encompasses the site as well. To repeat, the R.C. 2 Zone legislative findings and purpose target protection of agricultural land and prime and productive soils in an integrated way. As we have also seen, the added R.C. 2 special exception standard in BCZR Sec. 502.1 explicitly includes the site.

Ruark v. Engineers Union 157 Md. 576, (1929) interpreted "locality" as follows:

> "While "locality" is a word of relative meaning, its context commonly determines its meaning . . . .
>
> * * *
>
> Thus it appears that the word "locality" has a place in important and enforced legislation; and, whatever may be the scope of its varying significance, its meaning in a particular statute is susceptible of being determined from the context, since the words of a statute are to be understood in the sense in which they best harmonize with the subject of the enactment and the object which the Legislature had in view. Endlich on the Interpretation of Statutes, § 73. When so read, it is quite evident that, in the statute before the court, "locality" imports the area which embraces, not only the actual site where the public work is to be performed, but also such adjoining territory within which there then prevails a current rate of daily wages for the particular work to be done. In other words, "locality" defines a region, with the public undertaking as an axis or focal point, throughout which region the daily wage of the particular class to which the worker belongs is uniform."

The proposed location thus produces a particular adverse impact on agriculture and disharmony with the R.C. 2 zone at the site and locality. Petitioners failed to meet their affirmative burden of proof and tried unconvincingly to claim there was no issue.

Once again, even though it is not our burden, we have respected the public interest and showed that this site is a particularly prime and productive agricultural site. There is no doubt that the proposed facility would be detrimental to the health, safety, and welfare of the locality. There is also disharmony with the comprehensive zone.

Piercing the Veil: The Threat Not to Farm the Property

Petitioners repeatedly assert and virtually threaten that no one can be forced to farm their property. This does not tell us anything about the proposed use, its particular impacts at the chosen location, and harmony or disharmony with the comprehensive zone plan. A petitioner for any special exception could assert they will do nothing with their property if they don't get their special exception. This sort of threat is irrelevant and offensive legally and factually.

Furthermore, this prime farm property has been cultivated for many years. If this special exception is denied, it would be irrational, counterproductive, and indeed self-spiting for Mr. Matthews to forego income available from continuing to lease the prime farm property.

II. The Proposed Solar Facility Produces Particular Adverse Effects on the Site and Area and Disharmony with the Comprehensive Zone Because of the Impact on Scenic Roads and Viewsheds and on the Neighborhood

Statement of Facts

Middletown Road is a scenic road. David Martin produced the Master Plan 2020 Scenic Roads Map. Pet. Exh. 8. Martin downplayed it with the excuse that most roads in the north county are scenic roads. Later, he revised this to say that most "major" roads are scenic. His further excuse was that the location is not also in a scenic "viewshed.".

To provide context, our office produced and surveyed the ADC Street Atlas for the north county, including maps 13-16, 18-21, and 23-26, east-west from Harford County to Carroll County, north-south from the Pennsylvania line to Sparks. P.C. Exh. 4. Neighbor Jeanne Bowman happens to be an experienced bus driver, with also trucking experience. She verified the Street Atlas as a sort of bible, and it was admitted. We have undertaken to identify every road on these maps, other than cul de sacs and virtually *de minimis* roads. The survey is attached. App. 43. We found that about 80% of the roads are not designated as

scenic roads. Moreover, a scan of the maps shows that many of these roads are significant and well-known roads in the north county.

Analysis

The visual impact on neighbors is a relevant consideration in a special exception case. Board of County Comm'rs v. Holbrook 314 Md. 210 (1986); People's Counsel v. Mangione 85 Md. App. 738 (1991). Here, we have the additional particular issues of a designated scenic road. The situation presents a police power issue conflict with BCZR Sec. 502.1.A and a natural resource issue conflict under BCZR Sec. 502.1.I.

County Council Bill 121-01 has provided a broad definition for "*Scenic viewshed.*" It is codified in Code Sec. 32-4-101(uu):

> "*Scenic viewshed.*" 'Scenic viewshed' means a scenic route or scenic view as designated in the master plan."

There follows a definition of "Scenic viewshed elements," which refers to visual elements of such quality, character, and nature for the Planning Board to designated viewsheds (scenic routes or views) in the master plan. Code Sec. 32-4-101(vv).

Master Plan 2020 again comes into play. Pages 97-102. App. 20. For Scenic Corridors and Views, there is provided Policy Action (9),

> "(9) For properties along scenic routes or within scenic viewsheds, variances, amendments, and special exceptions should be granted sparingly."

While this statement by itself is advisory, this guidance deserves attention.

To be sure, as noted earlier, Bill 37-17 requires landscaping in accordance with the Landscape Manual. But this is not conclusive as to the special exception criteria. Depending on the scenic character of the location, the landscaping may not be sufficient or may actually obstruct the scenic view.

In the present case, Petitioners produced a landscape plan based on the County manual. Pet. Exh. 6. They suggest this is enough and there will be no adverse impact. But this is speculation. There was no analysis by the County Landscape Architect of the impact on scenic quality of the road and neighboring properties. Technical compliance with the manual does not necessarily satisfy the special exception criteria.

But longtime adjacent resident Jeanne Bowman reviewed the property and area in detail, including the existing trees and potential landscaping. This was the best probative testimony from any immediate neighbor. She identified the valuable qualities of the scenic environment. She also identified the adverse visual impact on her property and the property of other neighbors notwithstanding any proposed landscaping. She referred to numerous photographs and described the likely adverse impact relating to the scenery, enjoyment of their properties, and inferentially their property values.

III. Petitioners Failed to Address or Meet the Burden of Proof on Other Environmental Issues

There is a fundamental disagreement concerning the burden of proof relating to stormwater runoff environmental impacts on the creek, spring, wetlands, and forests in lower R.C. 8 Zone watershed area. We believe that special exception review necessarily includes a reasonable level of environmental evidence, proof, and analysis. It cannot just be waved off to future development review by the bureaucratic infrastructure, without public hearing.

The BCZR 502.1.A special exception police power standard relating to the public health, safety, and welfare covers environmental issues. Potomac Sand and Gravel and Annapolis Waterfront illustrate this point. The BCZR 502.1.H standard covers impermeable surfaces and stormwater management.

BCZR 502.1.I, targets environmental impact especially in the R.C. Zones, including the R.C. 8 Zone. This brings into play the R.C. 8 Zone legislative findings and goals, all suitably geared to environmental protection and enhancement of valuable areas in the ecosystem. BCZR Sec. 1A09.1.A,B. App. 9.

Accordingly, the BCZR Sec. 4F-101 legislative findings focus on balancing the impact on forests, waterways, and other natural resources. We have also cited the BCZR Sec. 4F-104.A.9 requirement to comply with the Code Sec. 33-3-108 environmental plan.

Petitioners suggest they can defer environmental analysis to the development process. To the best of our recollection, Parker Sloan said there would at some point be an environmental assessment. David Martin persistently maintained that environmental review

could be deferred to the development process. He had no legal basis or source, just his view that this is the way it is or should be done.

Jeanne Bowman provided cogent testimony about Dykes Creek, the spring, the topography, and concerns about runoff. John Altmeyer testified to the slopes situation in the area of the proposed solar facility, and the necessity for a proper stormwater management plan. He provided information about SWM guidance. While he could not provide a legal opinion as to the timing under special exception law, he could say that the earlier some information could be provided, the better.

In our view, the plain language of the aforesaid special exception standards and solar facility law findings and text compel at least a preliminary reasonable level of environmental evidence and proof to address environmental issues here. This illustrates the overlap between special exception and development issues described in Gaster.

Otherwise stated, the existence of a development process does not substitute for a reasonable level of assessment and information for special exception review. This is true both conceptually and in practice. Parties on all sides in special exception and other zoning cases often present expert witnesses on environmental issues. The Loyola College and Surina cases are prime examples, but there are many more.

Petitioners suggest alternatively that no additional environmental review is needed here because there was already an environmental review with respect to a previous minor subdivision of the property. While this may be satisfactory to locate the forest conservation buffer, the new solar facility will inevitably involve different environmental impacts to the spring, stream, wetlands, and/or other resources.

This is a legal issue which has ramifications for many special exception cases. We believe Petitioners' effort to sidestep this requirement is unacceptable. They have failed utterly to satisfy their burden of proof in this regard.

IV. The Proposed 16.7 Acre Facility Fails to Satisfy "2 Megawatt" Area Limit and ALJ 13-Acre Condition (13 acres)

Bill 37-17 states (BCZR Sec. 4F-102.B.1,

> "The "maximum area for a single solar facility is the amount of acreage that produces no more than two megawatts alternative current (AC) of electricity.

Based on his evaluation of five other solar facility cases, ALJ Beverungen found 13 acres would be the maximum for this facility. P.C. Exh, 5. He then imposed condition 7 with this size limit. Petitioners filed with the ALJ a revised plan for a 13-acre facility. But at the July 5, 2018 CBA hearing, they submitted an amended plan for 16.7 acres.

Petitioners presented no evidence to justify exceedance of the general rule. In opposition, Kathleen Pieper charted an acreage/megawatt comparison with 11 other cases. Prot. Exh. 30. The chart shows that 9 of the other cases come in at between 4-7 acres per megawatt. Based on this pattern, the 13-acre limit would be a generous maximum. We added an exhibit with ALJ opinions in 9 of the charted cases, corroborating Ms. Pieper's chart. P.C. Exh. 11. We attach a summary. App. 44.

Furthermore, Petitioners failed to appeal the 13-acre condition imposed by ALJ Beverungen. This precludes their challenge to or alteration of the conditions. While this is a *de novo* appeal, it is *de novo* only on the issues appealed. Baltimore County Charter Sec. 603. Daihl v. County Board of Appeals 258 Md. 157, 162 (1970); Halle Companies v. Crofton Civic Ass'n 339 Md. 131, 141-45 (1995); In the Matter of Carol Morris/C.G. Homes, Case No. 2015-302-SPHA, page 11. Protestants appealed the grant of the petition, about which they felt aggrieved, not the limiting conditions.

As the Court said in Daihl, 258 Md. at 161-64,

> "In the absence of any precedent to guide us, we think the more sensible interpretation of the meaning of the scope of a de novo hearing as used in relation to an appeal heard by the County Board of Appeals, from a decision of the Zoning Commissioner, is that it is restricted to the specific issue or issues resolved by the Commissioner from which an appeal has been taken. By exclusion, this may not encompass all issues which may have been resolved by the Commissioner in his decision, when more than one issue is involved. We think it is consonant with the concept of appeal, that it be coextensive with those issues concerning which the moving party or parties feel aggrieved. We are also buttressed in our reasoning on this matter by the knowledge that such hearings are adversary in nature and are ofttimes complicated. Furthermore, we are of the strong belief that an orderly procedural disposition of these matters requires specificity of the adverse ruling concerning which the aggrieved party seeks review.
>
> "Accordingly, we are of the opinion that the County Board of Appeals did not have jurisdiction to review the Deputy Zoning Commissioner's denial of the petition for the reclassification in variances pertaining to Lots Nos. 22, 23 and 24, and that it was error to reverse his decision concerning this westernmost parcel."

The same principle applies to appeals from the Circuit Court to the appellate courts. A party dissatisfied with an adverse part of a judgment must appeal that part of the judgment. Paolino v. McCormick & Co. 314 Md. 575, 579-82 (1989); Geier v. Maryland State Bd. of Physicians 223 Md. App. 404, 427-28 (2015). Geier states, in pertinent part:

> In *Paolino v. McCormick & Company,* 314 Md. 575, 579, 552 A.2d 868 (1989), the Court of Appeals explained the circumstances when a cross-appeal is impermissible and when it is required:
>
> * * *
>
> [W]here a party has an issue resolved adversely in the trial court, but ... receives a wholly favorable judgment on another ground, that party may, as an appellee, argue as a ground for affirmance the matter that was resolved against it at trial.... This is merely an aspect of the principle that an appellate court may affirm a trial court's decision on any ground adequately shown by the record.
>
> *Id.* (citations omitted). **But one who seeks to attack, modify, reverse, or amend a judgment (as opposed to seeking to affirm it on a ground different from that relied on by the trial court) is required to appeal or cross appeal from that judgment.**" Emphasis supplied.

Consistent with the above, the CBA recognized the necessity for each party to appeal an adverse part of a split decision in Richard and Susan Lehman, Petitioners, Case No. 16-060-SPH (2017), March 23, 2017 public deliberation. App. 45. Having failed to file a cross-appeal, Petitioners there could not challenge the part of the decision adverse to their interest.

Conclusion

For the foregoing reasons, the proposed solar facility fails to satisfy the special exception standards and is otherwise inconsistent with the solar facility law. As a matter of law, the County Board of Appeals should deny this petition.

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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 7th day of December, 2018 a copy of the foregoing People's Counsel for Baltimore County's Post-Hearing Memorandum was mailed by first class mail to R. Barnes Mowell, Esquire, 16925 York Road, Monkton, Maryland 21111 and Patricia Malone, Esquire, and Christopher Mudd, Esquire, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204, Attorney for Petitioner(s).

Peter Max Zimmerman

PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

Sec. 523. - The master plan and the zoning maps.

(a) *Definition and implementation of the master plan.* The master plan shall be a composite of mapped and written proposals setting forth comprehensive objectives, policies and standards to serve as a guide for the development of the county. Upon receipt of the master plan from the office of planning and zoning, the county council shall accept or modify and then adopt it by resolution.

(b) *Definition and implementation of the zoning maps.* The zoning maps shall show the boundaries of the proposed districts, divisions and zones into which the county is to be divided consistent with the master plan. Upon receipt of the zoning map from the office of planning and zoning, the county council shall accept or modify and then adopt it by legislative act.

(Bill No. 83, 1978, § 3) (Approved by voters Nov. 7, 1978; effective Dec. 8, 1978)

Sec. 524. - Reorganization of office of planning and zoning.

Notwithstanding any other provisions of this Charter, the county council shall have the power by legislative act to reorganize the office of planning and zoning, to define the duties of the director of said office, to establish the powers, duties and compensation of the planning board, and to establish the duties and responsibilities of the zoning commissioner and deputy zoning commissioners, so that planning and zoning functions shall be conducted in the best interests of the county and its future development and growth.

(Bill No. 83, 1978, § 1; approved by voters Nov. 7, 1978; effective Dec. 8, 1978; Bill No. 128, 1990, § 1; approved by voters Nov. 6, 1990; effective Dec. 7, 1990)

Sec. 524.1. - People's counsel.

(a) The county executive shall appoint a people's counsel who shall represent the interests of the public in general in zoning matters as hereinafter set forth, subject, however, to confirmation by the county council, and such person so appointed shall continue to serve as people's counsel until such time as he or she resigns or has been removed pursuant to the provisions herein contained:

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(1) *Qualifications:* The people's counsel shall be a resident of Baltimore County, a member in good standing of the Maryland Bar, and actively engaged in the general practice of law for at least five (5) years prior to his appointment.

(2) *Removal:* The people's counsel may be removed at any time on the recommendation of the county executive and with the affirmative vote of not less than a majority plus one of the total number of county council members established by this Charter.

(Bill No. 90, 1978, § 1) (Approved by voters Nov. 7, 1978; effective Dec. 8, 1978)

(3) *Powers and duties:* The people's counsel shall have the following powers and duties:

A. He shall appear as a party before the zoning commissioner of Baltimore County, his deputy, the county board of appeals, the planning board, and the courts on behalf of the interests of the public in general, to defend any duly enacted master plan and/or comprehensive zoning maps as adopted by the county council; and in any matter or proceeding now pending or hereafter brought involving zoning reclassification and/or variance from or special exception under the Baltimore County Zoning Regulations, as now or hereafter in force and effect, in which he may deem the public interest to be involved. In defense of the zoning maps or master plan, he may appear as a party in interest before all state and federal agencies, boards, and courts on matters involving the preservation of the quality of the air, land, and water resources of Baltimore County, and/or may initiate such proceedings in the public interest. He shall have in such appearance, all the rights of counsel for a party in interest, including but not limited to the right to present his case, to cross examine, to object, to be heard, and to file and prosecute an appeal in his capacity as people's counsel from any order or act of the zoning commissioner of Baltimore County or his deputy, or of the county board of appeals to the courts as an aggrieved party pursuant to the provisions of Section 604 of this Charter to promote and protect the health, safety and general welfare of the community. The people's counsel may also prosecute

an application before any state or federal court for injunctive and other relief incidental thereto, to enjoin violation of any Baltimore County zoning maps or master plan or as authorized by resolution by the county council.

(Bill No. 90, 1978, § 1) (Approved by voters Nov. 7, 1978; effective Dec. 8, 1978)

B. He shall make such investigations as he may deem necessary to the intelligent performance of his duties imposed by subparagraph A. of this Section.

C. He shall have full access to the records of all county agencies, shall be entitled to call upon the assistance of county employees, and shall have the benefit of all other facilities or information of the county in carrying out his duties.

(4) *Employment of experts:* The people's counsel may hire from time to time, as needed, in connection with specific proceedings before the above named bodies, experts in the fields of planning, zoning, traffic, engineering, ecology and architecture, to the extent that county personnel cannot be utilized, and to expend such sums for compensation and/or expenses of these experts as shall be provided in the annual budget.

(5) *Salary and expenses:* He shall receive an annual salary and such sums as may be needed to carry out the powers and duties set forth herein as provided in the annual budget.

(Bill No. 104, 1960; Bill No. 61, 1974, § 1; Bill No. 90, 1978, § 1; approved by voters Nov. 7, 1978; effective Dec. 8, 1978; Bill No. 131, 1990, § 1; approved by voters Nov. 6, 1990, effective Dec. 7, 1990)

Annotation— The people's counsel has the right to appeal zoning decisions. People's Counsel for Baltimore County v. Williams, 45 Md. App. 617, 415 A.2d 585 (1974).

Editor's note— The publisher corrected a former reference to "matter" to read "matters" in subsection (a). Bill 61-74, which originally enacted this language, used the word "matters". The 1976 annual cumulative supplement to the 1968 Code used the word "matters" but it appears to have been changed to "matter" inadvertently on publication of the 1978 Code.

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SECTION 1A01 - R.C.2 (Agricultural) Zone

§ 1A01.1. - General provisions.

A. Legislative statement of findings.

1. Declaration of findings. It is found:

a. That Baltimore County is fortunate in that it is endowed with a variety of very productive agricultural soil types which should not be lost unnecessarily to urbanized development;

b. That the agricultural industry is an integral part of the Baltimore economy and that a continued conversion of agricultural land will continue to undermine this basic industry;

c. That scattered development is occurring in a sporadic fashion in areas of Baltimore County containing productive agricultural land;

d. That continued urban intrusion into productive agricultural areas not only destroys the specific area upon which the development occurs but is incompatible with the agricultural use of the surrounding area;

e. That heretofore Baltimore County has been unable to effectively stem the tide of new residential subdivisions in productive agricultural areas of Baltimore County;

f. That Baltimore County has certain wetlands along Chesapeake Bay and its tributaries which serve as breeding grounds and nursery areas for the bay's biotic life; and

g. That Baltimore County possesses numerous areas which are highly suitable for urban development, including residential subdivisions which are not located in areas of productive agricultural land.

B. Purposes. The R.C.2 zoning classification is established pursuant to the legislative findings above in order to foster conditions favorable to a continued agricultural use of the productive agricultural areas of Baltimore County by preventing incompatible forms and degrees of urban uses.

§ 1A01.2. - Use regulations.

A.

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Preferred use permitted as of right. Agricultural operations, when conducted in accordance with good and reasonable husbandry practices, shall be afforded preferential treatment over and above all other permitted uses in R.C.2 Zones.

B. Uses permitted as of right. [1] The following uses only are permitted as of right in all R.C.2 Zones:

[Bill No. 178-1979]

1. Dwellings, one-family detached.

[Bill No. 178-1979]

2. Farms and limited acreage wholesale flower farms (Section 404).

[Bill Nos. 178-1979; 51-1993]

3. Open space, common.

[Bill No. 178-1979]

4. Public schools.

[Bill Nos. 63-1980; 47-1982; 47-1985]

5. Streets and ways.

[Bill No. 178-1979]

6. Telephone, telegraph, electrical-power or other lines or cables, provided that any such line or cable is underground; underground gas, water or sewer mains or storm drains; or other underground conduits, except interstate or international pipelines.

[Bill No. 178-1979]

7. Trailers or mobile homes, provided that any trailer or mobile home allowed under this provision must be used or stored in accordance with the provisions of Subsection B, C, E or F of Section 415.1 and Section 415.2.A.1 or 415.3.C.1, as applicable.

[Bill Nos. 178-1979; 27-2015]

8. Antennas used by CATV systems operated by companies franchised under Article 25 of the Baltimore County Code, if situated on property owned by the county, state or federal government or by a governmental agency.

[Bill Nos. 220-1981; 137-2004]

9. Accessory uses or structures, including, but not limited to, the following:

a. Excavations, uncontrolled.

[Bill No. 178-1979]

b. Farmer's roadside stand and produce stand, subject to the provisions of Section 404.4.

[Bill Nos. 178-1979; 41-1992]

c. Home occupations (see Section 101).

[Bill Nos. 124-1978; 178-1979]

d. Offices or studios of physicians, dentists, lawyers, architects, engineers, artists, musicians or other professional persons, provided that any such office or studio is established within the same building as that serving as the professional person's primary residence at the time of application; does not occupy more than 25 percent of the total floor area of that residence; and does not involve the employment of more than one nonresident employee.

[Bill Nos. 78-1979; 105-1982; 65-1999]

e. Parking space, including residential-garage space and space for recreational vehicle (Section 415A).

[Bill No. 178-1979]

f. Piers, wharves, docks and bulkheads, subject to the provisions of Section 417.

[Bill No. 178-1979]

g. Radio operator antennas, subject to Section 426A.

[Bill Nos. 178-1979; 30-1998]

h. Swimming pools, tennis courts, garages, utility sheds, satellite receiving dishes (subject to Section 429) or other accessory structures or uses (subject to the height and area provisions for buildings as set forth in Section 400).

[Bill No. 178-1979; Bill No. 71-1987]

i. Tenant houses, including mobile homes used as tenant houses.

[Bill Nos. 178-1979; 27-2015]

j. Rubble landfills, provided that the actual fill area does not exceed three percent of the total contiguous acreage of the property in the same ownership and subject to the provisions of Section 412.7 only.

[Bill No. 97-1987]

k. Signs, subject to Section 450.

[Bill No. 89-1997]

10. Commercial film production, subject to Section 435.

[Bill No. 57-1990]

11. Transit facilities.

[Bill No. 91-1990]

12. Equestrian centers, provided that any such equestrian center has access to two roads, one of which is a road having, within two miles from the equestrian center, an interchange with an interstate expressway; contains no permanent grandstand; and contains no lights other than those consistent with farm use. Temporary structures, such as removable tents, viewing stands and seating, are permitted, provided that they are removed within a reasonable time following the event or events which they serve.

[Bill No. 24-2002]

13. Farmstead creamery, subject to the provisions of Section 404.13.

[Bill No. 34-2009]

14. Domestic animal sanctuary, if located on or within property that is greater than 7.5 acres in size.

[Bill No. 20-2010]

C. Uses permitted by special exception. [2] The following uses, only, may be permitted by special exception in any R.C.2 Zone, provided that in each case the hearing authority empowered to hear the petition finds that the use would not be

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detrimental to the primary agricultural uses in its vicinity; and, in the case of any use permitted under Item 29, further provided that the hearing authority finds that the use would support the primary agricultural use in its vicinity and would not itself be situated on land more appropriately used for primary agricultural uses:

[Bill No. 178-1979]

1. Airports.

[Bill No. 178-1979]

2. Animal boarding places (regardless of class), commercial kennels, private kennels, veterinarians' offices or veterinariums (see Section 421).

[Bill Nos. 178-1979; 87- 2001]

3. Antique shops (see Section 402B).

[Bill No. 178-1979]

4. Camps, including day camps.

[Bill No. 178-1979]

5. Community care centers provided that no residential community care center, i.e., a center which serves as the residence of the persons for whom care is provided, shall provide care for more than 15 persons per site, and no day community care center shall provide care for more than 15 persons per acre nor more than 75 persons per site; however, if the site is in excess of two net acres and is located outside the urban rural demarcation line, the hearing authority shall determine the maximum number of persons permitted in a day community care center based on the total acreage of the site and the testimony and evidence presented.

[Bill Nos. 178-1979; 157-1986; 19-2014]

6. Churches or other buildings for religious worship.

[Bill No. 178-1979]

7. Community building owned by a nonprofit civic or improvement association and used by its members and guests for recreational, social, educational, or cultural activities.

[Bill No. 26-2015 ☒;]

8. Excavations, controlled.

[Bill No. 178-1979]

9. Farm market, subject to the provisions of Section 404.4.

[Bill Nos. 178-1979; 41-1992]

10. Fishing and shellfishing facilities, Class I and II.

[Bill No. 178-1979]

11. Golf courses or country clubs.

[Bill No. 178-1979]

12. Home occupations of disabled persons, where the use is established in a structure originally constructed as a dwelling or as accessory to a dwelling or where the use is established in a structure that is situated on the same lot as a dwelling and which the Zoning Commissioner finds to be compatible with its surrounding neighborhood, provided that:

    a. Only three persons, including the disabled person and the members of his immediate family who are residents of the dwelling, are employed in the use on the premises; and

    b. In any case the use is conducted by a disabled person whose domicile is the dwelling to which the use is accessory and whom the hearing authority finds is so severely disabled as to be unable to engage in his occupation away from the premises of his home.

    Any provision of Section 502.2 to the contrary notwithstanding, any special exception granted pursuant to this item shall expire upon the first to occur of the following:

    (1) Five years after the issuance of the permit;

    (2) The death of a disabled person;

    (3) The termination of the disability; or

    (4) The failure of the disabled person to permanently reside at the premises.

    A new special exception for the use may be granted when the previous special exception expires but only upon the completion of the entire application and hearing process in the same manner as if it were the

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initial application for this special exception. It is the purpose of this provision to prevent the use of residential property for business purposes by an occupant other than a disabled person and to ensure that any occupation permitted pursuant to this item will be conducted in a manner appropriate to its surroundings.

[Bill No. 27-1981]

13. Horticultural nurseries, subject to the provisions of Sections 404.1 and 404.2.

[Bill No. 41-1992]

14. Hunting or fishing preserves.

[Bill No. 178-1979]

15. Landscape service operations, subject to the provisions of Sections 404.1 and 404.3.

[Bill No. 41-1992]

16. Offices for agriculture-related uses.

[Bill Nos. 178-1979; 37-1988]

17. Offices or studios of physicians, dentists, lawyers, architects, engineers, artists, musicians or other professional persons as an accessory use, provided that any such office or studio is established within the same building as that serving as the professional person's primary residence at the time of application; does not occupy more than 25 percent of the total floor area of that residence; and does not involve the employment of more than one nonresident professional associate nor two other nonresident employees.

[Bill Nos. 105-1982; 65-1999]

18. Public utility uses not permitted as of right.

[Bill No. 178-1979]

19. Rail passenger station, subject to Section 434.

[Bill No. 91-1990 [4]]

20. Residential art salons (see Section 402C).

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[Bill No. 178-1979]

21. Standard restaurants or tearooms converted from dwellings (Section 402.2).

[Bill Nos. 178-1979; 110-1993]

22. Riding stables.

[Bill No. 178-1979]

23. Sanitary landfills, or rubble landfills in which the actual fill area exceeds three percent of the total contiguous acreage of the property in the same ownership. However, the fill area of a rubble landfill may not exceed seven percent of the total contiguous acreage, nor may the fill area exceed a depth of 20 feet unless the Zoning Commissioner specifically finds that the landfill should be exempt from the depth limitation (see Section 412).

[Bill Nos. 178-1979; 97-1987]

24. Schools, including schools for agricultural training, private preparatory schools, business or trade schools, conservatories or colleges.

[Bill No. 178-1979]

25. Shooting ranges, including archery, pistol, skeet, trap or small-bore rifle ranges, or turkey shoots.

[Bill No. 178-1979]

26. Sludge disposal facility — landspreading (Section 412A.2.E).

[Bill No. 46-1982]

27. Mobile homes, as provided in Section 415.1.D.

[Bill Nos. 178-1979; 27-2015]

28. Volunteer fire company or ambulance-rescue facilities.

[Bill No. 178-1979]

29. Wireless telecommunications towers, subject to Section 426.

[Bill No. 30-1998]

30. The following "agricultural-support" uses as principal commercial uses:

[Bill Nos. 178-1979; 51-1993]

a. Farm-machinery sales, storage or service; blacksmithing.

[Bill No. 178-1979]

b. Feed or grain mills or driers.

[Bill No. 178-1979]

c. Fertilizer sales or storage.

[Bill No. 178-1979]

d. Sawmills.

[Bill No. 178-1979]

e. Slaughterhouses or manufacture, processing or packing of fruit, vegetables, animal or meat products, or by-products.

[Bill No. 178-1979]

f. Spirits manufacture, including the manufacture of alcohol to be used in gasoline/alcohol mixtures, but excluding the production of these mixtures.

[Bill Nos. 178-1979; 51-1993]

g. Firewood operations.

[Bill No. 151-1992]

h. Winery, including accessory retail and wholesale distribution of wine produced on-premises. Temporary promotional events, such as wine tastings or public gatherings associated with the winery, are permitted, within any limits set by the special exception.

[Bill No. 51-1993]

i. Bottled water plant, if the source of the water is located on the same site as the plant, and provided that the Director of Environmental Protection and Sustainability makes a recommendation that the proposed facility will not adversely affect the quality or capacity of surface water or groundwater.

[Bill Nos. 51-1993; 122-2010]

j.

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Brewery, Class 7 or Class 8, including accessory retail and wholesale distribution of beer produced on the premises. Temporary promotional events, such as beer tasting or public gatherings associated with the brewery, are permitted subject to approval by the Administrative Law Judge or Board of Appeals on appeal.

[Bill No. 64-2015]

§ 1A01.3. - Height and area regulations.

A. Height regulation. No structure hereafter erected in an R.C.2 Zone shall exceed a height of 35 feet, except as otherwise provided under Section 300.

B. Area regulations.

[Bill No. 178-1979]

1. Subdivision lot density. No lot of record lying within an R.C.2 Zone and having a gross area of less than two acres may be subdivided. No such lot having a gross area between two and 100 acres may be subdivided into more than two lots (total), and such a lot having a gross area of more than 100 acres may be subdivided only at the rate of one lot for each 50 acres of gross area. In cases where land in single ownership is crossed by existing or proposed roads, rights-of-way or easements, the portions of land on either side of the road, right-of-way or easement shall not be considered separate parcels for the purpose of calculating the number of lots of record.

[Bill Nos. 199-1990; 125-2005]

2. Lot size. A lot having an area less than one acre may not be created in an R.C.2 Zone.
3. Setback requirements. No principal structure or dwelling (whether or not it is a principal structure) in an R.C.2 Zone may be situated within 75 feet of the center line of any street or within 35 feet of any lot line other than a street line.
4. Principal dwellings per lot. No more than one principal dwelling is permitted on any lot in an R.C.2 Zone.

§ 1A01.4. - Maryland Agricultural Land Preservation Program.

[Bill Nos. 178-1979; 137-2004]

The use or development of land in an agricultural district established in accordance with Title 2, Subtitle 5 of the Agriculture Article of the Annotated Code of Maryland shall be governed by agricultural land preservation provisions enacted by the County Council pursuant to § 2-513 of the Agriculture Article in the case of any conflict between those provisions and these regulations.

§ 1A01.5. - Inconveniences arising from agricultural operations.

[Bill No. 34-2009; 62-2017 [5]]

Any dwelling, business or use in or near an R.C.2 Zone may be subject to inconveniences or discomforts arising from agricultural operations, including but not limited to noise, odors, fumes, dust, the operations of machinery of any kind during any 24-hour period (including aircraft), the storage and disposal of manure and the application, by spraying or otherwise, of chemical fertilizers, soil amendments, herbicides and pesticides. The County shall not consider an agricultural operation to be a public or private nuisance if the operation complies with these regulations and all federal, state or County health or environmental requirements; except that during the period between 10:00 p.m. and sunrise as defined by the National Weather Service for sunrise on the particular day in the Baltimore area, an agricultural operation may not fire or otherwise discharge an air cannon or similar device that releases a loud shotgun-like blast within 500 feet of an adjacent residential dwelling.

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SECTION 1A09 - R.C.8 (Environmental Enhancement) Zone

[Bill No. 76-2004]

§ 1A09.1. - Findings and legislative goals.

A. Findings.

1. Master Plan 2010, adopted by the County Council in February 2000, identifies specific resource preservation areas where valuable cultural, historic, recreational and environmental resources are located and should be protected for the health of the local community and the community at large.
2. While the resource preservation areas identified in the Master Plan are predominantly in the rural part of Baltimore County, there are certain areas of environmental significance that are located throughout Baltimore County that require protection.
3. An R.C.8 Zone allows limited development, compatible with the rural and urban community, and at the same time protects environmental resources.
4. The County recognizes the importance of retaining certain areas for environmental protection.

B. Legislative goals. The Baltimore County Council seeks to achieve the following goals in the R.C.8 Zone:

1. To preserve and protect total ecosystem function, including riparian and aquatic ecosystems;
2. To protect forests, streams, wetlands and floodplains;
3. To protect the water quality of reservoirs, watercourses, the Chesapeake Bay and regional biodiversity;
4. To respect historic sites in their settings;
5. To provide a quality recreational experience to visitors;
6. To protect remaining prime and productive soils, environmental resources in areas not currently protected by the R.C.2 or the R.C.7 Zone;
7. To maintain the unique character of certain rural and urban areas by preserving its natural, environmental, historic, cultural, recreational, scenic, architectural and archaeological resources not protected by the R.C.7 Zone;
8.

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To provide for the environmentally sound use of land and forest resources, and to prevent forest fragmentation, especially in areas of extensive interior forest;

9. To implement state and federal mandates for the protection of natural resources and rural legacy;
10. To enhance local character and environmental protection by locating buildings in harmony with site conditions;
11. To preserve the traditional character of communities by limiting the scale and intensity of development;
12. To maintain the scale and character of area roads by limiting growth in the volume of traffic generated by local development.

§ 1A09.2. - Definitions.

In this section, the following term has the meaning indicated:

BUILDING ENVELOPE — The area on a lot within which all structures except wells, septic systems, stormwater management systems, driveways or fences are permitted to be built.

§ 1A09.3. - Permitted uses.

A. Uses permitted by right. In addition to the uses in Paragraph D of this subsection, the following uses are permitted by right in an R.C.8 Zone:

1. Dwellings, single-family detached.
2. Farms and limited-acre wholesale flower farms, subject to Section 404.
3. Open space, common.
4. Schools.
5. Streets and ways.
6. Telephone, telegraph, electrical power or other lines or cables, provided that any such line or cable is underground; underground gas mains; shared well and septic systems when approved by the Department of Environmental Protection and Sustainability; or other underground conduits, except interstate pipelines.

[Bill No. 122-2010]

7. Accessory uses or structures, subject to Section 400, including:
   a. Farmer's roadside stand and produce stand, subject to Section 404.4;
   b. Home occupations;
   c. Offices or studios of physicians, dentists, lawyers, architects, engineers, artists, musicians or other professionals, provided that any such office or studio is established within the same building as that serving the professional person's primary residence; does not occupy more than 25 percent of the total floor area of that residence; and does not involve the employment of more than one nonresident employee;
   d. Parking and residential garage space, subject to Section 409;
   e. Signs, subject to Sections 450 and 1A09.7.C.5; and
   f. Swimming pools, tennis courts and other recreational amenities, if accessory to a dwelling.
8. Commercial film production, subject to Section 435.
9. Farmstead creamery, subject to the provisions of Section 404.13.

[Bill No. 34-2009]

B. Uses permitted by special exception. The following uses only are permitted by special exception in an R.C.8 Zone:
   1. The following uses, provided that they are located in a principal building that was originally constructed before August 6, 2004, and the building is converted to the new use without any external enlargement after August 6, 2004:
      a. Antique shop;
      b. Bed-and-breakfast;
      c. Residential art salon.
   2. Public utility uses not permitted by right.
   3. Bottled water plant as an agricultural support use, if the source of water is located on the same site as the plant, and provided that the Director of Environmental Protection and Sustainability makes a finding that the proposed facility is not expected to adversely affect the quality or capacity of surface water or groundwater.

[Bill No. 122-2010]

4. Farm market, subject to Section 404.4.
5. Horticultural nursery, subject to Sections 404.1 and 404.2.
6. Volunteer fire company or ambulance-rescue facilities.
7. Winery as an agricultural support use, including accessory retail and wholesale distribution of wine produced on the premises. Temporary promotional events such as wine tasting or public gatherings associated with the winery are permitted within any limits set through the special exception process.
8. Wireless telecommunications towers and monopoles; however, they shall be designed and located in a manner that substantially minimizes their visual impact; stealth towers such as flagpoles, flush-mounted monopoles set into wooded hillsides and painted to blend into the trees, and other innovative options. Such poles or antennas shall not project more than five feet above any tree within 25 feet of the monopole. In no case shall a tower or monopole project above a ridge line. Wireless telecommunications facilities that are proposed within a county, state or national historic district or preservation area will be required to be reviewed by the Baltimore County Landmarks Commission. Wireless telecommunications facilities may be incorporated into the structure of existing high-voltage electric transmission lines as a matter of right.
9. Conservation burial ground. (See Section 401.1.1.)

[Bill No. 6-2015]

10. Brewery, Class 7 or Class 8, including accessory retail and wholesale distribution of beer produced on the premises. Temporary promotional events, such as beer tasting or public gatherings associated with the brewery, are permitted subject to approval by the Administrative Law Judge or Board of Appeals on appeal.

[Bill No. 64-2015]

C. Application of zone. The R.C.8 Zone is primarily intended to be applied to forested lands, reservoir watershed areas and extensive natural areas. The R.C.8 Zone may not be applied to lands currently zoned R.C.2 or R.C.7.

D.

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Prior zoning. If a property was zoned so that churches and other buildings for religious worship were permitted by right and were owned or under contract to a religious institution prior to being zoned as R.C.8, churches and other buildings for religious worship are permitted by right on that property.

§ 1A09.4. - Plans and permits.

All development must be in accordance with this section and the standards and guidelines for "rural preservation" and "scenic views" adopted pursuant to this section, and published as part of the Comprehensive Manual of Development Policies.

A. Before the approval of any concept plan, development plan, limited exemption, special exception plan or variance, the Director of Planning or the Director's designee must certify in a written finding that the plan, exemption or variance is consistent with the spirit and intent of these regulations. To support the finding, the Director shall require information such as building elevations, building cross sections or view shed analyses pursuant to §§ 32-4-223 and 32-4-224 of the Baltimore County Code. The Director shall certify that any deviation from this section or the standards and guidelines cited above was necessary to:
   1. Meet another standard or guideline;
   2. Comply with environmental regulations or otherwise protect resources; or
   3. Achieve the best possible site design based on the goals in Section 1A09.1.B.

B. Before the issuance of any building permit, the Director of Planning or the Director's designee shall certify that the proposed development is in conformance with a plan approved pursuant to these regulations.

C. A finding pursuant to this section may be appealed to the Baltimore County Board of Appeals within 30 days of the date of the finding by any person aggrieved by the finding.

§ 1A09.5. - Natural resource protection.

[Bill No. 122-2010]

A. Unless the applicant demonstrates to the Director of Environmental Protection and Sustainability or his designee that greater water quality or forest protection would result, the building envelope shall be located:

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   1. Outside of forested areas where possible;
   2. For forested tracts, within 100 feet of the perimeter of the forest;
   3. To minimize the number and length of roads and driveways; and
   4. To minimize the number of stream crossings.

B. The Department of Environmental Protection and Sustainability may require alternative site layouts to achieve the water quality and forest protection objectives of this zone.

§ 1A09.6. - Scenic views.

To protect the scenic views or, if necessary pursuant to Section 1A09.4, to mitigate the disturbance of scenic views, the Director of Planning may require that one or both of the following be clearly designated on the final record plat with appropriate notations:

A. Areas where disturbance of natural vegetation is prohibited; or

B. Areas where revegetation of landscaping is required.

§ 1A09.7. - Development area and standards.

A. Maximum height. No structure with a height greater than 35 feet is permitted, except as otherwise provided under Section 300.

B. Area regulations.
   1. Maximum lot density. A contiguous tract of land, whether or not in one or more parcels, not part of an approved subdivision may be developed in an R.C.8 Zone at the following density:

[Bill No. 48-2017]

Number of Acres	Number of Lots
1 to 10	1
Greater than 10 up to 30	2
Greater than 30 up to 50	3

Greater than 50 acres	0.02 lot per acre

2. Lot area. The area of any proposed residential lot in a major or minor subdivision must not be less than three acres.
3. Building envelope. For residential development, the maximum area of the building envelope on any residential lot other than a farm is 20,000 square feet, and no single dwelling, garage or accessory building shall have a building footprint that exceeds 5,000 square feet. The placement of the building envelope is determined on the basis of:
   a. The goals for the zone; and
   b. The minimum setbacks for the zone.
4. Minimum development allowance. Any lot of record or parcel of land lawfully existing on August 6, 2004, may be developed with a single dwelling.
5. Setbacks.
   a. Any principal building constructed in an R.C.8 Zone shall be situated at least:
      (1) Thirty-five feet from the right-of-way of public or private interior streets;
      (2) Eighty feet from any principal building; and
      (3) Fifty feet from the rear lot line.
   b. (1) As determined by the Director of Environmental Protection and Sustainability, any dwelling or accessory residential structure to be constructed shall be located at least 300 feet from an adjacent property that is either:

[Bill No. 122-2010]

      (a) Cultivated or used for pasture, or received preferential agriculture assessment at any time over the past five years;
      (b) Land that is suitable for agriculture production, excluding forestry, that is not in production as part of a federal or state conservation program; or

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      (c) Land that is suitable for agriculture production, excluding forestry, and is subject to an agricultural or conservation easement.
   (2) A modification to a residential dwelling in existence prior to August 6, 2004, is exempt from the requirements of this subsection.
6. Impervious surface coverage, nonresidential development. Except for residential lots which are subject to a building envelope restriction, no more than five percent of any lot may be covered by impervious surfaces such as structures or pavement.
7. Historic properties. No building or structure on a development tract which is officially included on the preliminary or final list of the Landmarks Preservation Commission or the National Register of Historic Places, or which is subject to an easement held by the Maryland Historical Trust will be counted as a lot or dwelling for purposes of calculating density, provided that:
   a. There is an area of sufficient size, as determined by the Director of Planning in consultation with the Landmarks Preservation Commission or Maryland Historical Trust, surrounding the building, structure or landmark to preserve the integrity of its historic setting;
   b. An overall photographic and written description of the building, structure or landmark identified has been submitted and is determined to be in compliance with the Secretary of the Interior's standards for the treatment of historic properties;
   c. Documentation of the preservation, restoration and protection for the building, structure or landmark has been approved by the Director of Planning in consultation with the Maryland Historical Trust prior to issuance of any building permit; and
   d. When provisions of this paragraph apply to any development, the conditions for approval must be noted on the concept plan and development plan, or the minor subdivision plan.

C. Performance standards. Conditions for approval pursuant to this section must be noted on the concept plan and development plan, or minor subdivision plan. The following standards are intended to foster creative development that promotes the goals stated in Section 1A09.1.B.

1. Stormwater management. Stormwater management facilities shall be integrated into the site design to utilize nonstructural practices unless it is demonstrated that this is not possible.
2. Buildings.
   a. Buildings must be located on the least visually prominent portion of the site from the public road, consistent with effective resource protection, except where appropriate to continue an established pattern of development along the edge of the road.
   b. Buildings should reflect the traditional rural character of the area in architectural form, scale, materials and detailing and in landscaping context.
   c. Dwellings and other principal use buildings should be front-oriented to public rights-of-way; reverse-fronted lots generally will not be permitted.
   d. All of the exterior walls of a building must be treated similarly with respect to materials, color and architectural details.
   e. Structures accessory to residential use, excluding agricultural buildings, but including solar panels, antennas and storage sheds, are not permitted in the front yard of any principal use. Section 400.1 is not applicable in an R.C.8 Zone; however, the height of accessory structures is subject to the provisions of Section 400.
   f. If buildings are located in open fields because of site constraints, additional landscaping and berms, or either of them, may be required to soften views.
3. Roads, parking areas and storage areas.
   a. Interior roads must conform to Baltimore County's standards for rural roads, and no paved section of road may exceed a width of 18 feet, except for turnaround areas.
   b. Curbing must not be used unless required for storm drainage, as determined by the Department of Public Works.
   c. Perimeter fencing of residential properties must be in keeping with rural character. Fences must be either split rail or board on post, and the type of fence must be consistent throughout the development.
   d.

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Off-street parking and vehicle or equipment storage areas, when necessary for nonresidential or non-farm uses, must be visually screened by fencing, buildings or vegetation, or a combination thereof, from the public roads and dwellings.

   e. Areas for the outside storage of materials or supplies for nonagricultural commercial uses, except merchandise offered for sale by antique shops, must be visually screened by fencing, buildings or vegetation, or a combination thereof, from all public roads and dwellings.
   f. Lighting, such as streetlights, elevated security lights, floodlights, high-intensity house and barn lights are not permitted. However, low-intensity, low-level accent lights and sensor lights no more than 20 feet above the ground may be requested as part of the development review. The light fixtures should be of a style that diffuses light by use of full cutoffs.
4. Screening. Visual screening for privacy or to block distracting views should be natural in appearance and sensitive to grade relationships. Screens should not disrupt the harmony of the natural landscape or obstruct scenic views.
5. Signs.
   a. Community signs are prohibited. Subdivisions may be identified by street signs.
   b. A nonresidential principal use may be identified by:
      (1) An enterprise sign, subject to Section 450; or
      (2) An identification sign, subject to Section 450.

§ 1A09.8. - Inconveniences arising from agricultural operations.

[Bill No. 62-2017 [1]]

Any dwelling in an R.C.8 or adjacent zone may be subject to inconveniences or discomforts arising from agricultural operations. These may include noise, odors, fumes, dust, the operation of machinery during any 24-hour period, the storage and disposal of manure and the application by spraying or otherwise of chemical fertilizers, soil amendments, herbicides and pesticides. The County shall not consider an agricultural operation to be a public or private nuisance if the operation complies with these regulations and all federal, state or county health or environmental

requirements; except that during the period between 10:00 p.m. and sunrise as defined by the National Weather Service for sunrise on the particular day in the Baltimore area, an agricultural operation may not fire or otherwise discharge an air cannon or similar device that releases a loud shotgun-like blast within 500 feet of an adjacent residential dwelling.

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ARTICLE 4F - SOLAR FACILITIES

[Bill No. 37-2017[1]]

§ 4F-101. - Purpose and definitions.

A. Purpose. Solar energy is recognized as an abundant, renewable, and environmentally sustainable source of electricity generation that will lead to greater local grid resiliency and security, and produce clean, renewable energy and reduce air and water pollution caused by the burning of traditional fossil fuels. The purpose and intent of this article is to permit solar facilities in parts of the rural and commercial areas of the County by special exception, and to balance the benefits of solar energy production with its potential impact upon the County's land use policies by ensuring sufficient safeguards are in place to protect the County's communities and its agricultural land, forests, waterways and other natural resources.

B. Definitions. As used in this article, the following terms have the meanings indicated:

COMMERCIAL USE — The transfer to the electrical power grid of energy produced by a solar facility for sale by energy suppliers to consumers.

SOLAR FACILITY — A facility that includes a series of one or more solar collector panels or solar energy systems that are placed in an area on a tract of land for the purpose of generating photovoltaic power for commercial use. The term includes a solar power plant or solar photovoltaic farm.

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§ 4F-102. - Location of solar facilities.

A. Subject to Paragraph B, a solar facility is permitted only by special exception in the R.C. 2, R.C. 3, R.C. 4, R.C. 5, R.C. 6, R.C. 7, R.C. 8, B.L., B.M., M.R., M.L.R., and M.H. Zones of the County.

B. The allocation of land for solar facilities in the County is limited to the following:

1. The maximum area permitted for a single solar facility is the amount of acreage that produces no more than two megawatts alternating current (AC) of electricity.

2. No more than ten solar facilities may be located in a councilmanic district.
3. The Director of Permits, Approvals and Inspections shall maintain a record of all permits issued for a solar facility in the County, including the location and councilmanic district for each such facility, and shall keep a current accounting of the number of facilities in each councilmanic district under this paragraph.
4. Upon reaching the threshold of ten solar facilities in a councilmanic district, no additional permits shall be issued for a solar facility in that district unless an existing facility previously approved under this article has been removed pursuant to Section 4F-107.

§ 4F-103. - Exception.

This article does not apply to the following solar facility installations:

A. A ground-mounted solar facility that is accessory to a principal residential or agricultural use (subject to Sections 400.1 and 400.2 of these regulations applicable to accessory buildings), or accessory to a principal commercial, industrial, or institutional use;

B. A rooftop solar facility;

C. A solar facility on federal, state or local government-owned or leased land that produces energy for government use; or

D. A solar facility located on the same property or tract as a farm that uses at least 66 percent of the energy generated by the facility for agricultural uses on the farm.

§ 4F-104. - Requirements.

A. A solar facility located in an R.C. Zone is subject to the following requirements:

1. The land on which a solar facility is proposed may not be encumbered by an agricultural preservation easement, an environmental preservation easement, or a rural legacy easement.
2. The land on which a solar facility is proposed may not be located in a Baltimore County historic district or on a property that is listed on the Baltimore County Final Landmarks List.
3.

The portion of land on which a solar facility is proposed may not be in a forest conservation easement, or be in a designated conservancy area in an R.C. 4 or R.C. 6 Zone.

4. Aboveground components of the solar facility, including solar collector panels, inverters, and similar equipment, must be set back a minimum of 50 feet from the tract boundary. This setback does not apply to the installation of the associated landscaping, security fencing, wiring, or power lines.
5. A structure may not exceed 20 feet in height.
6. A landscaping buffer shall be provided around the perimeter of any portion of a solar facility that is visable from an adjacent residentially used property or a public street. Screening of state and local scenic routes and scenic views is required in accordance with the Baltimore County Landscape Manual.
7. Security fencing shall be provided between the landscaping buffer and the solar facility.
8. A solar collector panel or combination of solar collector panels shall be designed and located in an arrangement that minimizes glare or reflection onto adjacent properties and adjacent roadways, and does not interfere with traffic or create a safety hazard.
9. A petitioner shall comply with the plan requirements of § 33-3-108 of the County Code.
10. In granting a special exception, the Administrative Law Judge, or Board of Appeals on appeal, may impose conditions or restrictions on the solar facility use as necessary to protect the environment and scenic views, and to lessen the impact of the facility on the health, safety, and general welfare of surrounding residential properties and communities, taking into account such factors as the topography of adjacent land, the presence of natural forest buffers, and proximity of streams and wetlands.

B. The requirements of Subparagraphs A.6, A.7, A.8 and A.10 shall apply to a solar facility located in a Business or Manufacturing Zone.

§ 4F-105. - Required security.

A.

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An applicant for a building permit for a solar facility shall provide a security bond or equivalent financial security in the form and amount determined by the County Administrative Officer.

B. The Code Official may use the bond to procure the repair of any unsafe or hazardous conditions under Section 4F-106 or removal of a solar facility under Section 4F-107, in accordance with § 3-6-402 of the County Code.

§ 4F-106. - Maintenance.

A. All parties having a lease or ownership interest in a solar facility are responsible for the maintenance of the facility.

B. Maintenance shall include painting, structural repairs, landscape buffers and vegetation under and around solar panel structures, and integrity of security measures. Access to the facility shall be maintained in a manner acceptable to the Fire Department. The owner, operator, or lessee are responsible for the cost of maintaining the facility and any access roads.

C. Appropriate vegetation is permitted under and around the solar collector panels, and the tract may be used for accessory agricultural purposes, including grazing of livestock, apiculture, and similar uses.

D. The provisions on this section shall be enforced in accordance with Article 3, Title 6 of the County Code.

§ 4F-107. - Abandonment; removal.

A. A solar facility that has reached the end of its useful life or has been abandoned shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the County by certified mail of the proposed date of discontinued operations and plans for removal.

B. Removal shall consist of the:

1. Physical removal of all solar energy systems, structures, equipment, security barriers and transmission lines from the site;
2. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations; and
3. Stabilization or revegetation of the site as necessary to minimize erosion.

C. If the owner or operator fails to remove the facility within 150 days of abandonment, the County retains the right to enter and remove the facility. As a condition of special exception approval, the petitioner and landowner agree to allow entry to remove an abandoned facility.

D. The Code Official may issue a citation to the owner or operator for removal of a solar facility if:

1. The Code Official determines that the solar facility has not been in actual and continuous use for 12 consecutive months;
2. The owner or operator failed to correct an unsafe or hazardous condition or failed to maintain the solar facility under Section 4F-106 within the time prescribed in a correction notice issued by the Code Official; or
3. The owner or operator has failed to remove the solar facility in accordance with Paragraph C.

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SECTION 502 - Special Exceptions

[BCZR 1955]

(See Section 270, Schedule of Special Exceptions.)

NOTE: Certain types of uses are required to secure a permit to allow them to be placed in one or more zones in which their uncontrolled occurrence might cause unsatisfactory results of one kind or another. A few uses, such as dumps and junkyards, are inherently so objectionable as to make extra regulations and controls advisable even in the M.H. Zone, to which they are restricted. Others, like a cemetery, do not fit into any of the zone categories, that is, residential, business and industrial, and therefore must be located with discrimination in relation to their surroundings. All the items listed are proper uses of land, but have certain aspects which call for special consideration of each proposal. Because under certain conditions they could be detrimental to the health, safety or general welfare of the public, the uses listed as special exceptions are permitted only if granted by the Zoning Commissioner, and subject to an appeal to the County Board of Appeals.

In granting any special exception, the Zoning Commissioner and the County Board of Appeals, upon appeal, shall be governed by the following principles and conditions.

§ 502.1. - Conditions determining granting of special exception.

Before any special exception may be granted, it must appear that the use for which the special exception is requested will not:

A. Be detrimental to the health, safety or general welfare of the locality involved;

B. Tend to create congestion in roads, streets or alleys therein;

C. Create a potential hazard from fire, panic or other danger;

D. Tend to overcrowd land and cause undue concentration of population;

E. Interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements;

F. Interfere with adequate light and air;

[Bill No. 45-1982]

G. Be inconsistent with the purposes of the property's zoning classification nor in any other way inconsistent with the spirit and intent of these Zoning Regulations;

[Bill No. 45-1982]

H. Be inconsistent with the impermeable surface and vegetative retention provisions of these Zoning Regulations; nor

[Bill No. 45-1982]

I. Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5 or R.C.7 Zone, and for consideration of a solar facility use under Article 4E, the inclusion of the R.C. 3, R.C. 6, and R.C. 8 Zones.

[Bill Nos. 74-2000; 37-2017]

SECTION 600 - Interpretation

[BCZR 1955]

§ 600.1. - Interpretation of provisions.

In their interpretation and application, these regulations shall be held to be the minimum requirements for the promotion of the public health, safety, convenience and general welfare. Where these regulations impose a greater restriction on the use of buildings or land or on the height of buildings, or require larger yards, courts or other open spaces, or impose other higher standards than are imposed by the provisions of any law, ordinance, regulation or private agreement, these regulations shall control. When greater restrictions are imposed by any law, ordinance, regulation or private agreement than are required by these regulations, such greater restrictions shall not be affected by these regulations.

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§ 33-3-108. - PLAN INFORMATION.

(a) *Required.* In accordance with § 33-3-104 of this title or Article 32, Title 4 of the Code, a plan approved by the Department is required for all development, forest harvesting operations, surface mining operations, and agricultural operations.

(b) *Details of plan — In general.* The plan shall include an informative, conceptual, and schematic representation of the proposed activity by means of maps, graphs, charts, or other written or drawn documents to enable the Department to make a reasonably informed decision regarding the proposed activity.

(c) *Same — Specific requirements.* The plan shall contain the following information:

(1) A location or vicinity map;

(2) Property lines;

(3) Existing structures or facilities, including buildings, roads, wells, and sewage disposal systems (include 100 feet into adjacent properties where possible);

(4) Existing and proposed contour lines;

(5) Proposed sewage disposal areas;

(6) Field delineated, marked, and surveyed streams, springs, seeps, bodies of water, and wetlands (include 200 feet into adjacent properties where possible);

(7) Field delineated, marked, and surveyed forest buffers;

(8) Department of Public Works approved riverine floodplain limits;

(9) Soils mapped and labeled in accordance with the soil survey of the county;

(10) (i) Slopes greater than 10% for areas adjacent to and within 500 feet of streams, wetlands, or other bodies of water; and

(ii) Slopes greater than 25% for all other areas;

(11) Rare species, threatened species, or endangered species habitat;

(12) Existing vegetation;

(13) Location and type of stormwater management devices and practices;

(14) Building envelopes;

(15) Existing and proposed utility lines and easements;

(16) Historical and archaeological sites;

(17)

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A note indicating: "There shall be no clearing, grading, construction or disturbance of vegetation in the forest buffer, except as permitted by the Baltimore County Department of Environmental Protection and Sustainability"; and

(18) Supporting documentation for variance requests, including alternatives analyses and conceptual mitigation plans.

(1988 Code, § 14-338) (Bill No. 224, 1990, § 1, 1-1-1991; Bill No. 94-02, § 2, 7-1-2004; Bill No. 122-10, § 13, 1-16-2011)

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(3) Participate in multi-jurisdictional efforts to create uniform zoning regulations within the port area.

(4) Continue to participate in the Port Land Use Development Advisory council to help compile a multi- jurisdictional maritime master plan and to promote regional development of the port resource.

Emergency Preparedness/Sea Level Rise

Tropical storm Isabel had a huge effect on the shoreline of Baltimore County, raising the level of the Chesapeake Bay to eight feet above mean high tide, which caused flooding of properties and roadways in much of the eastern Baltimore County waterfront. Resilience to natural hazards, such as storms and storm surges, sea-level rise and shoreline erosion is inextricably linked to the siting and design of development, and to the built and green infrastructure that supports it.

Policy: Public awareness and planning are crucial for safety and minimizing stress during weather events that affect the waterfront.

Actions:

(1) Develop an educational plan for updates on emergency preparedness, including communications, evacuation, traffic, area closures, visitor controls, damage assessment, clean up etc.

(2) Educate the public on the value of shoreline preservation in providing protection against storm damage.

RURAL COMMUNITIES

The rural portion of the County provides high quality drinking water, agricultural products, timber, scenic open space, wildlife habitat, fisheries, recreation, water sports and cultural and historic resources. New development changes the character of the countryside and may have detrimental impacts on these resources. Baltimore County's *Rural Land Management Areas* protect resources and rural economies while permitting limited development. Since 1989, rural resources have been managed by growth policies for each Land Management Area. These areas include: resource preservation, agricultural priority preservation, rural residential areas, and rural commercial centers (Map 9).

Resource Preservation Areas

The Resource Preservation Areas are designated to preserve and protect the historic, cultural, recreational and environmental resources in the rural areas, while allowing a limited amount of residential development. Designated resource preservation areas include Patapsco/Granite, Soldiers Delight, Loch Raven and Prettyboy and Liberty Reservoirs, Gunpowder, and the Chesapeake Bay.

Policy: Preserve valuable cultural, historic, recreational, and environmental resources by limiting development and acquiring available land for public benefit.

Actions:

(1) Recommend that the County Council use the following guidelines in evaluating rezoning requests:

- Carefully evaluate any proposed zoning changes that would permit additional residential density or increased commercial development in the R.C.6, 7, and 8 zones.
- All zoning in the Chesapeake Bay Critical Area (CBCA) should ensure the most appropriate land use to minimize development impacts and preserve quality of life in surrounding communities, and meet existing CBCA designations.
- Comply with the County's commitments in the regional Reservoir Watershed Management Agreement and Action Strategy to

not increase development densities in the reservoir watersheds.

(2) Complete detailed studies to determine the existing and potential residential densities in resource preservation areas.

(3) Consider limiting residential densities to one dwelling unit per 25-50 acres. Consider limiting density calculation to net density for resource zones.

(4) Delineate and coordinate the public use of resource preservation areas for recreational benefits.

(5) Protect and foster forests and stream systems through conservation easements that prevent the continued fragmentation of these critical resources.

(6) Continue to support State and County programs that encourage sustainable forest management and initiatives to retain forestlands for multiple ecological and economic benefits.

Agricultural Priority Preservation Areas

(Note: Policies and Actions to foster a sustainable agricultural industry may be found in the Economic Vitality section. Preservation of the agricultural land is discussed in the Land Resources section.)

While the County is a national leader for the use of restrictive agricultural zoning and planning for agriculture, there are threats to its continued success. Despite the diligent efforts to maintain and expand the agricultural zoning, incremental development continues to threaten the protection of resources and the viability of the agricultural industry. Zoning and development controls need to be reviewed and strengthened to assure that the goals of the Master Plan and the Baltimore County Zoning Regulations are being achieved.

Policy: Manage land development to limit conflicts with the agricultural industry to safeguard lands preserved through easements.

Actions:

(1) Continue to enforce local policies, ordinances, regulations and procedures that stabilize the agricultural and forest land base.

(2) Review and, if necessary, revise zoning and development standards to promote conditions suitable for production, processing and sale of agricultural products.

(3) Include prime and productive soil standards and a maximum lot size to ensure that large parcels are not split to create large residential lots.

(4) Evaluate increasing the minimum acreage for subdivisions in the RC 2 zone to reduce environmental impacts and development pressure on agricultural resources.

(5) Evaluate regulations to eliminate resubdivision of lots created between 1975 and 1979 in the RC 2 zone.

(6) Require that placement of State agricultural or conservation easements shall not result in an increase in density over that permitted without the easements.

(7) Monitor development within the APPA's to ensure that residential and non-agricultural uses protect the resources and do not overwhelm the operation of agricultural businesses.

(8) In general, zoning changes made in the agricultural priority preservation areas should protect the County's agricultural industry.

(9) Consider adding criteria to the Baltimore County Zoning Regulations (BCZR) to require the evaluation of proposed development impacts on agricultural uses located on prime and productive soils.

(10) Assure that development will have limited impact on active agricultural operations by reviewing, and, if necessary, revising setback requirements.

(11) Review uses permitted by right and special exception in the RC 2 zone to determine whether any uses that are inconsistent with the purpose of the zone should be removed and consider additional performance standards, which will mitigate the impact of the proposed uses on the adjacent farm or easement property.

(12) Enact "Right to Farm" legislation and institute a nuisance mediation board for farm operations.

(13) Consider whether certain institutional uses now permitted in the RC 2, RC 7 and RC 8 zones should be eliminated. Establish performance standards for institutions that are found to not have significant negative impacts if limited by the standards.

Rural Residential Areas

The rural residential areas are a mix of single-family residential development and woodlands, farm fields, stream valleys and areas of significant historic and cultural value. They have accommodated the bulk of new residential development in the rural areas. Associated with rural residential development, there may be institutional uses, such as religious establishments, which are preferred to be located in proximity to residences, rather than in Resource Preservation or Agricultural Priority Preservation Areas. Included in the rural residential land management areas are Parkton, Chestnut Ridge, Hereford, Jacksonville, Kingsville, and Patapsco/ Granite.

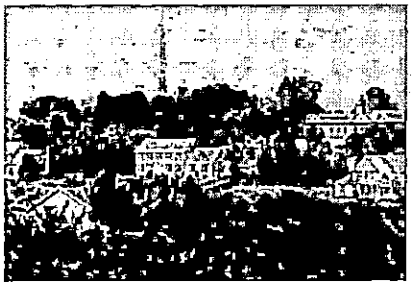
The 1979 growth management program designated rural residential areas as suitable for development. The 1989 Master Plan recognized some of the issues created by this choice. The 2000 Master Plan recommended limiting rural residential development. The majority of the land within these areas is zoned RC 5.

The intensity of this development is a suburban residential pattern with densities equal to one dwelling unit per 1-1/2 to 2 acres. Because this rural-suburban residential development is dependent upon well and septic services, the development pattern takes on a haphazard appearance and consumes large quantities of land. This type of development comes at a tremendous cost in terms of traffic, increased infrastructure demands, disruption of the rural character, and adverse impacts on functional values of rural land and water resources.

Policy: Limit suburban development in rural areas.

Actions:

(1) Conduct detailed land use studies to



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determine: 1) buildable areas, 2) agricultural areas, and 3) environmentally sensitive areas.

(2) Recommend that the County Council consider rezoning requests for additional office, business or industrial zoning in rural residential areas, in conjunction with the recommendations of any approved plan for the area.

(3) Adopt County standards appropriate for rural residential areas that include open space, architecture, site layout, lighting, bicycles, and pedestrians.

(4) Adapt cluster principles to maintain adjacent forests and open space, which help retain rural character.

(5) Provide effective buffers between development projects to maintain rural character.

(6) Preserve and connect open spaces through cluster development and open space acquisition.

Rural Commercial Centers

Only two designated rural commercial centers will continue to provide local services and facilities for the surrounding rural area. These centers are Hereford and Jacksonville.

The two rural commercial centers contain a certain mass of retail and office service uses that should not be spread or repeated throughout the rural areas. These areas will continue to be the only locations within the rural area where such services will be concentrated. The size, scale, and quality of development have been a continuing issue in these centers. In addition, the ultimate build out limits of these areas needs to be considered.

Policy: Manage growth in rural commercial centers

Actions:

(1) Manage development through specific rural commercial center master plans that are regularly updated. The master planning process should determine the ultimate boundaries and build out of these areas

(2) Develop overlay districts or specific zoning classifications with design performance criteria unique to each of the centers so issues of use, size, scale and design are addressed. Each center has unique characteristics that should be enhanced by new development.

(3) Adopt development performance guidelines and standards to ensure design quality, scale of uses, natural resource protection, buffers to agricultural uses, adequate open space close to homes, and pedestrian accessibility.

(4) Provide infrastructure support such as stormwater management.

(5) Provide adequate buffers and transitions between commercial projects and differing adjacent land uses to maintain rural character.

HISTORIC AND CULTURAL RESOURCES

Baltimore County has a wealth of cultural and historic resources. Historic communities are generally well planned with diverse architectural styles that are visually interesting. They are built at a human scale and are almost always walkable. Historic resources link us to our past – they provide tangible evidence

of the County's cultural, social and architectural past, and are a testimony to the women and men who came before us to shape our destiny.

Baltimore County has two historic designations that protect its resources to the highest degree possible: the Landmarks List and the County Historic District. Structures with either designation are protected from demolition and all exterior alterations are subject to Landmarks Preservation Commission (LPC) approval.

The Landmarks List is comprised of structures that contribute significantly to Baltimore County's history because they are associated with a person, group, event of historic importance; they are a distinctive example of a particular architectural style and/or they are a good example of the work of a master builder or noted architect. Other criteria spotlight the resource's artistic merit, or whether it contains and may be likely to yield information or materials important to prehistory or history.

A Baltimore County Historic District is more difficult to establish because proprietors owning at least 75 percent of the land within the designated area must agree to form an historic district. New developments are subject to LPC approval, which ensures compatible infill development.

Two other historic designations afford limited protection. The 1966 Historic Preservation Act created the National Register of Historic Places (NRHP). The NRHP is a record that includes National Register districts as well as individually listed properties. Both categories require a thorough review during the planning phase of federally funded projects. A National Register designation provides no protection against demolition or inappropriate exterior alterations, nor do they provide any control over the compatibility of infill development. On the other hand, contributing structures within a National Register districts, as well as individual properties listed on the NRHP, are eligible for the County Historic Property Tax Credit, which at least assures the retention of the integrity of properties participating in the tax credit program.

Policy: Promote historic preservation through improved education.

Awareness is growing about sustainability and the importance of living in a manner that is environmentally responsible. Redevelopment of an existing building is the ultimate form of "green" development, as opposed to demolition.

Actions:

(1) Provide information about preservation issues so the public can make informed decisions about historic resources.

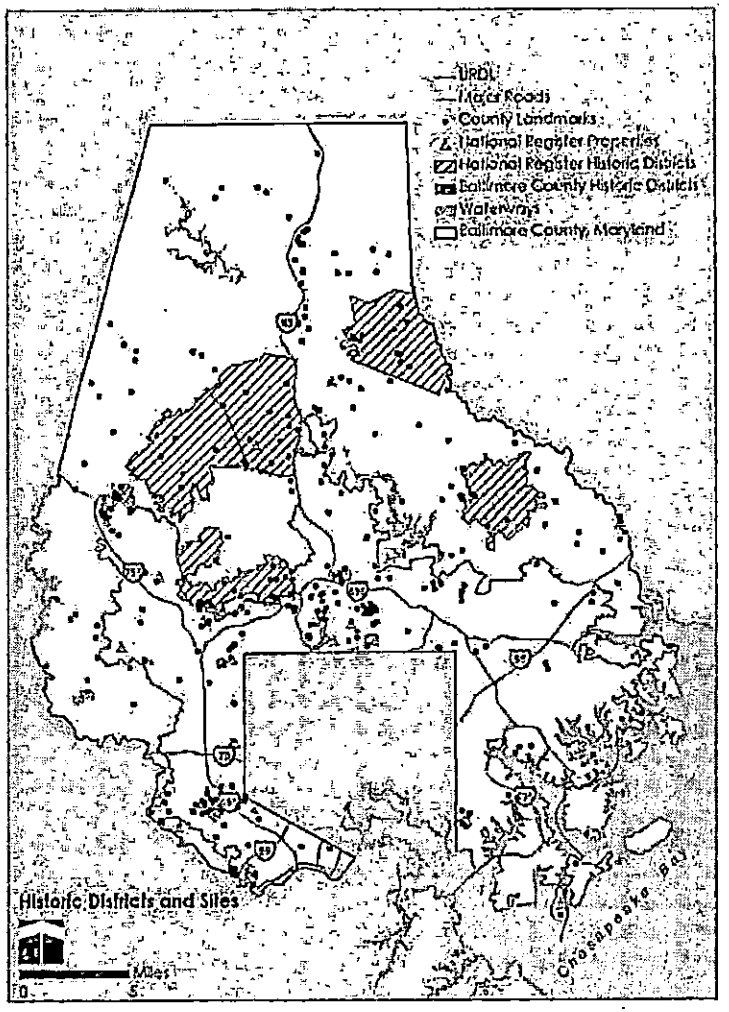
(2) Develop programs to educate the public about the economic, environmental, and cultural benefits of historic preservation.

(3) Make pertinent information available on the Baltimore County web site along with links to additional sources and studies.

Policy: Preserve historic structures and their settings.

The preservation of historic resources was an issue raised in the 1979, 1989 and 2010 Master Plans. Considerable progress has been made in response to the actions recommended in these documents. Amendments to the County's Preservation Law clarified vague regulations. The County enacted a very generous and popular historic property rehabilitation tax credit program to make the rehabilitation of historic buildings more feasible. Numerous properties were added to the Final

Map 25: Historic Districts and Sites



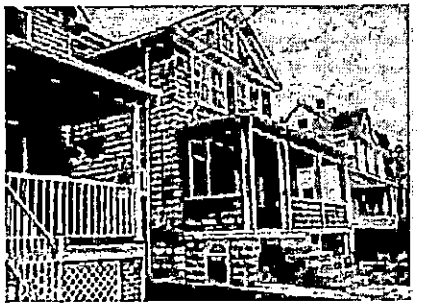
Landmarks List, and several new National Register Districts were created. Yet, while Baltimore County takes pride in these accomplishments, the need for preservation has lost none of its relevance today.

The property tax credit program for the rehabilitation of historic properties has been a great success for residential properties and for comprehensive commercial rehabilitation work. But the smaller, more routine maintenance projects for income-producing properties have not benefited. As a consequence, there is little incentive for commercial property owners to maintain their properties. Under the current law, residential property owners receive a 20 percent property tax credit on eligible rehabilitation costs. Income-producing properties receive a 10 year freeze on the property tax increase generated by the rehabilitation, i.e. the work has to be substantial to result in the reassessment of the property's value. Small jobs, such as painting the historic façade of a small shop, putting on a new roof, or installing a new air-conditioning unit does not result in a reassessment and therefore, is not eligible to receive a tax credit. Yet it is precisely these types of routine maintenance projects that are needed to keep historic commercial buildings in good repair. The National Register District of Reisterstown is probably the best example of a designated historic area that would benefit greatly if the historic rehabilitation tax credit program for income-producing properties would be widened to provide a tax credit for improvements under $ 50,000. Additionally, there are numerous income-producing structures on the Landmarks List that would benefit from the program. The optimal way to encourage historic preservation is when property owners agree to preserve and maintain their historic resources out of their own volition.

Actions:

(1) Continue to utilize nomination to the landmarks list as a means to safeguard historic buildings.

(2) Encourage and facilitate use of the County's historic property rehabilitation tax credit program.



Policy: Preserve and protect cultural resources.

Many older communities have structures that are valued by local communities, but do not meet the criteria for landmarks listing for one reason or another. Such cultural resources are frequently found in the County's former village centers, in older African-American communities and on commercial routes along old toll roads. A cultural resource may be an old school house, a former movie theater, a lodge, a church, or a store where people used to gather. It also may be an entire community that is in danger of having its roots forgotten.

Churches and schools in the County's older communities are other cultural resources that are frequently endangered. Churches are often too small to meet contemporary needs and/or may have dwindling congregations that are no longer able to support the church. Likewise, one or two room country schools, or schools that were a product of segregation have ceased operations. They often have little architectural interest but are of importance to their respective communities. Alternative uses and grant opportunities should be explored to keep these resources viable.

The 1979 Master plan recognized 39 Historic African-American Communities as valuable cultural resources. The 1989 Master Plan began to address the need for improving basic services and infrastructure, rehabilitation of historic buildings, and the importance of improving the quality of some housing in these communities. While much has been done over the

last 20 years to enhance the quality of life in these communities, some are still in need of assistance. This Master Plan builds upon previous efforts to acknowledge that Baltimore County's diversity is greatly enriched by its historically African-American communities, and recognizes the important of continuing to protect and enhance these valuable cultural resources.

Actions:

(1) Incorporate a list of cultural resources in community plans and explore the best methods to preserve them.

(2) Continue to work cooperatively with the Department of Public Works, the Office of Community Conservation and the communities to support improvements to preserve and enhance Historic African-American Communities.

Policy: Increase awareness about the importance of archeological resources.

Baltimore County needs to strengthen the preservation of archeological resources, as much of the County's history is buried in the ground. Greater attention should be paid to archeological resources in cases where there has been little previous disturbance associated with redevelopment or road projects.

Action:

(1) Educate the public and other agencies about the importance of archeological resources.

Policy: Coordinate historic preservation with the County's rural strategy.

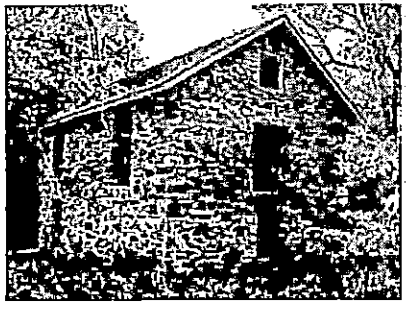
In rural agricultural areas, the preservation of historic resources presents a unique opportunity. Historic structures in the countryside tend to derive part of their historic significance from their bucolic setting, which is frequently tied to its economic function. Typically, the historic resource is composed of the primary structure along with a cluster of functionally and visually related outbuildings, such as barns, springhouses, and stables, set in a pastoral landscape of fields, streams and woodlands.

Rural areas that have retained their historic character, continue to be among the County's most desirable places of residence. Historic structures tend to be more compatible in design, scale and massing with the rural landscape than modern housing. However, sustaining the bucolic beauty of the rural landscape is challenging because maintaining a historic home can be expensive, and many property owners prefer newer and larger homes. Generally, rural subdivisions change the character by flatly grading the landscape with larger homes that are visible for miles. Even a single inappropriately designed or poorly sited new dwelling can dramatically alter the rural character.

Historic preservation goals coincide with agricultural preservation goals, environmental protection objectives and scenic preservation aims of the Master Plan in several ways. Historic properties tend to be smaller and thus create less impervious surface. Historic preservationists support the retention of a property's traditional agricultural use, thereby preserving scenic resources. Finally, saving and restoring structures, instead of replacing them with new structures, is in itself an act of sustainability that preserves historic resources.

Actions:

(1) Encourage owners of rural historic resources to place their property on the Landmarks List – particularly properties that



are important to the agricultural history of Baltimore County and which are located along scenic routes.

(2) Continue to protect designated "view sheds" of historic resources, either by limiting new development within view of the historic resource, or by buffering new development from the view of such resources.

SCENIC RESOURCES

The preservation and enhancement of the scenic resources in Baltimore County is an essential component contributing to the quality of life of residents. Scenic resources consist of scenic corridors, scenic views, and gateways. In 1991, the County adopted a set of development guidelines that have raised awareness and recommended development alternatives for protecting scenic resources.

Scenic Corridors and Views

Most of the scenic corridors and views are located in rural areas. The scenic view map provides the beginning of a list of the views for establishing a comprehensive inventory in the near future. Following the adoption of the 1989 Master Plan, the County produced a series of scenic route maps for each council district, which combined the significant visual and historical elements into self-guided scenic tours. The protection of the Interstate 83 (I-83) corridor in northern Baltimore County is a showcase of the inter-governmental efforts on scenic views preservation.

The endeavor for preserving scenic corridors and views ought to emphasize lands zoned for resource protection including RC 2, RC 4, and RC 7. The County will continue to maintain coordination with the State Highway Administration (SHA) and seek available state and federal funds for protection of scenic corridors and views.

Policy: Preserve scenic corridors and views through proper zoning and coordination with federal and state governments.

Actions:

(1) Coordinate scenic resource management practices with the national and state Scenic Byways Programs.

(2) Continue to preserve properties within the I-83 scenic view shed through easement purchases, as funds are available and through RC4 clustering.

(3) Evaluate proposed improvements to state and county roads and bridges regarding their impact on scenic resources in compliance with the adopted *Rural Roads Standards*. Where public safety allows, the narrow and/or winding character of roads is part of the scenic experience and ought to be preserved.

(4) Assess proposed development impacts on scenic resources.

(5) Clarify language regarding scenic corridors and views protection and make it consistent amongst the Master Plan, Comprehensive Manual of Development Policies, Baltimore County Zoning Regulations, Baltimore County Code, and SHA Context Sensitive Solutions for work on scenic byways.

(6) Establish criteria for identifying significant views and geocode them on maps.

(7) Apply a systematic methodology for evaluation of scenic routes and preservation techniques.

(8) Update scenic resources map in accordance

The County has emphasized its efforts on preserving the scenic view shed of I-83 between the Thornton Mill overpass and the Pennsylvania line, which runs through one of the most scenic piedmont areas in the County. Farms, forests, streams and rural homesteads feature both sides of I-83 in northern county. Many properties adjacent to I-83 have been preserved either as parkland or through various easement programs, including donations and purchase of development rights. There has been significant progress in this effort: between Belfast Road and the Gunpowder River, more than half of the scenic corridor has been protected.

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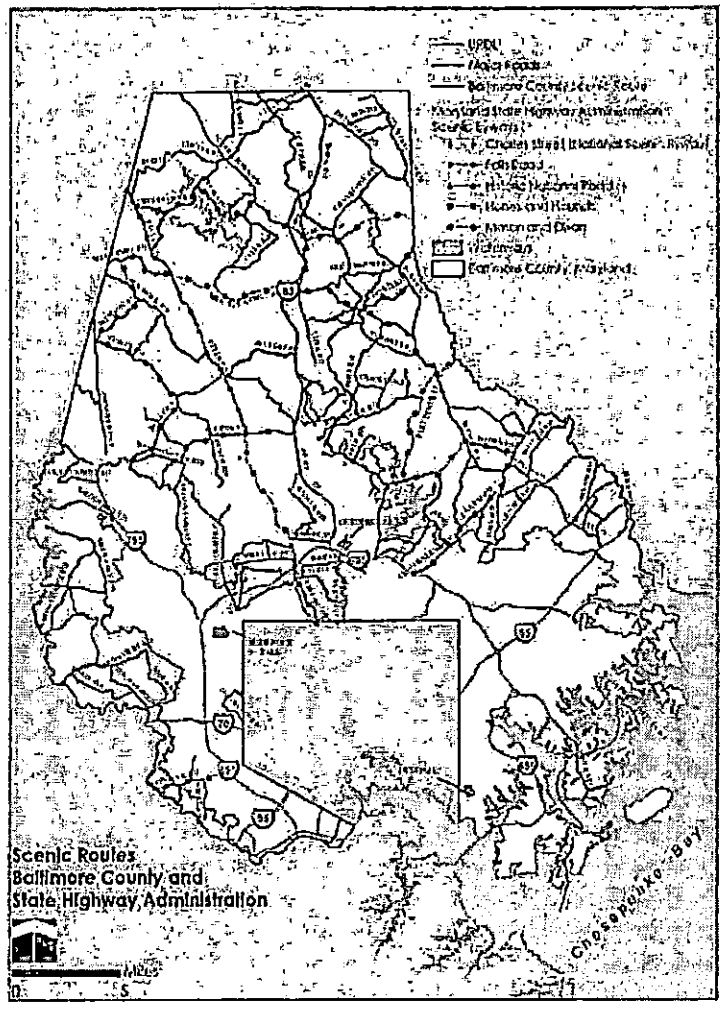
Map 26 Scenic Routes



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with the most recently adopted state scenic byways.

(9) For properties along scenic routes or within scenic viewsheds, variances, amendments, and special exceptions should be granted sparingly.

Charles Street National Scenic Byway

Charles Street is a main thoroughfare stretching from downtown in the City of Baltimore to Towson in Baltimore County. The County and the City of Baltimore collaborated with interested citizens, civic groups, and state agencies, developing a byway management plan for Charles Street. The purpose of this plan was to prepare for the nomination of Charles Street as a National Scenic Byway. In autumn 2009, the U.S. Secretary of Transportation Ray LaHood designated Charles Street a National Scenic Byway, together with 41 other designations in the nation to the America's Byways® collection. This designation allows the City of Baltimore and Baltimore County to apply for grants for preserving and enhancing scenic characteristics of Charles Street.

Policy: Preserve and enhance the Charles Street National Scenic Byway characteristics.

Actions:

(1) Apply for grants to implement actions outlined in the Baltimore County portion of the Charles Street Byway Management Plan.

(2) Collaborate with the Baltimore County Office of Tourism to prioritize activities in compliance with the Byway Management Plan

County Gateway Designations

Gateways are important elements of the County's visual fabric contributing to the community identity and the sense of transition between urban and rural development. Gateways can be located within either urban or rural areas, and mostly at the boundary between urban and rural areas. The specific design treatment of development for these gateways may vary, depending upon the location and structural type of gateways. In addition, the County worked with

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration. The program is a grass-roots collaborative effort established to help recognize, preserve and enhance selected roads throughout the United States. Since 1992, the National Scenic Byways Program has funded 2,832 projects for state and nationally designated byway routes in 50 states, Puerto Rico and the District of Columbia. The U.S. Secretary of Transportation recognizes certain roads as All-American Roads or National Scenic Byways based on one or more archeological, cultural, historic, natural, recreational and scenic qualities.

the State Highways Administration (SHA) to develop bridge designs along the 695 Beltway that strengthen the sense of arrival into the adjacent communities and promote the community uniqueness.

Policy: Enhance gateway designations through evaluation, design, and construction.

Actions:

(1) Evaluate existing gateways and identify additional gateways.

(2) Formulate appropriate design guidelines as part of community plans and streetscape projects.

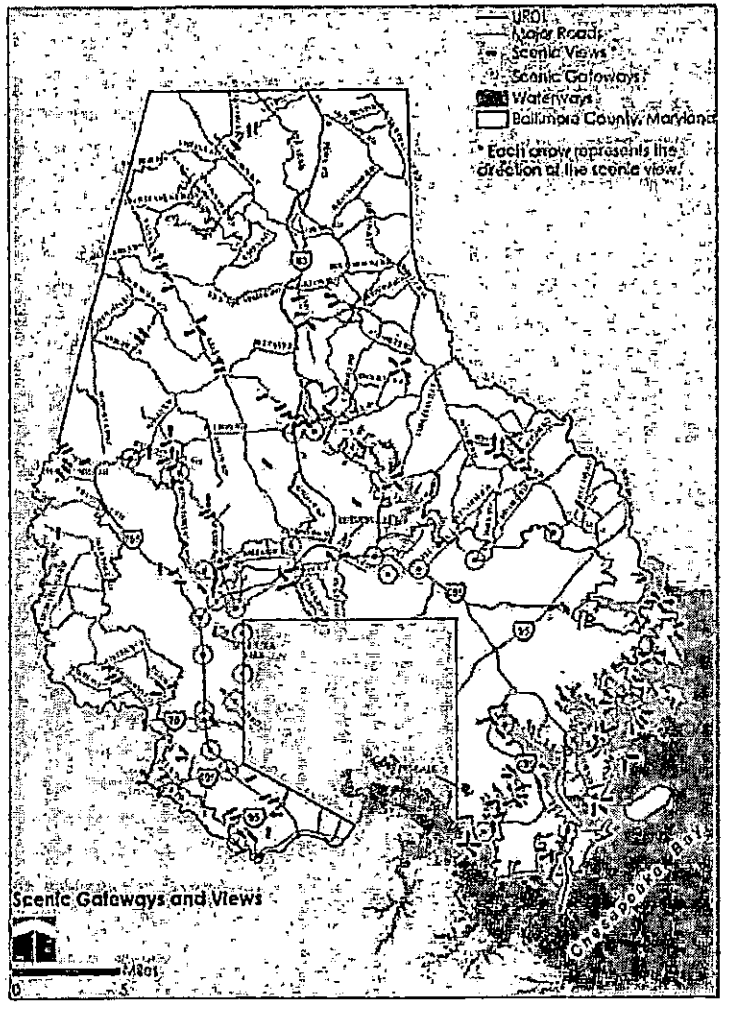
(3) Examine the design aspects of proposed development as part of the development review process.

(4) Develop general guidelines for gateways in the Comprehensive Manual of Development Policies.

(5) Continue to work with SHA to develop bridge designs at gateway locations.

There are numerous gateways in Baltimore County. Prime examples include: (1) The entry to the Cromwell Valley from Towson north of the I-695 Beltway. (2) Crossing the bridge northbound on I-83 passing Shawan Road. (3) The bridge designs over the I-695 Beltway entering Towson at York and Dulaney Valley Roads, Reisterstown at Reisterstown Road, Catonsville at Frederick Road, and on Charles Street. (4) The community logo, landscaping, and old railroad bridge abutment in Towson; and (5) The continuous streetscape along Eastern Avenue, from Route 702 to the bridge at Middle River Road leading to the waterfront communities.

Map 27: Scenic Gateways and Views



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Soil is a non-renewable resource. Its preservation is essential for food security and our sustainable future

Soil is a finite resource, meaning its loss and degradation is not recoverable within a human lifespan. As a core component of land resources, agricultural development and ecological sustainability, it is the basis for food, feed, fuel and fibre production and for many critical ecosystem services. It is therefore a highly valuable natural resource, yet it is often overlooked. The natural area of productive soils is limited – it is under increasing pressure of intensification and competing uses for cropping, forestry, pasture / rangeland and urbanization, and to satisfy demands of the growing population for food and energy production and raw materials extraction. Soils need to be recognized and valued for their productive capacities as well as their contribution to food security and the maintenance of key ecosystem services.

Related links: **http://www.fao.org/soils-2015/en/;**
Date: 03/03/2015
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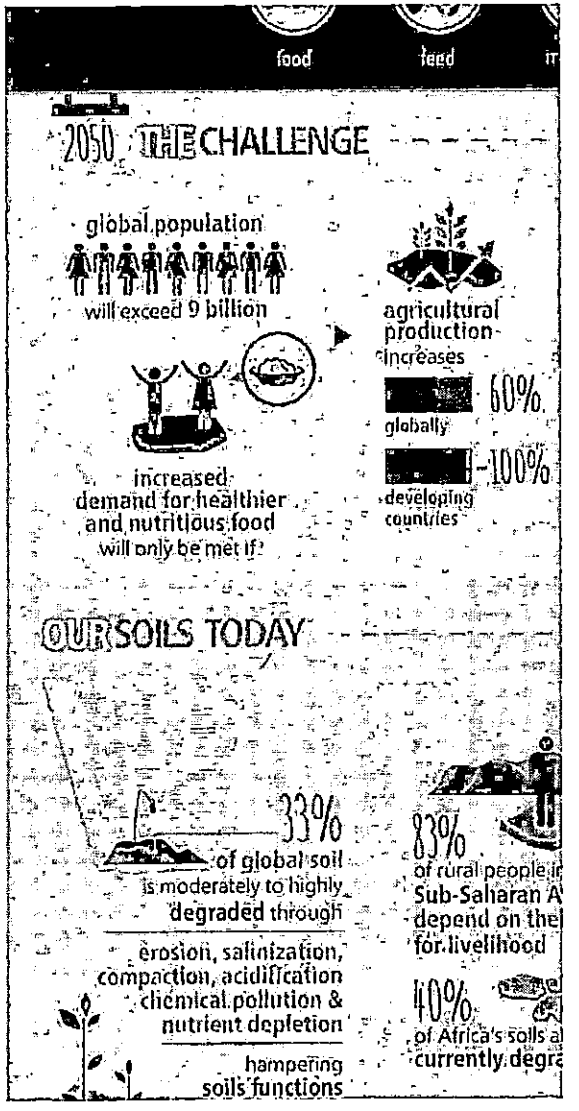

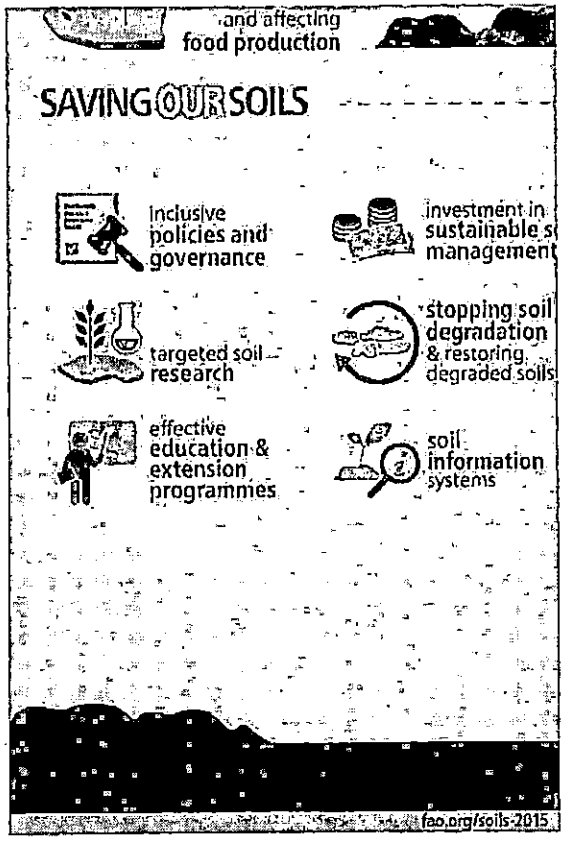

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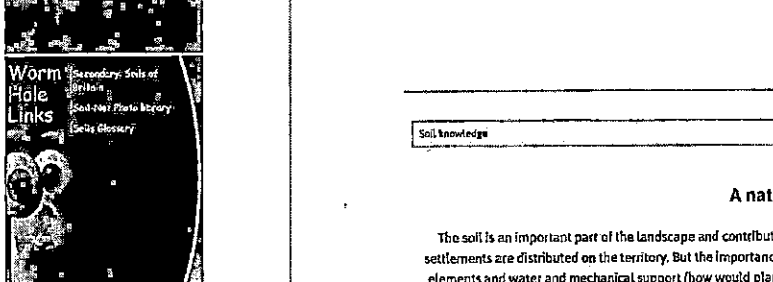
APP. 28

What is soil?

Themes: Introduction | The uses of soil | What people think of soil | Quiz

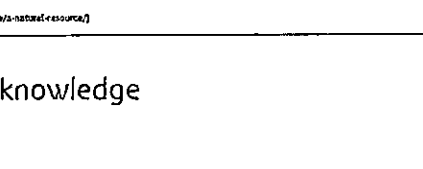
What is soil?
Why does soil matter?
Soil under the microscope
Recognising types of soil
Weathering and soil formation
Properties of soil
Soil character
pH and soil acidity
How do soils form?
Why do soils differ?
Soil as a living being
Plants and soils
The beginning of soil

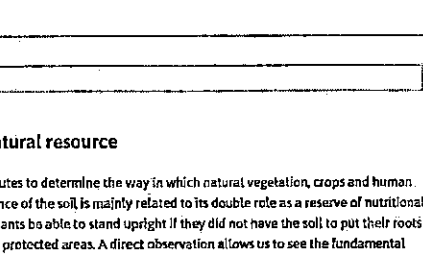
Soil is one of the world's most important natural resources. Together with air and water it is the basis for life on planet earth. It has many important functions which are essential for life. Not only does it play the major part in allowing us to feed the world's population, but it also plays a major role in the recycling of air, water, nutrients, and maintaining a number of natural cycles, thereby ensuring that there will be a basis for life in generations to come. Without soil, the world's population neither would nor could survive.



Soil forms the surface skin over the landscape of the earth at the function between the atmosphere and the lithosphere. Think of soil as a thin carpet covering the land portions of the earth. The distance from the surface of the earth, at which the soil is situated, to the very centre of the earth deep below, is over 6,000 kilometres. Of this, the soil layer is a mere one to two metres thickness of this 6,000 kilometres. It is thus a very, very thin skin indeed - both fragile and extremely precious.

Soil consists of a mixture of mineral grains that come from the rock deposits and sediments beneath them. This mixture gives the overall texture of the soil, namely whether the soil is mainly sandy, loamy or clayey. Importantly, soil also contains organic matter, mainly in the top 20 cm. Organic matter comes from rotted and decomposed vegetation, broken down by soil organisms. Soil also contains varying amounts of water depending on the climate and the water holding capacity of the soil. The remaining important ingredient is air. The amounts of each of these components varies in time and across the landscape. This is a magical mixture of ingredients that allows the soil to perform many vital needs of living beings.





Themes: Introduction | The uses of soil | What people think of soil | Quiz

soil-net mailing list | about soil-net | donate

log in

APP. 29

eni school energy&environment

Home page (http://www.eniscuola.net/en/homepage/) / Earth (http://www.eniscuola.net/en/materie/earth/) / Soil (http://www.eniscuola.net/en/argomento/soil/)
/ Soil knowledge (http://www.eniscuola.net/en/argomento/soil/soil-knowledge/)
/ A natural resource (http://www.eniscuola.net/en/argomento/soil/soil-knowledge/a-natural-resource/)

Soil knowledge

Soil knowledge

A natural resource

The soil is an important part of the landscape and contributes to determine the way in which natural vegetation, crops and human settlements are distributed on the territory. But the importance of the soil is mainly related to its double role as a reserve of nutritional elements and water and mechanical support (how would plants be able to stand upright if they did not have the soil to put their roots in?) for vegetation, leading to the creation of forests and protected areas. A direct observation allows us to see the fundamental importance of the soil: if we go to the mountains or to the countryside, we will see some bare rocks without plants, but next to them there will be wider areas covered by a thick soil. On this land spontaneous vegetation or crops grow. The soil is also very important for men and other living organisms as it affects water composition. In fact, the quality of underground water reserves depends on use of organic and inorganic polluting products, deriving from agricultural and industrial activities or from cities. Various chemical and physical properties of the soil affect the concentration and permanence of polluting compounds in the soil, and the probability that they get in contact with superficial aquifers by polluting them.
The soil can be extremely important for men even if it is not changed and left in its natural conditions. This is the case of protected areas (parks and oasis): the survival of the delicate ecosystems of these areas mainly depends on the fact that the soil keeps in good conditions and does not experience changes. For example, in the past men considered wet areas as unhealthy areas to be reclaimed and used for agriculture. Today wet areas are considered as very important and fragile ecosystems, whose survival can be guaranteed only by preserving the particular conditions of their soil.

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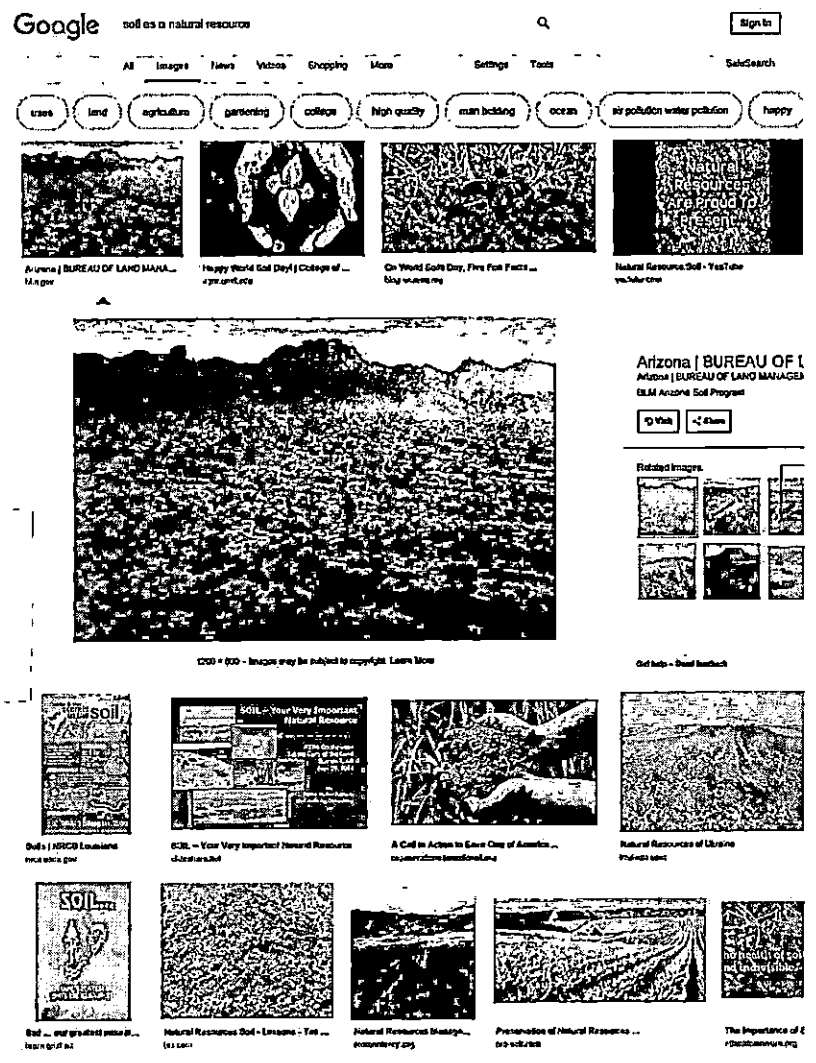
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Land and Soil
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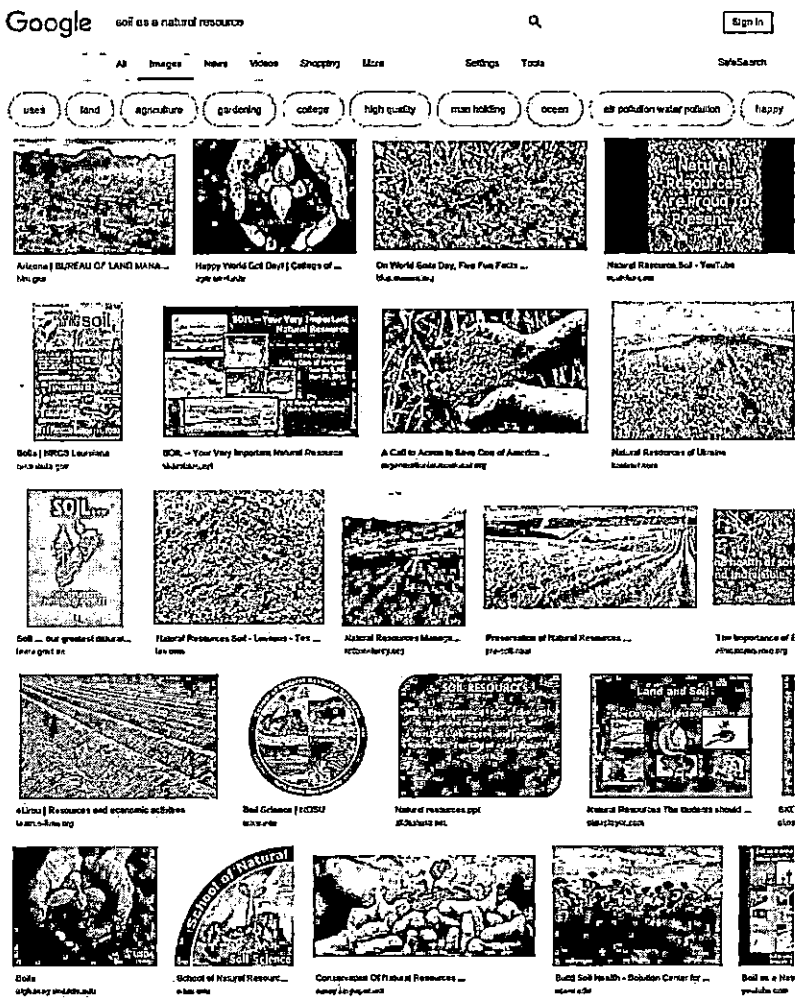
PRINCIPLES and PRACTICE of SOIL SCIENCE
The Value of Soil
Conservation of Soil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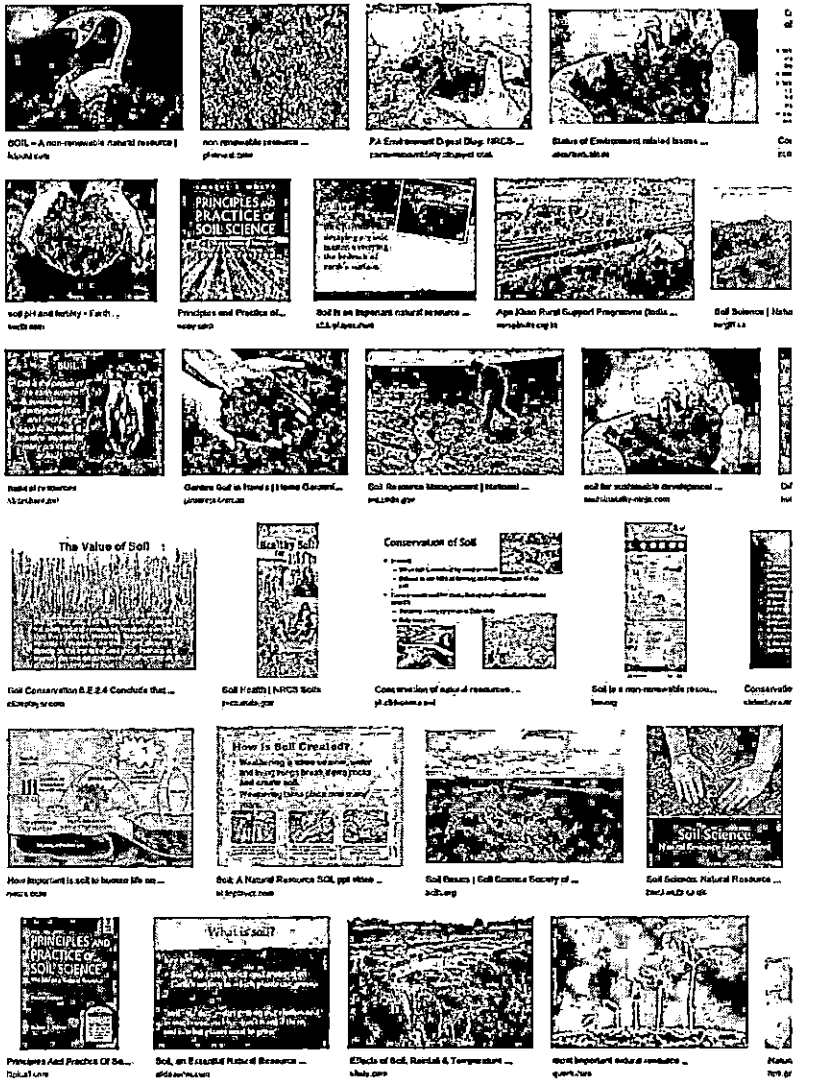
Natural Resources are Found in Soil
SOIL – Your Very Important Natural Resource
Land and Soil
How is Soil Created?
Soil Science
What is soil?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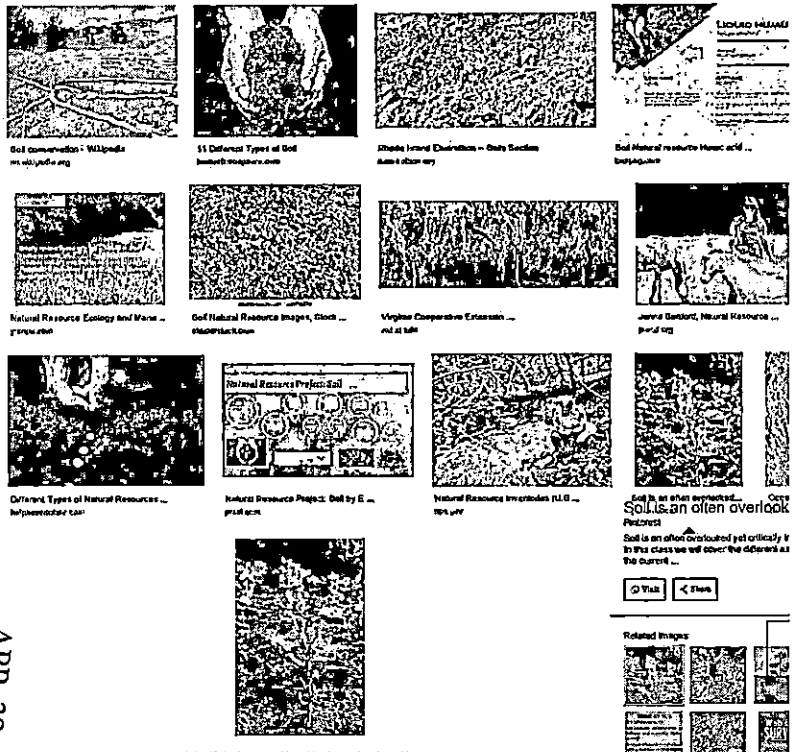

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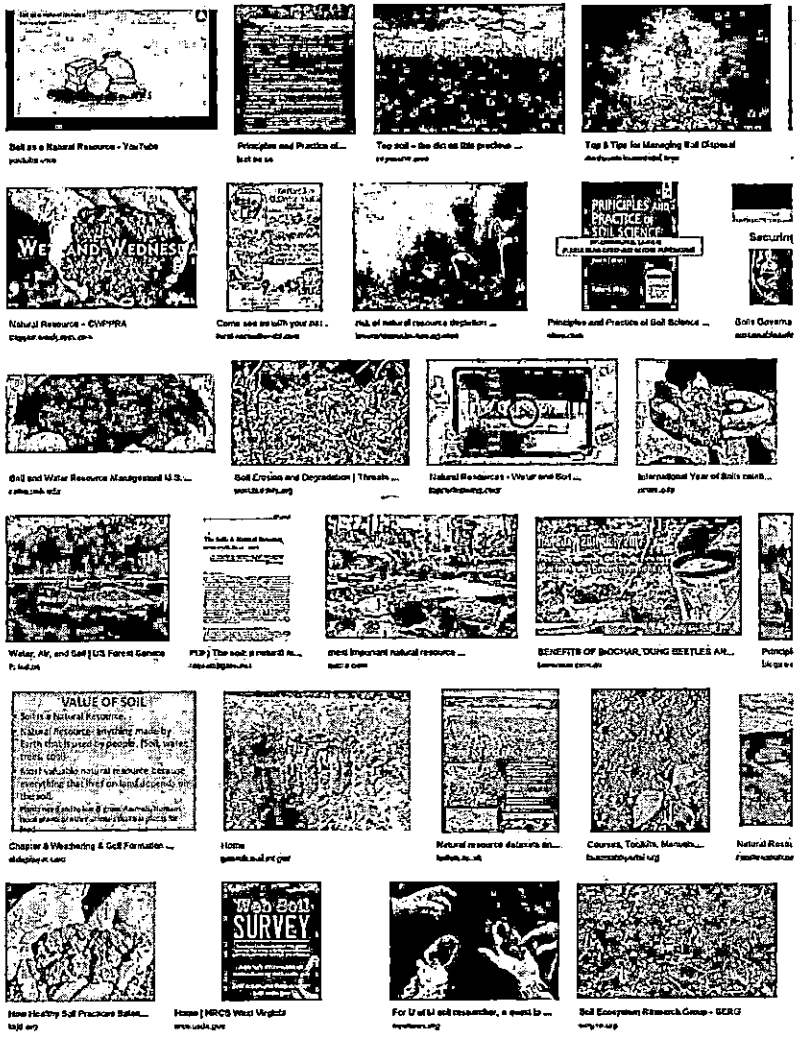
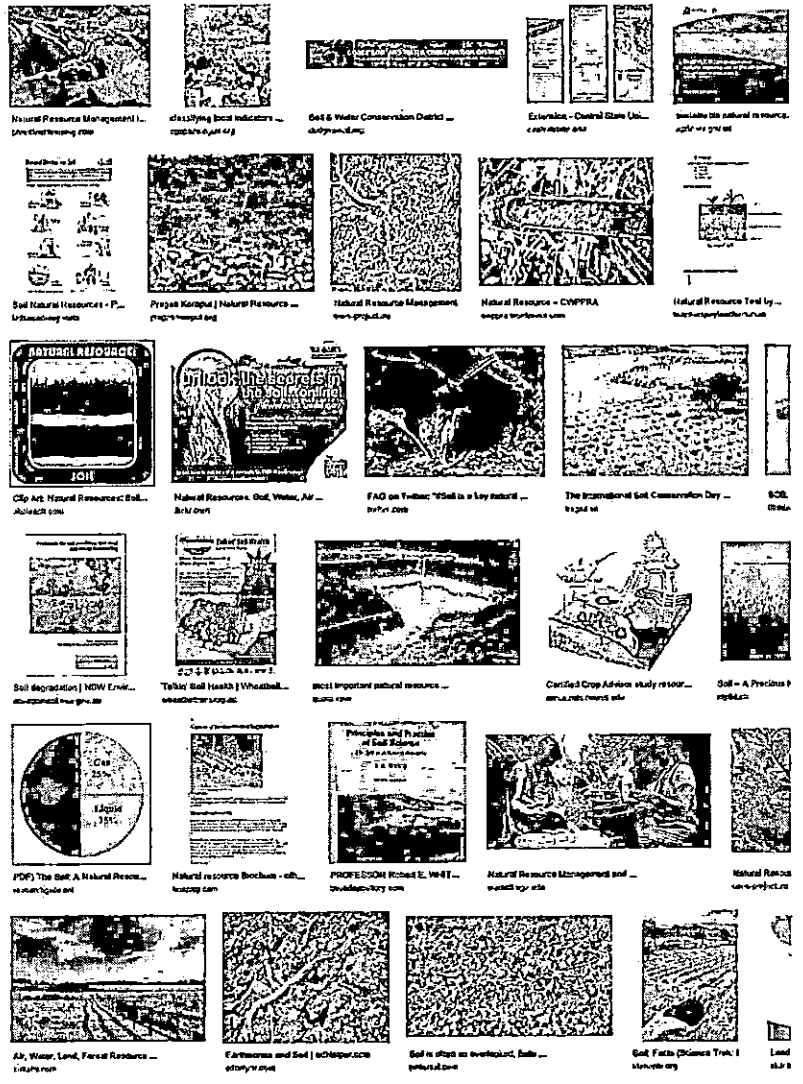
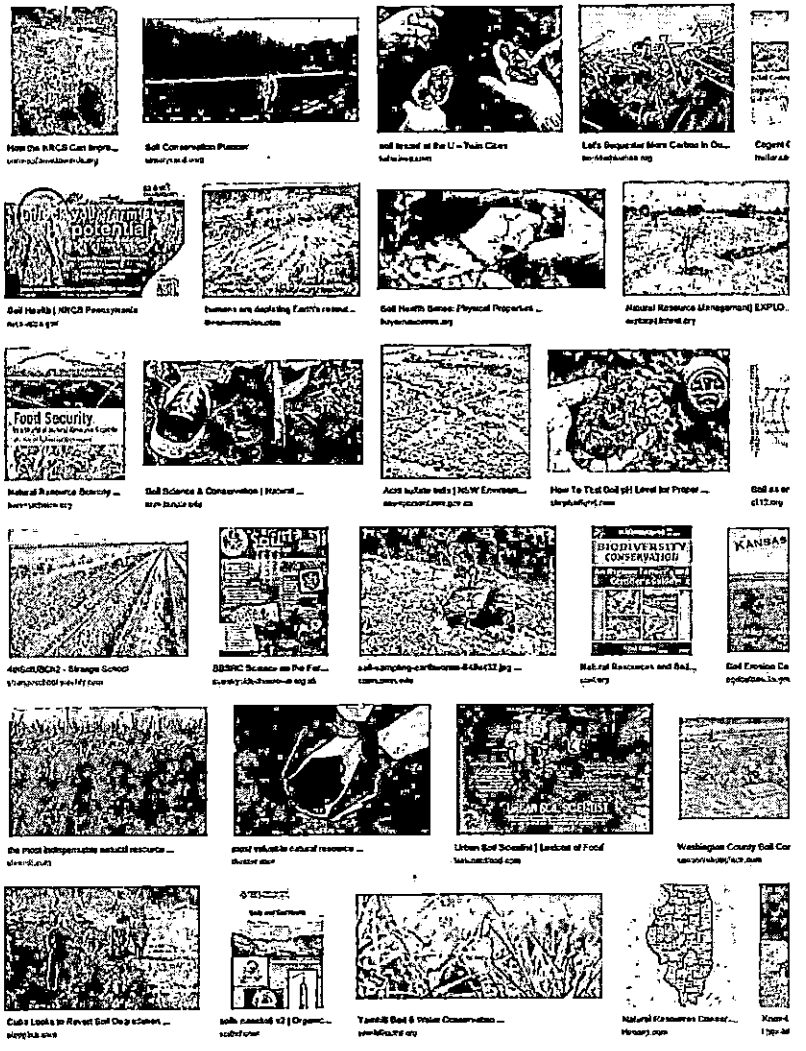



NATURAL RESOURCES
SOIL
Unlock the Secrets in the Soil Around Us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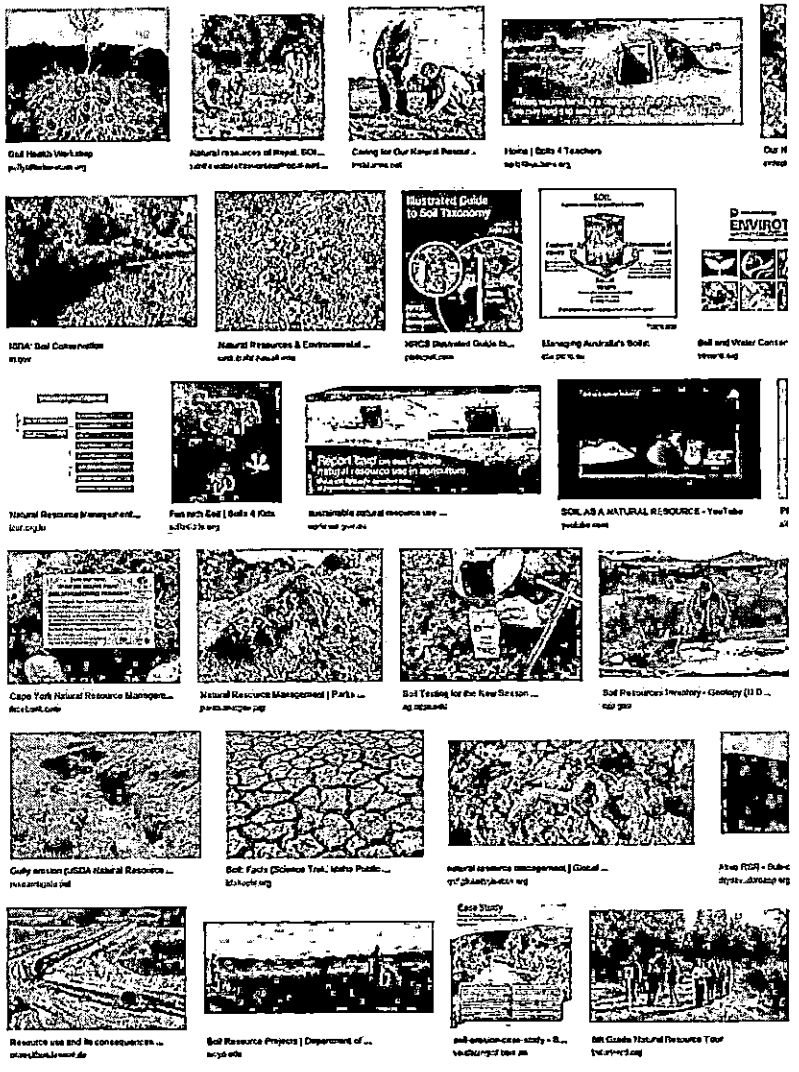
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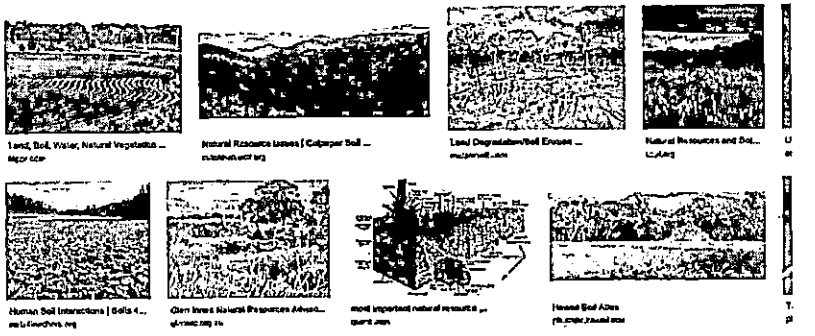
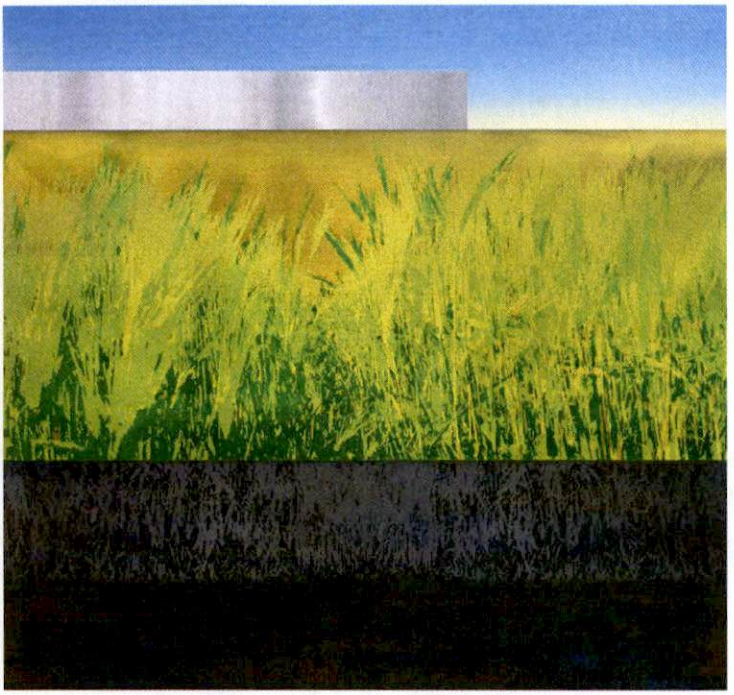


Soil – A Precious Natural Resource



Soil as a Resource
National Research Programme NRP 68

Schweizerische Eidgenossenschaft
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Foreword

Soil is more than construction land 'in a prime location' or pasture- and farm land. The soil is a habitat. Our view of the soil, however, is often just a surface view – quite literally. But a look beneath the surface is well worth it. The importance of the soil for life on Earth is greatly underestimated. Without intact soils, we would be lacking the most important essential basis of life.

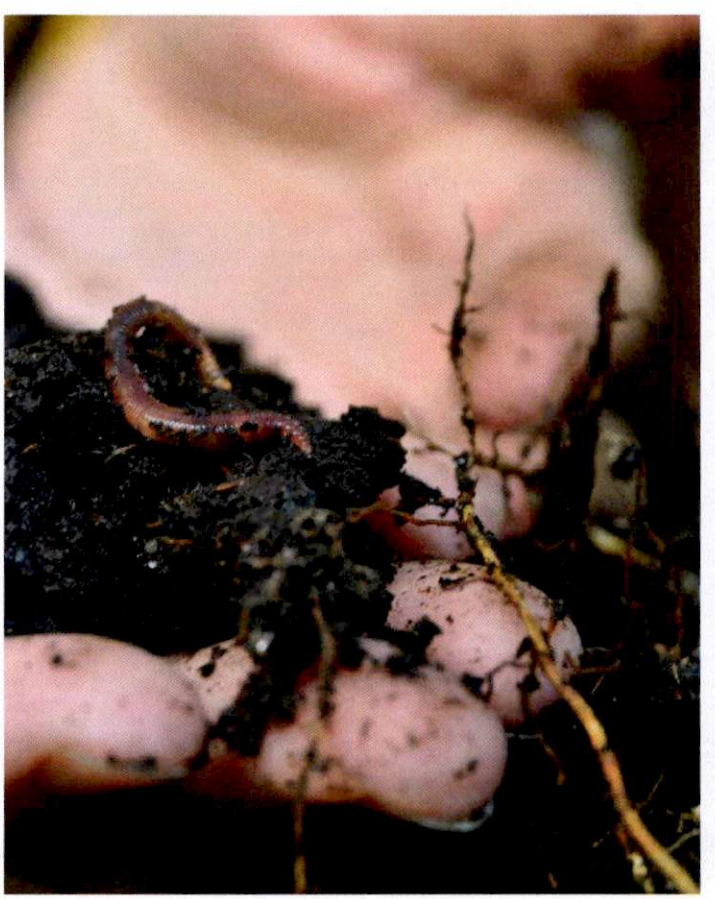
The cosmos of soil between the plant cover and bedrock is the indispensable connecting element between atmosphere and groundwater. This central hub for all important material and energy flows on Earth performs numerous economic and ecological functions: Soil is the basis of food production, a habitat for innumerable organisms, a water filter and a natural store for carbon and water. Billions of living organisms in each handful of soil decompose old plant material into their basic building blocks and make these nutrients available to new plants.

Soil therefore deserves our attention. Particularly in Switzerland, where soil is scarce, a better understanding is needed. For this reason we welcome that with this brochure, researchers and the Federal Administration (Federal Office for the Environment, Federal Office for Agriculture, and Federal Office for Spatial Development) bring home the importance of soil and its essential functions. How many of us are aware that each shovelful of earth has a formation history reaching back hundreds of years? Or are conscious of the fact that the soil secures the living and economic environment of Switzerland?

So let us be concerned about the soil, this basis of all life. Let us take care of our soil. Let us preserve our cultivated land. For our quality of life is directly dependent upon the quality and quantity of the soil. Let's keep our feet on the ground!

Federal Councillor Doris Leuthard

Federal Councillor Johann N. Schneider-Ammann



The fascination of soil

We seldom have a clear view of the fascinating world beneath our feet. It comes to light primarily when excavators tear open the ground in the creation of construction pits, thus offering a visible perception of the three-dimensional cosmos of soil. It is worth climbing down into one of these pits and taking the time to study the intricate walls. On offer in these hidden worlds can be a colourful layered story sequencing years and years of mankind. The hollow cavities of burrowing fauna transverse the earth like veins, each with a story of their own. Only when you are surrounded by and are witnessing this world first hand, can the complete impression that you are standing within not just a self-contained ecosystem, but an ancient ecosystem, come to life.

Soils are formed from rock

Approximately 10,000 years ago, towards the end of the last ice age, there was no intact soil in the larger areas of Switzerland. Glaciers had ground it down and left behind nothing but bare rocks or moraine materials as they retreated. Sun, rain, frost and soil organisms then worked symbiotically together in weathering the rock material, chemically and mechanically, ultimately breaking it down into smaller particles. As a result, soil was continuously taking form and plants could begin to thrive.

Minerals were transformed and, through the method of leaching, were washed further into deeper layers as the rock broke up progressively into loose soil. Over thousands of years the typical sequence of successive layering of soil developed: typically a layer of topsoil rich in humus over a layer of subsoil consisting of strongly weathered parent rock and washed out material from above. Below that lies the only slightly weathered parent material and finally the bedrock.

Many types of soil

Depending on the parent rock material, local topography, climate and water availability, differing soil types developed after the final stages of the last ice age. There are shallow or deep, acidic or alkaline, nutrient-poor or nutrient-rich, wet or dry, sandy or clayey soils – as well as every conceivable variation between these extremes. The astonishing number of variations is represented within a large range of the colour spectrum, from red to yellow to blue and all the shades in between.

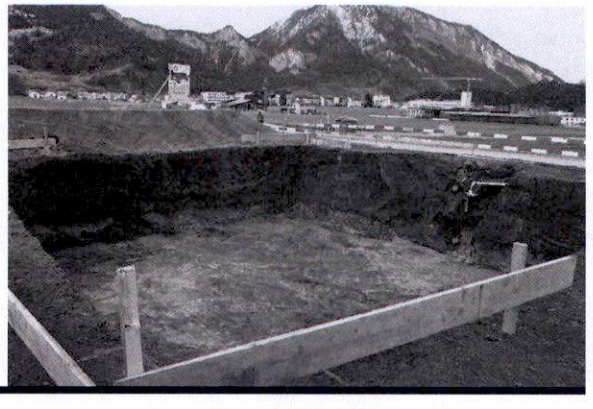
Moist and warm conditions are optimal for soil formation as it is under these conditions that soil organisms who are responsible for the rock-weathering processes are most active. For this reason, the soils in the Central Plateau of Switzerland, which are 1 to 2 metres deep, are clearly much thicker than the soils in the Alps, which are often only a few centimetres deep.

As long as weather and water are continuously interacting with soil populated by organisms, the development of the soil is never completely at an end. In a seemingly motionless earth there is always something in a state of flux: humus constantly forms and decomposes, seepage water dissolves soluble materials and washes them into lower layers of soil, clay and soil particles shift into deeper layers and iron oxidizes, giving many soils a typical brownish red colour.

The long lasting life of soil

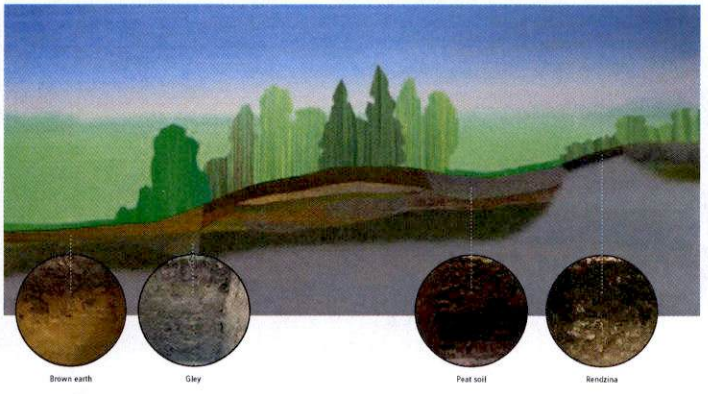
The habitat "soil" has been formed over thousands of years from inanimate rock. Sun radiation, rain, frost and soil organisms weather the rock or moraine material of the glaciers. As a rule of thumb, it takes 100 years for one centimetre of soil to form.

On the surfaces that result from the rapid retreat of the glaciers in the Alps, the various stages of soil formation can still be seen today.



Land pits offer a great insight into the colourful sequential layering of the soil.

Versatile ground



Regardless of the location of a hole in the ground, we will always come across different soils. Depending on the type of rock, the slope, the local climate and water availability, a specific combination of processes of soil formation acts at a particular location and leaves behind soil profiles with different characteristics.

APP. 36

Tardigrades: the bizarre inhabitants between the layers of leaves, soil and moss beds.

There is special trade relationship between the roots (yellow) and mycorrhizal (green). The roots supply the fungus with sugar and the fungus supplies nutrients, protects the roots from pathogens and pollutants, improves water absorption and helps with drought resistance.

Amoebas are voracious protozoa Characterised as predators, they use their pseudopodia to claim their prey and help develop the microfauna to contribute to the ecological balance.

The world beneath our feet

When we hike through the woods, we enjoy the calm serenity. What we fail to notice is that beneath our feet the ground is teeming with diverse life forms – the engine behind our own existence. It is accredited to these most tiny organisms in the soil that life on Earth's surface exists at all.

Soil as a habitat

Without seeming so, soil is a lively habitat filled with many living organisms. Even though the ground appears to be simply a compact layer, between its components are countless minute margins where an army of organisms are maintaining the underground "factory of life". In fact, approximately half of the space that soil consumes consists of microscopically small hollow spaces. The solid part of the soil forms a filigree structure composed primarily of clay particles, humus particles and sand. The spaces in between – known as soil pores – are filled with water or air and house countless animals, plants and fungi. This is a habitat of gigantic dimensions: the entire habitable area of a handful of clay soil is greater than a square kilometre. It is home to billions of microorganisms and to these organisms, every clump of soil is practically an infinite landscape.

Overwhelming diversity

Only a small fraction of the organisms living within the soil are known to science. "We know more about the movement of celestial bodies than about the soil underfoot", lamented Leonardo Da Vinci more than 500 years ago. Unfortunately, little has changed since. We do, however, know that one handful of soil contains more organisms than there are humans on the planet. In only one gram of soil, close to 50,000 types of bacteria and up to 200 metres of fungus threads can be found. The weight of all living organisms in the soil layers of one hectare of land can be as much as 15 tons, equivalent to the weight of 20 cows. In comparison, the grass on one hectare of land in the lowlands feeds only about two cows.

For researchers, with all of its organisms, soil can be viewed as a gigantic yet minimally studied "pharmacy". In 1928, Alexander Fleming discovered the first antibiotic, penicillin, and its antibacterial characteristics. Penicillin is a natural substance released by Penicillium soil fungi. In light of this knowledge, researchers worldwide have continued to collect a myriad of soil organisms and tested whether the unicellular organisms, bacteria, fungi, algae, lichens and plants can also produce antibiotics. In doing so, the researchers have discovered numerous new substances which have almost all since become important medications. The potential for furthering medication knowledge and production is vast but has not yet even begun to be utilised.

Teeming with life

Pictures of soil organisms, once zoomed in, show an impressive diversity of how fascinating and beautiful they can be. The soil thrives with life and not in a motley jumble similar to the many species living above ground, but in a complex network of relationships; including carnivores, herbivores, scavengers and omnivores.

In soil, teamwork is essential and omnipresent. One particular plant group, the leguminous plants, which clover and beans belong to, has a symbiotic relationship with the bacteria that live in the soil. These minute little industrious workers are able to take the nitrogen from the air and convert it so that the plants in turn can use it to thrive, and as a response the plants provide the bacteria with sugars.

Much more widespread is the close interrelationship between plant roots and soil fungi. Over 80 per cent of plant species form a mutually beneficial symbiotic relationship with a particular fungi called "mycorrhiza" (fungus roots). The fungi colonize amongst the fine roots of host plants and increase the root growth system and enhance the plants' contact with the soil. The fungi provide the plants with the water and soil nutrients they need to survive and the plants provide the fungi with sugars. Porcino and amanitas are prominent examples of root fungi, as they are recognized as assisting in the growth of important tree species such as spruce. The dense fungal structures on or within roots also work to protect the plants against pollutants and pathogens.

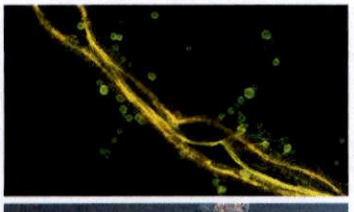
The fuel for the underground ecosystem is provided by aboveground plants via their root excretions and the dead leaves, stems and branches. This material is utilized especially by earthworms, insect larvae, snails, springtails, mites, woodlice, nematodes, protozoans, bacteria and fungi, which themselves are the primary food source for many other organisms. The "shark" amongst the underground creatures is the mole. Moles predominately hunt and feed on earthworms as they move and eat through layers of the soil, filling their intestines with decomposing organic material and earth. Their channels and burrows loosen and aerate the soil, which improves drainage, especially after a heavy rainfall.

Plants on the surface of the earth are largely dependent on soil organisms and vice versa. In an area the size of a standard football field, soil organisms can break down up to 25 tons of dead plant materials and animal remains every year. Without them, gigantic compost heaps would tower skywards within our forests and woods.

Valuable humus

Soil organisms endure hard labour around the clock. They decompose dead organic material and turn it into a stable substance called humus. Without enriching humus, the ground would be no more than a giant sandbox. The organic matter within soil is a reliable source of nutrients for plants and also a storage medium for water, pollutants and carbon; therefore humus plays a central role in the maintenance of the nutrient, water and carbon cycles.

Soil organisms continuously mix humus into the lower soil layers. Within a single cubic metre, earthworms alone assist by moving up to 12 kilograms of earth per year. This loosens the soil and forms stable soil crumbs that are less susceptible to erosion and are considered the most important structural elements of the soil. Earthworms' tunnelling activity also improves soil aeration and its ability to retain water.



Pseudomonas bacteria protects wheat roots form harmful organisms. They produce a cocktail of toxic substances which act against harmful fungi and insects. The tiny helpers are rewarded with approximately 10 per cent of energy obtained through photosynthesis.

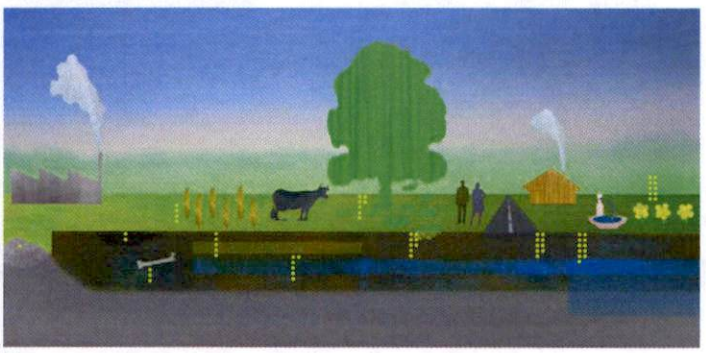
The functions of soil

Healthy soil performs numerous functions and ensures that planet Earth remains habitable for humans. Soil is first and foremost the ground on which we walk. It gives the landscape its round and soft forms as well as a stable foundation for buildings, streets and tracks.

The most evident link between the soil and us is the production of food, animal feed and wood. Less apparent are other functions, which will be discussed in the sections below. These functions are the result of the soil's ability to control and maintain the materials and energy cycles between the atmosphere, groundwater and plant cover. Soil is known for storing nutrients and providing them to plants, regulating climate, filtering water, assisting in the control of floods and conserving the natural and cultural history. The living organisms throughout the soil are the engines that render the soils diverse, keep irreplaceable functions running and are beneficial for the ecosystem.

When winter takes its leave, so [illegible] showing what it is capable of. For example, each year farmers within Switzerland harvest 500,000 tons of potatoes from the earth, deliver approximately 50,000 tons of rapeseed to oil factories, grow more than 16,000 hectares of bread and feed grain and harvest several hundred thousand tons of fresh vegetables. In this case, fertile and intact soil is the central resource for sustainable agricultural production.

Soil – a multitalented matter



Soil ...

- ... contains raw materials (such as drinking water, gravel).(p. 18)
- ... stores carbon (p. 16)
- ... archives natural and cultural history (p. 22)
- ... supplies food (p. 12)
- ... stores nutrients (p. 14)
- ... filters water (p. 18)
- ... makes plant growth possible (p. 12)
- ... is a habitat for soil organisms (p. 7)
- ... is the foundation for buildings and roads (platform function),
- ... offers ingredients for medicines (p. 17)
- stores water (flood protection, water reservoir for plants), (p. 20)

The functions of soil

No harvest without fertile soil

The Central Plateau of Switzerland is home to some of the most fertile and productive soil worldwide. This is courtesy of the balanced climate, sufficient rainfall and advantageous underlying economic conditions for production and sales. Therefore, Switzerland has a special responsibility to conserve this important base of life.

Thirty-five per cent of soils within Switzerland can be utilized in cultivated fields, meadows and pastures. Another ten per cent are alpine farmland, hence also serve the production of food. The remainder is too steep, wet, dry, shallow or nutrient lacking for agricultural use.

Limited resource

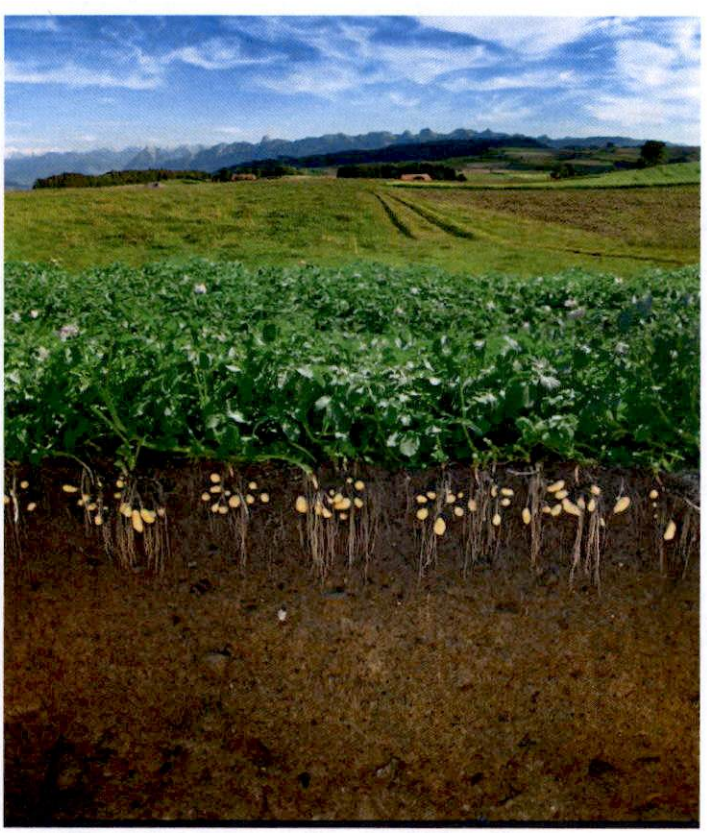
It takes 1,400 square metres of farmland to feed one person. Therefore, one hectare of land could essentially feed up to seven people. At this point in time, on an average day worldwide, one hectare feeds about 4 to 5 persons. The limit value of seven people will most likely be reached by the year 2050. This projection shows how important it is to maintain and protect the soil. Not one square metre should be wasted!

When land is used for construction it is then forever unfit for agricultural use. As a result of the rapidly increasing yields of industrialized and highly intensive agricultural production, certain types of soil have forever disappeared in the highly developed countries. This in turn makes utilisation of site-adapted sustainability difficult. With this we have lost our awareness and appreciation of soil as a functioning habitat. For instance, when we eat ice cream we tend to disregard the "soil–grass–cow–milk–ice cream" chain or the "soil–grass–cow–cow manure–soil" cycle.

Sustainable use

To preserve soil's natural fertility in the long term, agricultural use that suits the location and fosters the rich soil life is needed. Heavy machinery and overuse of mineral fertilizers, liquid manure and plant protection products damage the soil organisms and the loose structure of the soil habitat. Put simply, habitat. This means that the soil must be used with consideration and sustainably.

In the forest, too, healthy soil is the basic requirement for a sustainable timber harvest. Furthermore, healthy soil ensures that it will perform all of its essential functions, such as flood protection and carbon storage. Grave problems can result from the use of heavy forestry machinery on naturally bedded forest soils as well as the planting of non-native tree species. For the formation of the indispensable humus layer it is essential that branches and wood waste remain in the forest and not succumb to gentrification.



Farmers harvest four kilograms of potatoes per square metre and year from this fertile farmland in Switzerland's Central Plateau. The Niesen mountain and the Stockhorn mountain chain can be seen in the background. The development history of this soil near Zimmerwald in the Canton of Bern began about 10,000 years ago. The Aare glaciers left behind a hefty deposit of calcium-rich moraine material. In the upper 120 centimetres, fertile, sandy loam soil developed. Particularly striking is the thick and humus-rich topsoil in which the potatoes grow.

Plants require a large number of nutrients for survival, including nitrogen, phosphorus, potassium, magnesium and calcium as well as trace elements such as molybdenum and boron. These are found as in dissolved form in the water within soil pores, where plants ultimately can absorb them. Thankfully an on-going supply is available. The most significant source of the nutrients is from the decomposition and transformation of dead plant material such as leaves and stems that fall to the ground and are decomposed by soil organisms. Soil organisms therefore provide plants with a continuous supply of nutrients, free of charge.

The fungus Drechsler Ella Anconia (white thin thread) captures a worm with the help of the fungal ring. The drama was captured with an electronic microscope.

The functions of soil

Efficient recycling in the soil

Without soil organisms soil would not be able to make the nutrients made from decomposed plant material available to living plants as food. These industrious workers in the bioreactor that is the soil provide a continuous nutrient supply to plants, leading to our ancestors speaking of "the old soil strength".

The weathering of minerals in the soil also ensures an ongoing provision of nutrients. The natural content of supplement nutrients is especially high in the deep and bountiful soils of the Central Plateau of Switzerland, which has some of the best farmland in the world.

Soil stores nutrients

Primarily in springtime, as soil organisms awake from their hibernation, many nutrients become mobile. This poses the risk that through leaching, water seepage will carry the nutrients already released down through the soil and therefore out of the reach of plant roots.

Fortunately in this case, soil also holds nutrients in interim storage as they are bound in and around humus and released when needed. The microorganisms also consume a large amount of nutrients; however, they are released when the organisms die. All in all, there is a continual binding and dissolving of substances in the soil through biological and chemical processes.

Leaks in the system

However, the soil loses many important nutrients with every potato that a farmer harvests. The cycle of nutrients between plants and the soil should remain closed so that soil fertility can be maintained. In earlier times, the threat of nutrient loss and cycle leakage was managed by temporarily ceasing to use the soil (leaving fields to fallow) by alternating between growing crops and applying nitrogen-rich cow manure. Today, large amounts of artificial fertilizers and liquid manure are used which can have a taxing effect on the soil. If a redundant amount of fertilizer is applied, the cycle inflates like a bubble and then begins to leak. Artificial fertilizers and liquid manure is a form of nitrogen and when applied too liberally can result in nitrate, which when leached into the groundwater with rain, impairs the quality of our drinking water. Over 30,000 tons of nitrogen are leached from agricultural land in Switzerland every year. The consequences are significant in many places as the nitrate content of underground water reservoirs considerably exceeds the limit. There is an excessive amount of nitrate in the groundwater at every sixth measuring site, and in crop farming areas it is too high at every second measuring site.

Another problem with the overburdened nitrogen cycle is nitrous oxide (laughing gas), as it is produced in the soil when nitrogen fertilizers are processed and leak to the atmosphere. This nitrogen compound damages the ozone layer and is a highly potent greenhouse gas as nitrous oxide has 298 times more of a negative impact than carbon dioxide. This shows that a balance within soil nutrients is imperative. Excessive nutrients that are not taken up by crops should simply not be applied to the soil.

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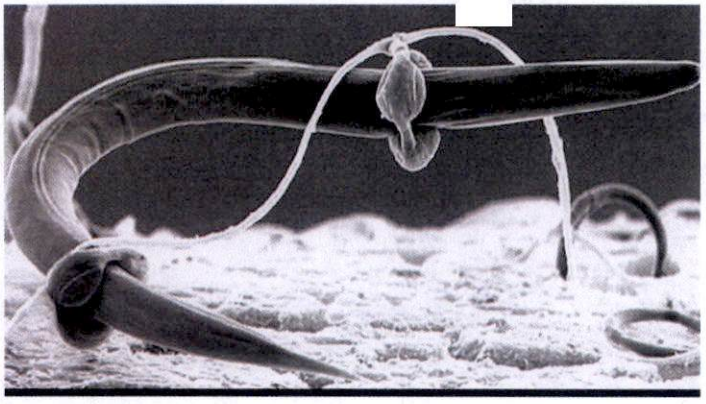
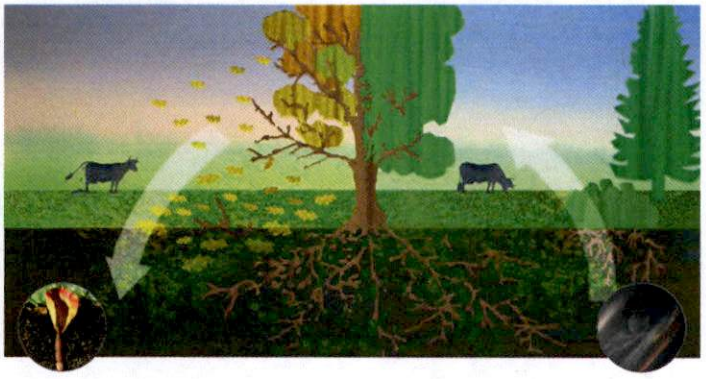


Nutrients are in continuous circulation from plants to the soil and back



1. Dead leaves, branches, grass stalks, herbs and animals end up on the ground. In agriculture, the manure and urine of farm animals are spread on the soil.

2. Soil organisms go to work on this food and decompose the organic material.

3. Nutrients are made available to plants or stored in humus and in (or attached to) soil particles.

4. Plants above ground can grow. Livestock and wild animals eat the plants.

Soil and climate are closely relat ıver, soil rarely plays a role in public awareness and in the discussion of climate change. Nevertheless there are enormous quantities of carbon stored within soil, which when in the form of carbon dioxide (CO_2) is one of the main causes of climate change. Soil is the third-largest repository for carbon, after the ocean and fossil fuels like coal, oil and natural gas. All types of soil together contain about twice as much of this element as the atmosphere and three times as much as land plants.

The functions of soil

Soil protection is climate protection

Carbon continuously moves between plants, soils and the atmosphere. Plants adsorb atmospheric CO_2 and, using energy from sunlight, create leaves, stems and roots. Carbon from dead plant materials is transferred to the soil. A part of this is released back into the atmosphere after being broken down by soil organisms and the rest is transferred into a more stable form – humus.

Soil carbon storage

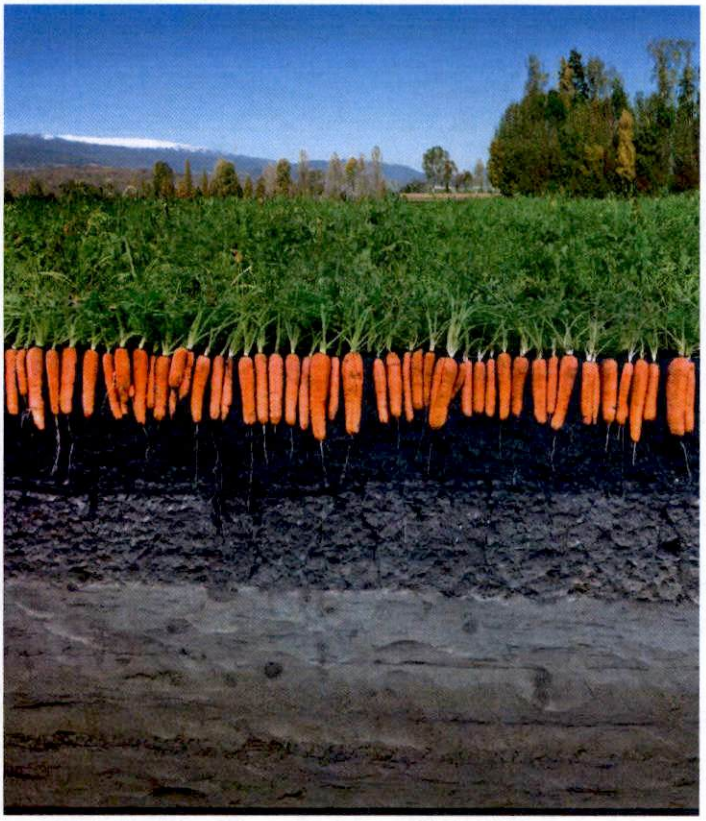
The amount of carbon stored in the soil depends on temperature, soil moisture and the amount and type of dead plant material. Changes in climate or utilization of the land obviously also have an impact on the exchange of carbon between plants, soils and the atmosphere.

If marshland is drained and used for agriculture, if meadows are changed to cropland or if fields are utilized too intensively, the humus content of the soil decreases. When the humus content is reduced, large amounts of CO_2 are released into the atmosphere. The conversion of natural ecosystems into cropland and grazing pastures as well as overutilization of the soil – sometimes this even leads to deserts – are the main causes of the release of CO_2 from the soil. Over long periods of time, more carbon is released into the atmosphere via this method than through the burning of fossil fuels.

Efficient and inexpensive

There is no simple or quick repair solution to the damage to the soil caused by non-sustainable use. This is particularly true regarding humus loss.

Amongst other options, organic farming and forms of land management with reduced soil tillage have a positive effect on the humus content of the soil. Rewetting and restoring former marshland is also an efficient and chiefly inexpensive form of climate protection. As soon as a regenerated marsh returns to a natural state after several years, carbon will once again be stored in the soil.



A farmer harvests four kilograms of carrots per square meter from this field in the Grosses Moos area near Witzwil, Bern. But for how much longer? The humus layer was originally two metres deep. But drainage of the marshland resulted in oxygen entering the soil pores and subsequently, decomposition of the peat body took place and then a vast amount of CO_2 was released into the atmosphere. Today, the humus-rich layer is only 30 centimetres deep. The fertility of this soil is highly endangered. When the humus is used up and the old lake sediment (grey layer) is reached, it will no longer be possible to use this land for agriculture.

When you turn on the tap and get fresh, clean water, you have soil to thank. Over 80 per cent of Switzerland's drinking water is sourced from groundwater. It is the soil that makes it the pure elixir of life. During seepage flow, soil filters suspended solids, pollutants and pathogens out of the water. It essentially is the filter between surface water and groundwater.

For provision of the drinking water supply, Basel has actively utilized the cleaning effect of the soil and the forest for a long time. To artificially recharge the groundwater, mechanically filtered Rhine river water is pumped to forested flooding sites, where it seeps through the woodland soil.

The functions of soil

The soil provides clean drinking water

The filtering efficiency of soil is nowhere better visible within Switzerland than in Basel. Half of the water that the city pumps up from the depths has been added to the groundwater artificially and the forest soil is the central component of the drinking water production system.

Efficient water filter

Each day, 60,000 cubic metres of pre-treated water drawn from the Rhine river is pumped into wooded flooding areas at the Lange Erlen waterworks for drainage. The 14 flooding sites are subdivided by small embankments and cover a total area of approximately 20 hectares. Each flooding site is taken out of use after 10 days of operation and the forest soil is allowed to regenerate for 20 days. During the 20-day drying period, soil organisms again produce new pores that stretch from the surface to the gravel, which is what is responsible for the productive seepage.

As water flows through the soil, almost all organic substances are retained, detoxified or built into the soil structure. Pesticides, viruses and bacteria that can be harmful to human health are eliminated.

The drainage water that is cleaned by the soil in the Lange Erlen waterworks area augments the amount of existing groundwater. The groundwater is then pumped from several wells and treated chemically and physically at a pumping station and fed into the Basel drinking water supply network.

Irreplaceable

All over Switzerland the soil system is a low-maintenance filter. However, only with intact soils can groundwater be used as drinking water without expensive water treatment. The soil guarantees excellent cleaning of water over the long term. In Basel it even ensures that non-consumable Rhine river water becomes safe drinking water, and all that is required is an absolute uncomplicated control of the system as a whole.

Soils that are disturbed, sealed over or contain high levels of heavy metals and other pollutants cannot perform their cleaning function well or even not at all. The natural soil filter that developed over thousands of years cannot be simply replaced (like buying a new vacuum cleaner), its functional capability depends on regeneration through natural processes

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The forrest floor as waterfilter

Thanks to the cleaning power of the soil and the ecosystems, sufficient drinking water of perfect quality is available in Switzerland. Thirty-eight per cent of the drinking water requires no treatment and another 33 per cent requires only one-stage treatment.

The summer of 2014 "fell into th it was too cold and exceptionally wet. Besides the heavy storms, there were also long periods of rain that made conditions ideal for flooding. The fact damage was limited is all thanks to the soil, which is by far the most important catchment area for rainwater. Like a large sponge, soil absorbs water, and after a certain amount of time, delivers it to the groundwater or streams and rivers. Forest soils are particularly capable in absorbing water: in a deciduous forest the soil can absorb some two million litres of water per hectare.

The burrow networks created by earthworms significantly increase the water-holding capacity of soils and are therefore very important for flood protection. Any given block of soil under a square metre of fertile meadow will contain from 300 to 500 earthworms, with a total weight of 200 to 400 grams, living up to a depth of 2.5 metres. They create up to 900 metres of burrows in this area.

Soil sealing leads to flooding.

The functions of soil

The soil protects against flooding

Water storage in the soil should not be pictured as an underground cavernous lake. Water on the surface of the ground is stored in a network of hollow spaces known as pores. It does not simply seep down towards the groundwater; instead, thanks to the surface tension of the water, it is held in the soil pores until needed.

The capacity of soil to store water depends on the proportion of the pores. Usually 30 to 60 per cent of the soil is made up of pores of differing sizes. In organic soils formed in raised bogs, this amount can be as high as 90 per cent. If the pores are too large, as in sandy soils, water travels rapidly deep into the soil, whereas soils with a high clay content store more water. The depth of the soil also determines its capacity to retain rainwater.

Soil = a sponge

The amount of soil pores also depends on the surrounding plant roots and the soil organisms. With their extensive networks of burrows, earthworms enhance porosity and are especially important helpers in protection against floods.

When it rains, the small pores fill with water first. Pores with a diameter greater than one-tenth of a millimetre are particularly important for the flow of rainwater. If it continues to rain, earthworm burrows then begin to fill with water. When the water stores are full, surface run-off will occur and then the rain ends up in the nearest bodies of water such as swelling streams and rivers.

The water masses can be known to flood towns, fill cellars with water and mud, wash away cars and flood streets. This occurred during the summer of 2014 in the sloping region between Bern and Lucerne and in the Canton of St. Gallen, where the flooding caused damage running into the millions.

Intact soil is indispensable not only for flood protection. A part of the water in the soil is also available to plants, which would otherwise dry up. For example, wheat crops require a hundred litres of soil water to produce one kilogram of grain. Without the water storage in the soil there would be no green and flourishing landscapes and of course, no production of food.

Soil compaction

If the soil's water infiltration capacity is disturbed or even destroyed, heavy rainfall runs off to the nearest bodies of water much more rapidly, which happens when driving heavy machinery on soil or improperly handling excavated soil as this eliminates the pores and compacts the soil.

Water filtration ceases completely when the soil disappears under roads or buildings. This is increasingly the case as the surface area of housing and infrastructure has grown in Switzerland by 584 square kilometres from 1985 to 2009 – which is equivalent to the size of Lake Geneva. In sixty per cent of this newly developed area the soil is sealed, meaning that water storage in the soils in Switzerland is continuously shrinking. Intact soil in developments can greatly reduce the burden on sewer networks and also retain pollutants. Consequently, for good flood protection, more sustainable treatment of the soil is needed not only in cultivated land and forests but also in developed areas.

Soil takes form over an extremely long time period; therefore it can be considered to have a "good memory". Soil scientists have the ability and knowledge to read the different soil layers like a book gaining boundless information reflecting the environmental conditions that prevailed when the soil was first formed.

In 2012, the Celtic treasure of Fällinsdorf in the canton of Basel was discovered in the soil – 293 silver coins – the largest Celtic precious metal coins in Switzerland.

Also discovered in the Basel underground was a flour mill which was part of the paving of a courtyard.

The functions of soil

The archival record in the soil

Old soil preserves information regarding climate, vegetation and the impact of natural catastrophes in past epochs. Bog or moor soil, which inhibits the decomposition of organic material, provides an especially important archival record as each individual peat layers contain pollen, leaves or seeds of plant species that were common in their landscape in earlier times. They can be identified even after thousands of years and allow us to trace the exact expansion of certain tree species in different regions of Switzerland since the last ice age.

Valuable archives

Core samples from raised bogs provide an archival record of atmospheric pollution. In the peat body of the upland moor at Etang de la Gruère in the Canton of Jura, there are two layers with increased levels of lead. Responsibility and blame for contaminating these deeper layers of the soil lies with the Romans. The Romans exploited the soft metal on an industrial scale for making water pipes, containers and other objects. Another example lays two thousand years later when humans in the automobile era used leaded petrol. The lead released into the environment fell to earth, covering it as a veil, and it is still detectable in the soil to this day.

Mirror of human civilization

Since the Stone Age humans have left manifold vestiges of cultural development in the soil. From inconspicuous remnants such as bones, coins and tools, archaeologists can gain critical insight into the everyday life of humans in earlier times.

Soil also reveals how the landscape once appeared, how it developed and what impact humans had on it. It helps to provide information on the history of the landscape, the development of agriculture and settlements and a mirror of human civilization. Providing such valuable information regarding the natural and cultural history further implores the relevance of soil's survival

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Conserving the basis of life

The soil beneath our feet is the perfect mixture of minerals, humus, water, air, animals, plants and fungi that interact in a variety of ways. The well-being of our society is closely connected with this underground society as it fulfils numerous economic and ecological functions.

The individual functions of soil are closely interconnected. For example, while healthy soil has a high water-retaining capacity, there are other roles that soil can play more effectively in certain locations than in others. For instance, the expansive fertile soils in the Central Plateau are particularly well suited in supplying food to the population. In contrast, carbon and water storage are the primary focus within marshlands. While the primary function is important, for effective sustainable use of the land it is important to manage the land and not to lose sight of the other functions.

The world is losing soil

In this country only a few of us, mainly farmers, still have direct contact with the soil. As the distance between the soil and ourselves in our daily lives grows, the soil becomes distant in our minds. We have become neglectful in the the way we treat our soil.

Throughout the world, 24 million tons of soil is washed into the sea or blown away by the wind each year. Soil erosion and the formation of deserts are problems in 168 countries. At the same time, developments and roads are claiming ever more valuable land. Altogether, this means that soil loss is a growing threat to global food security.

The issue of increasing soil scarcity worldwide will lead to disputes and conflicts in the coming decades. More and more industrial and emerging countries are acquiring large areas of land in developing countries to ensure their own food security – often at the cost of the local farmers. Today, sixty per cent of the foods or raw ingredients consumed in Switzerland have been produced in other countries.

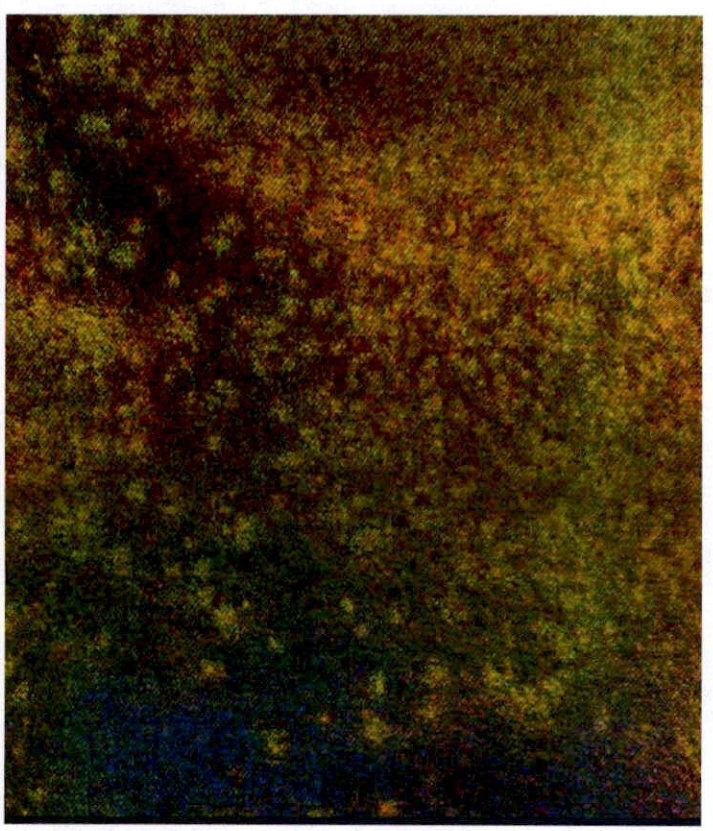
While this is occurring, the soil in Switzerland is degrading and several threats can be identified, as when soil is damaged, it affects all of its functions.

Complete breakdown

Developed areas, with their high proportion of concrete or asphalt surfaces, are claiming more and more land. In the Central Plateau of Switzerland, from 1985 to 2009 nearly one square metre of land was used for construction per second, which is equivalent to:

- Fifteen metres of residential road per minute,
- Six single-family houses per hour,
- An area the size of the Canton of Basel per year.

Sixteen per cent of the Central Plateau already consist of built-up, industrial and commercial areas. With construction, all natural soil functions come to a standstill, primarily food production. If the sealing over of the land in the Central Plateau continues at its current rate, there will be dramatic economic, social and ecological consequences.



In Switzerland more and more soil is disappearing under asphalt and concrete. The photos show the area around the A3 motorway near Effingen, Canton of Aargau, in 1982 and today (2015).

Falling quality

Many different factors are impacting and degrading the soil permanently, making it increasingly difficult for the soil to properly perform its functions:

- Soil compaction: Driving heavy construction machines, tractors, seed sowers and harvesters on the soil compacts the soil pores. This disrupts soil aeration and drainage and therefore the soil organisms, meaning soil fertility decreases. Compacted soils have limited infiltration capacity and permeability. Water cannot enter the soil, therefore runs off the surface, promoting soil erosion and increasing the risk of flooding.

- Soil erosion: Surface run-off essentially washes away the fine soil, which is rich in nutrients. This erosion impairs many soil functions, among others its water-storing capacity and fertility. Approximately forty per cent of Switzerland's farmland is considered to be endangered by erosion, meaning that more than two tons of soil material per hectare can be lost each year. In all, farmlands in Switzerland lose more than 800,000 tons of soil material each year. That is approximately equivalent to soil 100 metres high covering an area the size of a soccer field. On top of this, the soil washed away causes considerable ecological damage to bodies of water.

- Pollutant inputs: Approximately one-tenth of the soil in Switzerland is heavily polluted which is a part of the past environmental pollution and damage legacy. In addition, soils in intensively occupied meadows are showing a continuing rise in zinc and copper concentrates, which are then fed into agricultural soils through liquid manure or additives in animal feed.

- Soil acidification: Transport, industry, households and agriculture all emit large amounts of nitrogen and sulphur compounds that, when combined with rain, eventually end up in the soil. The ensuing acidification of the soil results in nutrients being washed out and pollutants being released which can then in turn contaminate drinking water.

Soil protection is a task for the whole of society

Conclusively, it is abundantly clear that the long-term maintenance of the functional capability of our soil resources is becoming increasingly precarious in Switzerland and also around the world. Once the soil is degraded or damaged, it can only be returned to its original bountiful state with great technical difficulty and expense – if at all. The success achieved with the air and water pollution control issues cannot be easily repeated with soil protection, as we know it has a long memory and cannot be quickly restored.

It is imperative that the protection of soil has a central role in the discussion of the sustainable use of natural resources. As all areas of life essentially utilize and/or damage the soil while at the same time profiting and benefiting from its functions, the topic of soil protection is a task for the whole of society politicians, government, industry, spatial planners, researchers, everyone of us. We all have to take responsibility.

The goal is to protect and ensure the functions of the soil and thus its ability to perform them. To ensure this, soil use and functions have to be reconciled. It is important to minimize erosion and pollution, prevent unnecessary sealing of soil and correct handling of excavated soil during construction.

Fertile soil does not develop overnight but rather over thousands of years. A single excavator scoop destroys in seconds something that from the human perspective took an eternity to develop. When soil is lost, this impairs not only our own quality of life but also the quality of life of future generations.

Homo and humus

It is not surprising that the Latin words homo, meaning human, and humus, the soil, derive from the same Latin root. Our ancestors correctly assessed the importance of the soil for human beings.

Through our high-tech civilization we have distanced ourselves from direct experience with soil. However, our well-being today depends on intact soil just as much as it did in the past. We need to appreciate and value soil once again as it is a precious treasure that must be protected.

Links

National Research Programme "Sustainable Use of Soil as a Resource" (NRP 68)

The National Research Programme "Sustainable Use of Soil as a Resource" (NRP 68) establishes a basis for political decision-making which takes into account both the ecological and the economic functions of soil and paves the way for soil resources to be used sustainably in Switzerland.

www.nfp68.ch

Federal Office for the Environment (FOEN)

The FOEN is committed to ensuring that all functions of the soil are conserved so that in the long term sufficient soil is available for all necessary uses in Switzerland.

www.bafu.admin.ch → Themen → Boden

Federal Office for Agriculture (FOAG)

The FOAG is committed to ensuring that farmers produce high-quality foods sustainably and according to market demand. The goal is multifunctional agriculture.

www.blw.admin.ch → Themen → Nachhaltigkeit → Ökologie → Boden

Federal Office for Spatial Development (ARE)

The ARE is the federal government's centre of excellence for issues concerning sustainable spatial development.

www.are.admin.ch/org/index.html?lang=en

Swiss Soil Science Society (SSSS)

On many different levels, the SSSS is actively engaged on the behalf of quantitative and qualitative soil protection. It disseminates and deepens soil sciences knowledge. It is also an exchange platform for dialogue between specialists in administration, research and the private sector and promotes cooperation between research and practice.

www.soil.ch

FNS-NF
Fonds national suisse
Schweizerischer Nationalfonds
Fondo nazionale svizzero
Swiss National Science Foundation

APP. 42

People's Counsel's Survey
Master Plan 2020 Scenic and Non-Scenic Roads: Baltimore County Northern Tier

ADC Map 13: Northwest bordering Pennsylvania line

Scenic on MP 2020 Map 26: Middletown, Keeney Mill, Cotter, Beckleysville

Not listed on MP 2020, Map 26: Ruhl (E,W,S), Flintstone, Rockdale, Clipper Mill, Baker Schoolhouse, Chickentown, Slab Bridge

ADC Map 14: Freeland, West of I-83, bordering Pennsylvania line

S: Freeland, Keeney Mill, Middletown
NS: New Freedom, Ridge, Millers Mill, Keller, Mt. Zion, Morris, Gore Mill, Hesson, Valley Mill

ADC Map 15: Maryland Line, north of Parkton, bordering Pennsylvania line

S: Freeland, York, Old York, Bond
NS: Orwig, Heathcote, Harris Mill (Old), Turners Crossing, Lentz, Jordan Sawmill, Sampson, Downes, Kauffman, Cameron Mill, Bentley

ADC Map 16: Northeast corner, bordering Pennsylvania line

S: Old York, Kirkwood Shop, Bond
NS: W Liberty, Dunk Freeland, Mason Dixon, Gibson, Meredith, Openshaw, Green, Ensor

ADC Map 18: Prettyboy Reservoir Area

S: Beckleysville, Spooks Hill
NS: Bulls Sawmill, Traceys Store, Foreston, Kidds Schoolhouse

ADC Map 19: Prettyboy, Gunpowder State Park, Rayville

S: Middletown, Spooks Hill, Falls,
NS: Rayville, Armacost, Bunker Hill, Cooper, Dairy, Walker, Eagle Mill, Bulls Sawmill, Millers Lane

ADC Map 20: Parkton, White Hall

S: York, Wiseburg, Greystone, Middletown
NS: Stablers Church, Downes, Stablersville, Miller, Ensor, White Hall, Bernoudy, Hunter Mill, Dairy, Frederick

ADC Map 21: White Hall, Greystone Golf Course

S: Graystone, Vernon
NS: Hunter Mill, Garrett, Burke, Jolly Acres

People's Counsel's Survey
Master Plan 2020 Scenic and Non-Scenic Roads: Baltimore County Northern Tier

Quantitative Summary

Designated Scenic Roads: ADC Maps 13-16, 18-21

Beckleysville (13, 18), Bond (15, 16)) Cotter (13), Falls (19), Freeland (13, 14), Greystone (20, 21), Keeney Mill (13, 14), Kirkwood Shop (16), Middletown (13, 14, 19, 20), Old York (15, 16), Spooks Hill (18, 19), Vernon (21), Wiseburg (20), York (15, 20)

Summary: 14 Designated Scenic Roads

Not Designated Scenic Roads

Armacost (19), Baker Schoolhouse (13), Bentley (15), Bernoudy (20), Bulls Sawmill (18, 19); Bunker Hill (19), Burke (21), Cameron Mill (15), Chicketnown (13), Clipper Mill (13), Cooper, (19), Dairy (19, 20), Downes (15, 20), Dunk Freeland (16), Eagle Hill (19), Ensor (16, 20), Flintstone (13), Foreston (18), Frederick (20), Garrett (21) Gibson (16), Gore Mill (14), Green (16), Harris Mill (old) 15, Heathcote (15), Hesson (14), Hunter Mill (20, 21), Jolly Acres (21), Jordan Sawmill (15), Kauffman (15), Keller (14), Kidds Schoolhouse (18), Lentz (15), Mason Dixon (16), Meredith (16), Miller (20), Millers Lane (19), Millers Mill (14), Morris (14), Mt. Zion (14), New Freedom (14), Openshaw (16), Orwig (15), Rayville (19), Ridge (14), Rockdale (13), Ruhl (3: E,W,S) (13), Sampson (15), Slab Bridge (13), Stablers Church (20), Stablersville (20), Traceys Store (18), Turners Crossing (15), Valley Mill (14), Walker (19), Whitehall (20), W Liberty (16),

Summary: 59 Not Designated Scenic Roads

People's Counsel's Solar Case Survey: Size Allocated for Mw levels

2017-108 Matthews/Bluefin Origination 2; ALJ Imposed 13-acre limit condition 1/22/18

Cases Listed in ALJ Decision 1/22/18, page 4

2018-0047 Gerner/ESA Sparks Glencoe; ALJ approved 12/21/17; Appealed to CBA
15637 York Road; 30 acre parcel; R.C.7 Zone
9 acres solar; 2Mw --- 4.5 acres/Mw

2018-0052 Lippy/New Source Generation; ALJ approved10/13/17;
Appealed to CBA; withdrawn
Hanover Road; 6.4 acre parcel; R.C.2 Zone
6.4 acre solar, 1Mw --- 6.4 acres/Mw

2018-0072 Phillips/Forefront Power; ALJ approved 1/3/18; appealed to CBA

19735 Graystone Road; 50 acre parcel; R.C. 2 Zone
6 acres solar; 840Kw – 7 acres/Mw

2018-0078 White-Rose/Forefront Power; ALJ approved 12/7/17; no appeal
9155 Old Court Road; 16.75 acre parcel; R.C. 2 Zone
9.8 acres solar; 2Mw – 4.9 acres/Mw

2018-95 11956 Philadelphia Road/Turning Point Energy;
ALJ approved 12/29/17; no appeal
1956 Philadelphia Road; 138 acre parcel; R.C. 5 Zone
16 acres solar; 2Mw – 8 acres/Mw

Additional cases

2018-123 Neubauer/Solar Smart;
ALJ approved 3/6/18 (Reconsideration final); No appeal
9203 Dogwood Road; 25 acre parcel; R.C. 2 Zone
6 acres solar, ALJ condition; .9Mw --- 6.5 acres/Mw

2018-124 Neubauer/Solar Smart
ALJ approved 1/26/18; No appeal
10021 Old Court Road; 63 acre parcel; R.C. 2 Zone
10 acres solar; 2Mw --- 5 acres/Mw

2018-127 Baltimore Gas & Electric Co./P52ES Under Armour Community Solar
ALJ approved 5/11/18; no appeal
10790 Raphel Road; 138 acre parcel; R.C. 5 Zone
8 acres solar, ALJ condition; 2 Mw --- 4 acres/Mw

BOARD OF APPEALS OF BALTIMORE COUNTY
MINUTES OF DELIBERATION

IN THE MATTER OF: Richard and Susan Lehmann 16-060-SPH

DATE: March 23, 2017

BOARD/PANEL: Maureen E. Murphy, Panel Chairman
James H. West
Joseph L. Evans

RECORDED BY: Tammy A. McDiarmid, Legal Secretary

PURPOSE: To deliberate the following:

1) Protestants' Motion to Dismiss Petition for Special Hearing; or, alternatively, Motion for Summary Judgment/Decision filed by Richard C. Burch, Esquire; and
2) Motion to Dismiss Appeal filed by Dino C. La Fiandra, Esquire on behalf of Petitioners.

PANEL MEMBERS DISCUSSED THE FOLLOWING:

STANDING

- The Board reviewed the Motions to Dismiss and discussed the reasoning for each request. The ALJ denied the Petitioner's Petition for Special Hearing for waiver to rebuild an existing enclosed porch in a riverine floodplain, but determined that pursuant to BCC a waiver is not required for reconstruction and repair of existing buildings as long as it does not exceed 50% of fair market value of the structure.
- The Board discussed the question of what issue is before the Board? The Petitioners did not appeal the denial of their Petition for Special Hearing. However, the Protestants filed an appeal, but did not specify what they were appealing. The appeal was filed under Section 500.10, as being aggrieved by the ALJ's Decision. The Board agreed to that the only issue before it was whether a waiver was necessary.
- The Board determined that when the ALJ hears a case, he has the authority to interpret regulations and therefore can expand the issue filed in the Petitioner under the *Halle* case. The Board has the same authority granted to the ALJ and therefore we can hear that issue.
- The Board noted that this case is to be heard *de novo*, and the Board will make written findings of fact.

FINAL DECISION: After thorough review of the facts and law in the matter, the Board unanimously agreed to DENY the Motion to Dismiss, and hold a hearing to take evidence and testimony on the waiver issue only.

NOTE: These minutes, which will become part of the case file, are intended to indicate for the record that a public deliberation took place on the above date regarding this matter. The Board's final decision and the facts and findings thereto will be set out in the written Opinion and Order to be issued by the Board.

Respectfully Submitted,

/s/
Tammy A. McDiarmid

Baltimore County
GOVERNMENT

Register for an Account Login

Home Animal Complaint License Residential Parking Permits Land Management Code Complaint CZMP

Search Development Applications

Record DRC-2018-00029:
Development Review Committee
Record Status: Completed

Record Info Payments

Work Location

20450 MIDDLETOWN RD
FREELAND MD 21053421

Record Details

Applicant:
Bluebin Origination 2, LLC
3250 Ocean Park Boulevard
Santa Monica, CA, 90405

Licensed Professional:
David L. Marsh
Harris & Phelps Design Associates, Inc.
222 Bosley Avenue Suite B1
Towson, MD, 21204
Home Phone:4103218444
Fax:4103211175
Landscape Architect 776

Project Description:
Bluebin Origination 2, LLC/Dykes Property
The request is to construct a Solar Facility.

Owner:
MATTHEWS DAVID WILLIAM
20450 MIDDLETOWN RD
FREELAND MD 21053421

More Details

Related Contacts

Attorney Information
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Application Information

PROJECT INFORMATION

DRC Number:	[illegible]
PAI Number:	06-0330
Project Acreage:	12.98
Request Type:	Limited Exemption
Request Actions:	e-1-of
Plan Type Desired:	Sketch
Zoning Classification:	RC 2

DRC DECISIONS

Granted DRC Actions:	B-2 1st Floor Subdivision Refinement

Application Information Table

MEETING INFORMATION

Meeting Type:	DRC
Meeting Date:	03/20/2018
Old Business:	No
Meeting Time:	14:00
Meeting Location:	COUNTY OFFICE BUILDING : ROOM 123; 111 W CHESAPEAKE AVE: TOWSON, MD 21204
Meeting Facilitator:	Jan M. Cook
Meeting Status:	Completed

Parcel Information

Parcel Number:	Lot:
293302	1

Book:	Page:
33773	0113
Legal Description:	Parcel Area:
06-0330	72.98
Land Value:	Improved Value:
112000	111900
Tax Account #:	Plat:
2100010050	0000000
Reference:	Year Built:
0000	1981
Land Area:	Unit:
70.98	A

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GOVERNMENT

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Code Complaint CZMP

Search Development Applications

Record DRC-2018-00029:
Development Review Committee
Record Status: Completed

Record Info Payments

Processing Status

✓	DRC Intake
✓	EPS-DC
✓	Fire
✓	PAI-DPR
✓	PAI-Zoning
✓	Planning-Dev Review
✓	SHA
✓	DRC Action

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BOARD OF APPEALS

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December 7, 2018

Board of Appeals of Baltimore County
105 W. Chesapeake Avenue
Suite 203
Towson, Maryland 21204

Re: Petition for Special Exception
20450 Middletown Road
Legal Owner: David William Matthews
Lessee: Bluefin Origination 2 LLC
Case No: 2017-108-X

HAND-DELIVERED

Ladies and Gentlemen:

I have enclosed, for filing, the Protestants' Post-Hearing Memorandum for this case. Thank you for your cooperation in this regard.

Very truly yours,

H. Barnes Mowell

Certificate of Service

I HEREBY CERTIFY that a copy of this letter and Memorandum were mailed by first class mail this 7th day of December 2018 to Adam Rosenblatt, Esquire, Venable, LLP, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204 and to Peter Zimmerman, Esquire, 105 W. Chesapeake Avenue, Room 204, Towson, Maryland 21204.

H. Barnes Mowell

RECEIVED
DEC – 7 2018
BALTIMORE COUNTY
BOARD OF APPEALS

RE: PETITION FOR SPECIAL EXCEPTION 20450 Middletown Road Legal Owner: David William Matthews Lessee: Bluefin Origination 2 LLC	*	BEFORE THE
	*	BOARD OF APPEALS
	*	OF
6th Election District 3rd Council District	*	BALTIMORE COUNTY
	*	CASE NO: 2017-108-X

* * * * * * *

PROTESTANT'S POST-HEARING MEMORANDUM

The Protestants, by their attorney H. Barnes Mowell, submit this Post-Hearing Motion in support of their request that the Petition for Special Exception be denied in this case, and state as follows:

Motion to Dismiss

The zoning Petition in this case was filed on October 17, 2016. An Amended Petition was later filed, still listing the same case number and filing date as the original Petition. The Amended Petition requests a special exception under the new solar facilities law enacted by County Council Bill 37-17, codified as Article 4F of the Baltimore County Zoning Regulations. Section 3 of Bill 37-17, however, says that this Act "shall take effect on July 17, 2017 and shall apply retroactively to any zoning petition filed after October 18, 2016". The Petitioners are requesting relief under a law which expressly excludes their claim. The Board must give the language of Bill 37-17 its plain meaning. As discussed in Stoddard v. State, 395 Md. 653, 658 (2006):

"… we look first to the language of the statute, giving it its natural and ordinary meaning. We do so on the tacit theory that the Legislature is presumed to have meant what it said and said what it meant. When the statutory language is clear, we need not look beyond the statutory language to determine the Legislature's intent. If the words of the statute, construed according to their common and everyday meaning, are clear and unambiguous and express a plain meaning, we will give effect to the statute as it is written."

There can be no reading of Bill 37-17 other than it only applies to Petitions filed after

October 18, 2016. Petitioners filed their Petition before that date, and cannot seek relief under the new law.

Petitioners' Burden of Production

In his concurring opinion in People's Counsel v. Loyola, 406 Md. 54 (2008), Judge Murphy wrote that ..."the applicant for a special exception bears both the burden of production and the burden of persuasion on the issue of whether the special exception should be granted." *Id.* at 109. The burden of production is explained in Terumo Med. Corp. v. Greenway, 171 Md. App. 617, 626 (2006):

"In analyzing whether a proponent has met the burden of production, the court lists the constituent elements of the proposition to be proved -- the crime, the tort, the contract, etc. -- and then determines whether the evidence in the case, if given the maximum credibility and maximum weight, could permit the fact finder fairly to find each of those constituent elements."

Section 502 of the Baltimore County Zoning Regulations lists the nine "elements" to be proved in a Special Exception case. The Petitioners have the burden to produce evidence that the requested use will not (I). "Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers, and floodplains..." Consistent with that requirement, the new solar facilities law directs that "A Petitioner *shall* comply with the plan requirements of Section 33-3-108 of the County Code. (4F-104(9), *emphasis added*). Section 33-3-108 contains a long list of environmental information that must be included with the Plan, including (6). field delineated, marked and surveyed streams, springs, seeps, bodies of water, and wetlands, (9). soils mapped and labeled in accordance with the soil survey of the county, 10). slopes greater that 10% for areas adjacent to and within 500 feet of streams, wetlands or other bodies of water; 11). rare species, threatened species, or endangered species habitat, 12). existing vegetation, 13). location and type of stormwater management devices and practices, and 16). historical and archaeological sites.

4F-104(10) of the solar facilities law advises that:

"In granting a special exception, the administrative law judge or Board of Appeals on appeal may impose conditions or restrictions on the solar facility use as necessary to protect the environment and scenic views and to lessen the impact of the facility on the health, safety, and general welfare of surrounding residential properties and communities, taking into account such factors as the topography of adjacent land, the presence of natural forest buffers, and proximity of streams and wetlands."

Read together, these code sections impose a burden on the Petitioners to produce the evidence needed to allow the fact finder to decide whether the solar facility should be allowed. Two years after filing their Petition, we have no evidence from the Petitioners about the stream(s) on the property, whether there are slopes greater than 10%, how runoff from thousands of solar panels will be controlled, the quality of the soil onsite, and any endangered species habitat, or historical or archaeological sites, on the property. The Petitioners have decided to wait until later to address environmental issues. They want their Special Exception approved before incurring the expense to investigate the site. Their approach ignores the clear mandate in the solar facilities law to give to the fact finder the information specified in Section 33-3-108, so that a reasoned decision can be made. Their approach makes it impossible for this Board to impose conditions or restrictions on the solar facility to protect the environment. The Petitioners have not met their burden to produce the evidence needed for the Board to decide if this use will be detrimental to the site or the vicinity.

Runoff

The Petitioners intend to install solar panels between two forest buffers that already exist on the property. Section 33-3-103(b) of the Baltimore County Code describes the purpose of forest buffers:

1. Multiple environmental protection and resource management values are provided by forest buffers.
2. Forest buffers enhance and protect the natural ecology of stream systems, water

quality, wildlife habitat, the aesthetic and scenic qualities of natural features, environmentally sensitive areas, such as aquifer recharge areas, and flora and fauna preservation sites.

3. Forest buffers adjacent to stream systems:
   i) Restore and maintain the chemical, physical, and biological integrity of the water resources;
   ii) Filter nutrients and toxins;
   iii) Reduce erosion and control sedimentation;
   iv) Stabilize stream banks;
   v) Provide infiltration of stormwater runoff;
   vi) Maintain base flow of streams;
   vii) Provide the organic matter that is the source of food and energy for the aquatic ecosystem;
   viii) Provide tree canopy to shade streams and encourage trout and other desirable aquatic species;
   ix) Provide riparian wildlife habitat;
   x) Provide scenic value and recreational opportunity; and
   xi) Minimize public investment in waterway restoration, stormwater management, and other resource expenditures.

As shown on the contour map provided by John Altmeyer, the highest elevations on the property are near Middletown Road. That is also the area where the panels would be installed. Hard rains would hit the impermeable panels, stream off the panels' lower edge, and onto a strip of grass (or dirt) below. The runoff from the panels would then flow into both forest buffer areas, especially the large one around the pond on the property. We heard no testimony from the Petitioners concerning the extent and effect of this runoff into the forest buffers. We heard nothing from the Petitioners to reconcile how the solar array, and the runoff it will create, is consistent with the purpose of the pre-existing forest buffers on their site.

John Altmeyer testified that he computed slope percentages of 8.7%, 13.1%, and 17%, at three different locations where the solar array would be installed. He then explained the Stormwater Design Guidance that the Maryland Department of the Environment has provided for solar panel installations. Those guidelines describe what is

needed to control stormwater runoff. For sites between 0 and 5% slopes, all that is needed is to keep a "disconnection flow path" between rows of panels, at least equal to the width of the panels. If the panels are 8 feet wide, for example, by leaving the proper vegetation in an area 8 feet wide between the rows of panels, "the runoff from 1.0 inch of rainfall is treated." (Left unsaid is whether such a method would handle the rains that we have had this year.).

For slopes between 5% and 10%, the guidelines suggest that more may be needed, such as level spreaders, terraces, or berms. Mr. Altmeyer explained that level spreaders are gravel-filled trenches or containers situated at the drip edge of each row of panels. They are designed to slow down and catch runoff from the panels. He said that berms and terraces can also be used, by grading the area, also to slow down and redirect the runoff.

Finally, the guidelines mandate a formal stormwater management plan for slopes greater than 10%. "However, installations on slopes greater than10% will require an engineered plan that ensures adequate treatment and safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice." Although Mr. Altmeyer found slopes well over 10%, the Petitioners have provided no such engineered plan. This site sits about a mile and a half upstream from Prettyboy Reservoir. Dykes Creek, which runs through the property, will carry the runoff through the onsite forest buffers, into the Prettyboy Watershed, and then into the Reservoir. Along the way, the Creek will pass through and near other properties. We heard from one downstream neighbor, Kim Kozak, who expressed her concerns about runoff from the proposed site, and the flooding of the Creek that she has already seen without such

runoff.

The Petitioners produced no stormwater management plan. Without such a Plan, this Board cannot reasonably conclude that runoff from a 16 acre field full of solar panels will be properly handled and contained, will not damage the forest buffers on site, the downstream residents, or Prettyboy Reservoir.

Prime and Productive Soils

The County Council Planning Board took another look at Bill 37-17 this summer, and recommended that solar facilities not be permitted on prime and productive soils. Kathie Pieper provided valuable soils testimony. She said that soils can be put into one of three categories: Prime, Not Prime, and Farmland of Statewide Importance. Interestingly, the largest category in northern Baltimore County is Not Prime, which comprises 37% of that area. She then looked at the special exception area where the solar array would be installed, and found that 90% of those soils are Glenelg loam or Glenville loam. Glenelg loam is Prime Farmland soil, and Glenelg channery loam and Glenville silt loam are Farmland of Statewide Importance soils.

Ms. Pieper then compared the percentages of such important soils onsite to the percentages in all of northern Baltimore County. In each case, this site contained higher percentages than the area in general. This site contains about 60% Glenelg loam, compared to 10% for all of northern Baltimore County. For the two soils of Statewide Importance, 25% of this site is comprised of such soils, compared to 16% for all of the northern county area. She noted that the location of the solar array would effectively remove all prime and productive land from crop production at this site. Finally, she testified that she had little trouble in finding more suitable sites in this area that were not on prime farmland, were on flatter ground, not on a scenic road, and not in a Targeted Ecological Area.

It is clear that if the law is changed, a solar facility will not be allowed on this site. Section 2 of Bill 37-17 required the Planning Board, in consultation with other county agencies, the Sierra Club, and the Valleys Planning Council, to "study and evaluate the impact of Solar Facilities in Baltimore County and the effect of Article 4E of these regulations, and by July 1, 2018, submit recommendations to the County Council and the County Executive regarding potential changes to the current law." The Planning Council conducted such a study and concluded that solar facilities should not be allowed on prime and productive soils. Implicit in that recommendation is their belief that the impact is unacceptable at sites with good soil, and that prime farmland should be reserved for agricultural use. This Board should carefully consider the Planning Board's recommendation to prohibit solar arrays on prime and productive soil, whether or not it is implemented by the County Council.

Allowable Area for Solar Facility

Section 4F-102(B) places specific limits on how much of the land in Baltimore County can be used for solar facilities. 4F-102(B)(1) applies to the acreage allowed for each project:

"B. The allocation of land for solar facilities in the County is limited to the following:
1. The maximum area permitted for a single solar facility is the amount of acreage that produces no more than two megawatts alternating current (AC) of electricity."

Kathy Pieper examined this issue as well. She charted the acreage required to produce one megawatt of electricity for twelve proposed projects in Baltimore County (Protestants' Exhibit 30). She found that the project at 10790 Raphel Road proposed to produce one megawatt on four acres. On the other hand, this project, 20450 Middletown Road, will require 8.8 acres to produce one megawatt. At the ALJ hearing, Judge Beverengun had done his own survey, and calculated that 13 acres was the maximum that should be allotted for this site. While a revised plan adhered to that limitation, the Petitioners' proposal before the Board requires the

use of 16.7 acres.

Why do the Petitioners need 16.7 acres to produce 2 megawatts on Middletown Road when it can be done on Raphel Road on 8 acres? Is the sun stronger on Raphel Road? Are different sized panels being used? Less efficient panels? Cheaper panels? Less reliable panels? Unsafe panels? We have no answers because the Petitioners didn't tell us. No evidence was provided to substantiate their request to use 16.7 acres of Baltimore County land to produce two megawatts of power. No rebuttal testimony was offered to challenge Kathy Pieper's calculation that only 8 acres should be needed. Nothing has been offered to challenge Judge Beverungen's decision that only 13 acres should be needed.

4F-102(B)(1) is a specific requirement included in the new law to only allow efficient solar arrays in Baltimore County. It should be used to weed out poorly designed systems which use cheap, outmoded and unreliable panels that take up more land than they should to create two megawatts of power. It appears that the Petitioners have such a system in mind, and their presentation did nothing to rebut that assumption. Their proposal should be denied because it uses more land than the statute allows to produce two megawatts.

Incompatibility with Zoning Classifications

The subject property contains 70 acres, and is zoned RC 2 and RC 8. Jeanne Bowman testified that her parents had bought the property in 1970, and operated a productive farm that grew hay, wheat and soybeans. Aerial photographs of the site, put into evidence by the Petitioners, show the vast and beautiful expanses of agricultural land in the area. The solar panels would be placed on property zoned RC 2. Section 1A01.1(B) of the Baltimore County Zoning Regulations states that "The R.C. 2 zoning classification is established pursuant to the legislative findings above in order to foster conditions favorable to a continued agricultural use

of the productive agricultural areas of Baltimore County by preventing incompatible forms and degrees of urban uses." Under Section 1A01.2(A), "Agricultural operations" are the preferred use, and "shall be afforded preferential treatment over and above all other permitted uses in R.C. 2 zones." Under 1A01.2(C), special exceptions may be permitted, "provided that in each case the hearing authority empowered to hear the petition finds that the use would not be detrimental to the primary agricultural uses in its vicinity..." Section 32-4-415(C) of the Baltimore County Code provides that "On prime and productive soils within the RC-2 zone, the county may not approve a Development Plan or plat unless the county finds that construction, excavations, buildings, structures, pavements, grading, clearing or other disturbances of the soils will be limited or restricted in accordance with policies established by the Department of Environmental Protections and Sustainability to promote agricultural use and protect the county's soil resources." It is beyond dispute that construction of an industrial solar array on this RC 2 farm, with prime and productive soils, would not promote agricultural use, or protect the County's soil resources.

Runoff from the panels on R.C. 2 land would run through the lower parts of the property, which are zoned R.C. 8 (Environmental Enhancement) Zone. Section 1A09.1(A)(3) of the BCZR says that "An R.C. 8 Zone allows limited development, compatible with the rural and urban community, and at the same time protects environmental resources." Section 1A09.1(A)(4) adds that "The County recognizes the importance of retaining certain areas for environmental protection."

Under 1A09.1 (B), the legislative goals sought in the R.C. 8 zone include:

> 1. To preserve and protect total ecosystem function, including riparian and aquatic ecosystems;
> 2. To protect forests, streams, wetlands, and floodplains;
> 3. To protect the water quality of reservoirs, watercourses, the

Chesapeake Bay and regional diversity;
6. To protect remaining prime and productive soils, environmental resources in areas not currently protected by the R.C. 2 or the R.C. 7 Zone; and
11. To preserve the traditional character of communities by limiting the scale and intensity of development.

It would be hard to imagine a less appropriate place for 16 acres of solar panels than on the subject property. The panels would take some of the best soils in northern Baltimore County out of production. They would be installed in a Zone that was created "to foster conditions favorable to a continued agricultural use of the productive agricultural areas of Baltimore County by preventing incompatible forms and degrees of urban uses." The runoff from the panels would flow through an Environmental Enhancement Zone, created, in part, to protect forests, streams, and the water quality of reservoirs such as Prettyboy. The panels' size, height, color and looming presence, row after row, covering 16 acres, would be wholly incompatible with the surrounding farmland.

Agricultural Priority Preservation Area

The subject property is in an Agricultural Priority Preservation Area. That designation was first applied to properties in the 1989 Master Plan. "The protection of land for agriculture has been a key component of rural growth management in the County for over 40 years. Significant public funds have been invested in the permanent protection of cropland, pasture and woodland to maintain and foster a viable agricultural industry." Master Plan 2020 at p. 166. One of the goals in the Master Plan is to "monitor the Agricultural Priority Preservation Areas to ensure that at least 80% of the remaining undeveloped land is either under easement or temporarily protected by restrictive zoning (such as RC 2)". Master Plan 2020 at p. 166.

Targeted Ecological Area

The subject property is in a Targeted Ecological Area (TEA). That is a designation given

by the Maryland Department of Natural Resources to the lands and watersheds that are the most ecologically important areas in the state; the "best of the best". The map of TEAs in the State, entered into evidence as Protestant's Exhibit 33, shows that not much of northern Baltimore County is in a TEA, and even less is unprotected by an agricultural easement or other development restriction.

Scenic Route

Middletown Road is designated as a Baltimore County scenic route. According to the Master Plan, "The preservation and enhancement of the scenic resources in Baltimore County is an essential component contributing to the quality of life of residents." Master Plan 2020, p. 99. It is the policy of Baltimore County to "preserve scenic corridors and views through proper zoning and coordination with federal and state governments." Master Plan 2020, p.99. "For properties along scenic routes or with scenic view sheds, variances, amendments and special exceptions should be granted sparingly." Master Plan 2020, p. 101.

Viability of Petitioners

Baltimore County's law directs that "all parties having a lease or ownership interest in a solar facility are responsible for the maintenance of the facility." 4F-106(A). Expected maintenance includes "painting, structural repairs, landscape buffers and vegetation under and around solar panel structures, integrity of security measures", and access roads. Under 4F-107, the owner or operator are also responsible for removing the solar facility at the end of its useful life, or when it has been abandoned.

Bluefin Origination 2, LLC is the lessee in this case. It is a shell company. It was formed in Maryland in April 2017. It has no assets, no bank account, no employees, and no office in Maryland. It exists for the sole purpose of signing the lease with the property owner for

this project. It, and not Cypress Creek Renewables, is the only solar entity obligated to maintain and decommission this site. This shell entity insulates the parent company from any liability from this project. Bluefin Origination 2, LLC will simply walk away if a problem arises or if the project is not profitable. It would be an insult to the community should this ploy to avoid liability be permitted.

The reliability of the property owner, David Matthews, is equally suspect. He is the other party responsible for maintaining and then tearing down the site. While he attended at least one day of the hearing in this case, he did not testify. He chose not to tell us about his property and why he believes a solar array should be allowed there. He did not tell us his plan for maintaining the site, taking down the panels 30 years from now, and then restoring his property to agricultural use. We heard nothing about his financial ability to take care of the site, as required of an owner under Bill 37-17.

What we heard from David Matthews's neighbor, Jeanne Bowman, was not reassuring. Mrs. Bowman's family sold the farm to Bill Matthews in 2005. He died, and she believes that David Matthews, along with his father Dennis Matthews, inherited the farm from Bill. Bill Matthews used the farm buildings to store hundreds of old kitchen stoves, refrigerators and other appliances. He placed six large commercial trailers on the property to store more junk. When she complained, he painted the trailers green. The trailers are still on the property. No one has ever lived at the property since it was bought by Bill Matthews. The buildings have not been maintained, and one barn has collapsed.

David Matthews was not called as a witness to rebut any of the above testimony from Jeanne Bowman. The Petitioners did not deem it necessary for the Board, or the community, to hear how they intend to maintain the site, handle any problems that arise, and then tear it down

when the lease has ended.

The Petitioners' deficiencies on this issue, alone, should be sufficient to deny their request for a Special Exception. This is a long-term project in which the owner and lessee must be financially able to fulfill their obligations. We have no evidence to suggest that they will be up to the task.

Conclusion

Parker Sloan testified that when selecting a solar site, he was looking for a clear field, an electric line, and a "willing and able property owner." Beyond that, his knowledge of the site that he selected on Middletown Road was what one might expect of someone who lives in Asheville, North Carolina. David Martin was then hired by the Petitioners to prepare a site plan. He provided no information about the soils at the property. He said soils need not be considered. He did no stormwater management plan because we are "not there yet." He did no environmental study because it was "not relevant to a Special Exception review." David Martin believes that it is still business as usual in Baltimore County - when it is time to get your permits, you do whatever the County then requires.

The Protestants believe there is a better procedure to follow. The solar law is new, and this is the first case to reach this stage. The Board must decide what information it will require from Petitioners. The plan here is to cover a 16 acre sloping farm field, situated between two forest buffers, and upstream from Prettyboy Reservoir, with thousands of large, impermeable solar panels. No project of such a scale exists in northern Baltimore County. Should protection of the watershed and the environment be left to others down the road? Or should the Board require of the Petitioners the information needed, at this stage, to make an informed decision?

The issue to be decided in this case is concisely contained in the purpose of the Solar

Bill:

"The purpose and intent of this Article is to permit solar facilities in parts of the rural and commercial areas of the County by Special Exception, and to balance the benefits of solar energy production with its potential impact upon the County's land use policies by ensuring sufficient safeguards are in place to protect the County's communities and its agricultural land, forests, waterways and other natural resources." (4F 101.1)

The Protestants believe that the Board of Appeals is the place to apply this balancing test; not later, in a County permit department. Have the Petitioners demonstrated that the benefits of a solar array, on this part of the rural area of the County, outweigh its potential impact on the area? We, the Protestants have shown the potential impact as best we can. The Petitioners have remained silent. As the Petitioners have failed to tip the scales in their favor, their Petition for a Special Exception should be denied.

H. Barnes Mowell, P.A.
16925 York Road
Monkton, Maryland 21111
410-329-6488
barneymowell@hotmail.com

Certificate of Service

I HEREBY CERTIFY that a copy of the foregoing was mailed this 7th day of December 2018 to Adam Rosenblatt, Esquire, Venable, LLP, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204 and to Peter Zimmerman, Esquire, 105 W. Chesapeake Avenue, Room 204, Towson, Maryland 21204.

H. Barnes Mowell

RECEIVED
DEC - 7 2018
BALTIMORE COUNTY
BOARD OF APPEALS

IN THE MATTER OF DAVID WILLIAM MATHEWS, LEGAL OWNER, AND BLUEFIN ORIGINATION 2 LLC, LESSEE	*	**BEFORE THE**
	*	**BOARD OF APPEALS OF**
	*	**BALTIMORE COUNTY**
(20450 Middletown Road)	*	
		Case No. 17-108-X
6th Election District	*	
3rd Councilmanic District		
	*	

* *

POST-HEARING MEMORANDUM

Bluefin Origination 2 LLC ("Cypress[1]"), by undersigned counsel, hereby submits this Post-Hearing Memorandum in support of its Petition for Special Exception and states, as follows:

I. INTRODUCTION

The testimony and evidence in this case, together with the ongoing appeals of the approvals of numerous solar facilities, demonstrate that the entire commercial solar industry is under attack by advocacy groups and certain residents of northern Baltimore County ("Protestants") supported by People's Counsel for Baltimore County ("People's Counsel"). The tactics employed in this case (and others) clearly stem from the failure to accept the Baltimore County Council's adoption of Bill No. 37-17[2], which permitted solar facilities by special exception in the RC 2 Zone, a zoning classification prevalent in northern Baltimore County.[3]

---

[1] Bluefin Origination 2 LLC is owned by Cypress Creek Renewables, LLC, a company that develops, finances, constructs, and operates solar facilities throughout the United States. *See* Transcript of Proceedings before the Board of Appeals, pages 20, 57-58 (referenced in this Post-Hearing Memorandum as "T.").

[2] The provisions of Bill No. 37-17 are codified as Article 4F of the Baltimore County Zoning Regulations ("BCZR").

[3] The advocacy groups likely do not want solar facilities in <u>any</u> RC Zone, but their approach in this case was focused on certain characteristics associated with and common to land zoned RC 2.

Unsuccessful in their efforts to convince the Council to prohibit solar facilities in the RC 2 Zone, the advocacy groups have, instead, taken it upon themselves to attempt to prevent any solar facilities from being approved or constructed in the RC 2 Zone. To that end, advocacy groups are fighting solar facilities on RC 2 Zoned land that is not within the geographical boundaries of the group, and individuals associated with the groups are fighting proposed solar facilities miles from their own homes. And, in doing so, their message and corresponding intent is clear – solar facilities should not be permitted on any RC 2 Zoned land regardless of Bill No. 37-17.

As this Board is keenly aware, a generalized assertion that a special exception use should not be permitted in a particular zone, where the County Council has already determined that it is, in fact, permitted, is not sufficient justification for the Board to deny the special exception. Instead, the Board must apply the existing law as written and evaluate the particular use at the particular location proposed when applying the applicable legal test. Here, the record demonstrates that Cypress presented strong and substantial evidence in support of its Petition for Special Exception, and Protestants' and People's Counsel's broad-brush attack on the use itself failed to rebut Cypress' evidence. Therefore, the Board of Appeals should grant the requested Special Exception.

II. THE PROPERTY AND THE PROPOSAL

Cypress is proposing to install a solar facility on property located at 20450 Middletown Road in northwestern Baltimore County (the "Property"). (T. 24) The Property consists of 71± acres located on the south side of Middletown Road, east of Flintstone Road. (T. 16) *See* Petitioner's Exhibit 2. The prior owners subdivided the Property several times over the years, most recently in 2000, to create residential lots on which homes have been built. (T. 532-538) The area of the Property located closest to Middletown Road is cleared and open, having

previously been farmed, but a large portion of the Property (35.7± acres) is wooded. (T. 216-218) *See also* Petitioner's Exhibits 2, 7, and 11. The vast majority of this wooded area is subject to a recorded protective easement for the benefit of Baltimore County. *See* Petitioner's Exhibit 2, Development History & Notes, Note 2. The proposed facility layout respects these buffers. (T. 221, 246, 252-257, 283-287).

Along the Property's Middletown Road frontage, there is an existing robust evergreen screen limiting views into the property from the public street. (T. 223, 231-234) *See also* Petitioner's Exhibit 11. Cypress intends to retain and to supplement this planting screen, which will serve as the required landscape buffer. (T. 50, 238-242) *See also* Petitioner's Exhibits 6 and 7. Within the cleared area behind this screen, Cypress proposes to install a ground-mounted solar facility, which will generate 1.9 megawatts (alternating current or "AC") of electricity that will be fed directly into Baltimore Gas and Electric's power lines, commonly referred to as the power "grid." (T. 24-25)

Cypress' proposed "single-axis tracker" panel array is designed to move with (i.e., "track") the position of the sun to provide maximum exposure of the panels to the sun. (T. 27, 48-49) The facility itself will consist of: (i) steel posts driven directly into the ground (T. 27, 48-49); (ii) an aluminum racking system placed on top of the piles (T. 27, 49); (iii) photovoltaic solar panels connected to the racking system (T. 27, 49); (iv) wiring connecting the panels to an inverter, transformer, and, ultimately, to external power lines (T. 27-28, 49); (v) fencing placed around the facility for security (T. 49); and (vi) landscaping, the ultimate design of which is subject to approval by Baltimore County's Landscape Architect, added to screen the facility in accordance with the requirements of the BCZR. (T. 238-243) *See also* Petitioner's Exhibits 6 and 7.

Aside from the installation of the equipment and landscaping, the disruption to the Property will be very limited. No access to well water or septic disposal is needed because the facility is unmanned. (T. 279-280) Vehicular access will be provided by way of a short driveway off Middletown Road, which will be gated within the security fence. (T. 41, 247) Prior to driving the posts, the ground is mowed and, if necessary, tilled to loosen up the soil, and that area is then seeded. (T. 49-50) No grading or clearing is necessary to alter the elevation of the land on which the facility will be installed. (T. 50) Vegetation will be retained (and maintained) under the panel array. (T. 50-51, 55)

It is anticipated that the management of any stormwater will be handled through modest, non-invasive measures. Due to the spacing of the panels and the retention of vegetation, the majority of the rainwater runoff from the panels will infiltrate into the ground under the panels, without the need for installation of any specific devices. (T. 281-283) Allowing for infiltration, also known as "disconnect," is, by itself, considered a stormwater management measure. (T. 842-843) However, due to the grades in certain areas of the array, the installation of level spreaders and/or micro bioretention basins may become necessary as the design and permitting materials are finalized. (T. 840-845) The final design of stormwater management will be reviewed and approved by Baltimore County's Department of Environmental Protection and Sustainability ("DEPS"). (T. 850-852)

Cypress will remotely monitor operation of the facility and be alerted of any problems. (T. 58, 182) At the end of the lease, all of the equipment will be removed, including the wiring, equipment pad, and electric interconnection. (T. 55-56) The post holes will be filled, and the property reseeded. (T. 55-56)

III. PROCEDURAL HISTORY AND LEGAL STANDARDS

A. Cypress' Special Exception Request Was Approved by the ALJ and is to be Heard Entirely *De Novo* by this Board.

In October of 2017, Cypress filed its Petition for Special Exception and Plat ("zoning plan").[4] The zoning plan showed a special exception area of 18.73± acres. Following the required public hearing, at which the 18.73± zoning plan was presented to the Administrative Law Judge ("ALJ"), the ALJ issued a decision, granting the special exception but restricting the area of special exception to no more than 13 acres. *See* ALJ's Opinion and Order, dated January 22, 2018, Condition 7.

Protestants moved for reconsideration of the Opinion and Order, and, in compliance with Condition 7, Cypress submitted a revised zoning plan with a special exception area of 12.99± acres. Thereafter, the ALJ issued an order denying the Motion. *See* ALJ's Opinion and Order on Motion for Reconsideration, dated March 1, 2018.

Protestants filed a Notice of Appeal, indicating that they wished to note an appeal "to the Baltimore County Board of Appeals of the Opinion and Order entered in the captioned case by the Office of Administrative Hearings on January 22, 2018, and the Order denying the Motion to Reconsider that Decision dated March 1, 2018." (Emphasis added) In both instances, the intent to appeal the entire decision was apparent.

Now, before the Board, Cypress is requesting approval of a solar facility layout having a special exception area of 16.71± acres. *See* Petitioner's Exhibit 2. People's Counsel alleges that Cypress is not permitted to seek approval of a 16.71± acre special exception, but is limited to a

[4] Protestants made a vague allegation that Cypress had not properly amended its Petition for Special Exception following passage of Bill No. 37-17. (T. 4-8) On October 12, 2017, Cypress amended its Petition to request approval for a "solar facility" under the new legislation. The Office of Zoning Review did not issue a new case number. Each of the documents referenced in this paragraph are contained in the case file forwarded by the Administrative Law Judge's office to the Board of Appeals upon filing of the Notice of Appeal.

special exception area of only 12.99± acres. He argues that, because Cypress never filed a cross-appeal to challenge the conditions in the ALJ's order, it is somehow limited to Condition No. 7 in the ALJ's order. People's Counsel's argument ignores that this proceeding is heard *de novo* by the Board of Appeals.

An aggrieved person may appeal "the decision or order" of the ALJ granting a special exception to the Board of Appeals. Baltimore County Code ("BCC") Section 32-3-401(1). Such appeal is subject to *de novo* review by the Board. BCC, Charter, Section 603. In Maryland, "a *de novo* hearing is an entirely new hearing at which time all aspects of the case should be heard anew as if no decision had been previously rendered." *Boehm v. Anne Arundel Cty.*, 54 Md. App. 497, 511 (1983). "[W]e have consistently treated *de novo* appeals as wholly original proceedings, with the word 'appeal' meaning simply that the proceedings are new and independent rather than strict review of prior proceedings." *Halle Co. v. Crofton Civic Ass'n*, 339 Md. 131, 142 (1995). "Acting *de novo*, the Board exercises jurisdiction akin to original jurisdiction." *Id.*

Here, the Protestants clearly appealed the entire "decision or order" of the ALJ relating to the requested special exception:

> Please note the appeal of the above-name entity and individuals to the Baltimore County Board of Appeals of the Opinion and Order entered in the captioned case by the Office of Administrative Hearing on January 22, 2018, and the Order denying the Motion to Reconsider that decision dated March 1, 2018.

See Notice of Appeals, dated March 28, 2018 (emphasis added). Protestants did not specify any particular issues for which they desired to note an appeal, nor did they specify any issues which they wanted to exclude from consideration.[5] Protestants' clear intention was to appeal every

[5] Cypress questions whether it is even possible to challenge selected "issues" of a single zoning approval as suggested by People's Counsel. (T. 386-387) Regardless, the Board does not need to reach this question because Protestants' Notice of Appeals does not evidence such an intention in this case.

aspect of the decision made by the ALJ on the requested special exception. Because the conditions imposed by the ALJ are an integral part of that decision, they are also before the Board of Appeals regardless of whether a cross-appeal was filed.

The opinion in *Halle* is instructive. In *Halle*, the administrative officer denied a requested special exception for a landfill. On appeal, the Anne Arundel County Board of Appeals granted the special exception with "eight specific conditions." 339 Md. at 137. On judicial review, the community opposition argued that the Board had exceeded the scope of its *de novo* review by imposing conditions that were not ordered by the administrative officer or even considered in the prior proceedings. *Id.* at 137-38. The Court of Appeals rejected this argument, instead, ruling that the Board had the power to address any aspect of the special exception proposal, including the imposition of conditions:

> The Board "may review the actions of the administrative hearing officer and may take any action which that officer could have taken in the original proceeding. Additional evidence may be presented in the *de novo* proceedings, and the Board may impose any conditions it feels necessary to protect the public health, safety, and welfare. It is appellate review mainly in the sense that a decision by the administrative hearing officer is a prerequisite to proceedings before the Board and not in the sense that the Board is restricted to the record made before the administrative hearing officer.

Id. at 143 (internal citations omitted). Therefore, in accordance with the provisions of the County Charter, the BCC, and the *Halle* opinion, the Board's consideration of the Protestants' appeal in this matter is entirely *de novo*, without regard to the terms of the ALJ's decision.

In the event People's Counsel cites *Daihl v. Board of Appeals of Baltimore Cty.*, 258 Md. 157 (1970), this case is distinguishable and relies on sections of the BCZR that have long since been superseded. In *Daihl*, the owner of twelve lots sought approval of a rezoning and variance for each lot. *Id.* at 161. The Baltimore County Zoning Commissioner granted the relief for some of the lots and denied the relief for other lots. *Id.* Opponents appealed and indicated in

their Notice of Appeal that they wished to "note an Appeal from the portions of said Order granting the requested rezoning and variances." *Id.* (Emphasis added.) The owner/petitioner did not file an appeal.

On appeal, the Board of Appeals considered and granted the requested relief for all of the lots, even those for which the relief was previously denied. The Court of Appeals reversed the Board, finding that it lacked jurisdiction to review the denial of the relief for those select lots. *Id.* at 164. In making its decision, the Court relied heavily on the very specific wording of the Notice of Appeal and a now superseded section of the BCZR – Section 501.3 – which the court read to support the conclusion that the appeal involved select "issues" from a particular "decision" in which "more than one issue" was decided. *Id.* at 161-162, 164.

By contrast, the record here demonstrates that Protestants did not identify any "portions" of the ALJ's Opinions and Orders that they wished to appeal, nor did they identify specific "issues." They appealed the entirety of the ALJ's "decision" related to the requested special exception. Further, unlike *Daihl*, this case does not involve a situation where "more than one issue" was decided by the ALJ. This special exception involves a single request for a solar facility on one property. In evaluating the special exception request, therefore, the Board has the authority to consider all aspects of this request, including reasonable adjustments to the special exception area, prior conditions imposed, etc.

B. The Courts have Outlined a Clear Special Exception Standard, Which This Board Must Apply in Undertaking its *De Novo* Review of Cypress' Request.

BCZR Section 502.1 contains the special exception burden of proof applicable in Baltimore County. It includes several prongs, and the Board must ultimately find Cypress produced evidence that the proposed special exception satisfies each one. In undertaking its review, the Board must evaluate the Section 502.1 factors consistent with guidance articulated by

Court of Appeals *People's Counsel v. Loyola College in Maryland*, 406 Md. 54 (2008) and *Schultz v. Pritts*, 291 Md. 1 (1981).

For over thirty-five years, *Schultz* has directed that, when analyzing each prong of Section 502.1, the Board must determine "whether there are facts and circumstances that show that the particular use proposed at the particular location proposed would have any adverse effects above and beyond those inherently associated with such a special exception use irrespective of its location within the zone." 291 Md. at 22-23. *See also Loyola*, 406 Md. at 62.

More recently, the *Loyola* Court, which upheld the longstanding *Schultz* analysis, assessed the true nature of special exception uses and provided an excellent perspective that should help to guide the Board of Appeals in its analysis in this case. Just as with the school use in *Loyola*, when the Baltimore County Council designated "solar facility" as a special exception use in the RC 2 Zone, it considered that "certain [inherent] adverse effects...are likely to occur" wherever the facility is proposed in the RC 2 Zone. *Loyola*, 406 Md. at 106. "The inherent effects notwithstanding, the legislative determination necessarily is that the uses conceptually are compatible in the particular zone with otherwise permitted uses and with surrounding zones and uses already in place" absent proof to the contrary. *Id.*

Indeed, the *Schultz* and *Loyola* Courts, and more recently the Court in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), have expressly recognized that "[a] special exception is presumed to be in the interest of the general welfare, and therefore a special exception enjoys a presumption of validity." *Id.* at 285. *See also Loyola*, 406 Md. at 84, 88, 105; *Schultz*, 291 Md. at 11. The *Attar* Court further adopted the Court's ruling in *Anderson v. Litzenberg*, 115 Md. App. 549 (1997) that the presumption of validity "'enhances the probative value of other evidence adduced'" by an applicant for a special exception. *Id.* at 287 (quoting *Anderson*, 115

Md. App. at 564). Accordingly, given the presumption of validity, once an applicant puts on its *prima facie* evidence in support of a special exception, opponents must then "set forth sufficient evidence to indicate that the proposed [use] would have any adverse effects above and beyond those inherently associated with such use under the *Schultz* standard." *Attar*, 451 Md. at 287.

In short, following Cypress' presentation of *prima facie* evidence in support of its proposed solar facility, Protestants were required to present evidence affirmatively demonstrating that disqualifying "adverse effects" – meaning adverse effects stemming from this specific solar facility at the proposed location on Middletown Road that are somehow unique and different than the inherent impacts associated with the use – would result.[6] As outlined below, Protestants presented *no* evidence of adverse impacts beyond those inherently associated with the use.

IV. STRONG, SUBSTANTIAL, AND UNREBUTTED EVIDENCE SUPPORTS GRANTING THE SPECIAL EXCEPTION.

Any applicant for a solar facility in an RC 2 zone must demonstrate compliance with Article 4F of the BCZR, which includes the requirement to obtain approval of a special exception and the corresponding obligation to satisfy the prongs of Section 502.1 of the BCZR.

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[6] In making this evaluation, the Board should be "focused entirely on the neighborhood involved in each case." *Loyola,* 406 Md. at 102. "A comparison of the potential adverse effects of the proposed use at the proposed location to the potential effects of the proposed use at other, similarly-zoned locations throughout the jurisdiction" is not required *Id.* at 66. The Court of Appeals' succinct explanation in *Loyola* is equally applicable here:

> We disagree with [People's Counsel's] argument that [the *Schultz*] standard should be interpreted to mean that, as long as there are other locations in the zone in which certain adverse effects would be less adverse, the use should be denied in the subject location. The standard is very clear that only the general vicinity of the subject property is to be taken into account. Therefore, the fact that there are wider roads in other areas of the R.C. 2 zone, or other areas of the zone without Class 3 trout streams, are beside the point. The Board must examine each criterion of BCZR Section 502.1 and determine whether the impacts in the subject location are above and beyond those inherent to the use...itself.

Id. at 63-64 (emphasis added). Additionally, a Cypress "does not have the burden of establishing affirmatively that his proposed use would be a benefit to the community." *Id. at* 102.

Over three days of hearings, Cypress presented strong and substantial evidence to prove that its project complies with Article 4F and Section 502.1.

A. Cypress has Demonstrated Compliance with BCZR Article 4F.

BCZR Article 4F outlines the specific requirements[7] for solar facilities in Baltimore County. Cypress demonstrated compliance with each of the requirements:

Section 4F-102.A: Requires Special Exception

According to Section 4F-102.A, solar facilities are permitted in the RC 2 Zone by special exception. The Middletown Road property is zoned predominantly RC 2, and the solar facility is proposed to be located entirely within the portion of the Property zoned RC 2. (T. 222) *See* Petitioner's Exhibit 2.

Section 4F-102.B.1: Maximum Land Area for Facility

Section 4F-102.B.1 provides that "[t]he maximum area permitted for a single solar facility is the amount of acreage that produces no more than two megawatts alternating current (AC) of electricity." Although the area of the special exception is 16.71± acres, the area of the solar array is only 13.14± acres. (T. 213) As Mr. Sloan explained, the engineers working within his company have determined that the 13± acre footprint is necessary for this facility to generate 1.9 megawatts of electricity, which is less than the maximum power generation allowed by Section 4F-102.B.1. (T. 44, 114, 128-129, 131)

As he explained, the engineers had already reduced the size of the array from the original submission somewhat by decreasing the spacing between the solar rows. (T. 44-45) This

[7] It should be noted that the construct of BCZR Article 4F is such that many of the "requirements" for construction and operation of solar facilities contained within that Article are forward-looking and need not be or cannot be satisfied at the time a prospective solar facility operator is pursuing approval of the special exception. The plain language of the Article, combined with common-sense application of the provisions, makes clear that the numerous "requirements" are intended to be satisfied/verified at various stages throughout the zoning, development, and permitting processes. *See e.g.*, BCZR Section 4F-107 - Abandonment; removal. Nevertheless, Cypress addressed the status of each requirement during the hearing.

spacing can only be decreased so far, though, because, if panels are placed too close together, they will shade each other and reduce energy production. (T. 45-46) Reducing the panel row separation could also have implications to stormwater management, because it would reduce the area of vegetation necessary to allow rainwater to infiltrate the ground. (T. 286-287)

The only "evidence" Protestants or People's Counsel to challenge Mr. Sloan's testimony was People's Counsel's Exhibit 2 (an article published by National Renewable Energy Laboratory, entitled "Land Use Requirements for Solar Power Plants in the United States"), which was not accepted into evidence and was only marked for identification. Despite the Board's exclusion of this exhibit, People's Counsel nevertheless, without prompting, offered his own interpretation of the article's findings, stating:

> And I think they've not overcome, even on the merits, the cases of public records that Mr. Beverungen cited, where it was approximately 5 or 6 acres per megawatt. They haven't really tried to overcome that with any facts, plus the National Renewable Energy Laboratory data showed a rate of five acres per megawatt, so I think size is problematic.

(T. 431-432)

Even though the article was not accepted into evidence, People's Counsel's careless, and erroneous, reference to it compels Cypress to advise the Board that the article does *not* support People's Counsel's bald assertion. National Renewable Energy Laboratory ("NREL") actually found that the land area necessary for the type of single axis tracker facility proposed at Middletown Road is significantly more than the "five acres per megawatt" cited by People's Counsel. For this "Small PV" "1-axis" facility, according to NREL, the average land use was 6.3 acres per megawatt of AC energy for direct land use (equivalent to the panel array area) and 8.7 acres per megawatt of AC energy for total land use (equivalent to the special exception area). People's Counsel Exhibit 2, Tables 8 and 9. Therefore, according to this article, the Middletown Road facility (having 13.14± acres of panels and 16.71± acres of special exception area) is only

slightly above average for direct land use (12.6 acres for 1.9 megawatts) and *below average* for total land use (17.4 acres for 1.9 megawatts). People's Counsel Exhibit 2, Tables 8 and 9.

Section 4F-102.B.2: Maximum 10 per Councilmanic District

David Martin testified that, in the 3rd Councilmanic District, the limit of ten (10) solar facilities has not yet been met. In fact, when he checked, no permits had yet been issued for any solar facilities in the 3rd Councilmanic District. (T. 269-270)

Section 4F-104.A: RC Zone Requirements

BCZR Section 4F-104.A outlines additional requirements for solar facilities located in an RC zone. Cypress demonstrated compliance with each of these requirements:

1. **No Conflict with Preservation Easements.** Mr. Martin confirmed that the Middletown Road property is not encumbered by an agricultural preservation easement, an environmental preservation easement, or a rural legacy easement. (T. 243-244)

2. **No Historic Resources Impacted.** Mr. Martin confirmed that the property is not located in a Baltimore County historic district, nor is the property listed on the Baltimore County Final Landmarks List. (T. 245)

3. **No Conflict with Environmental or Conservancy Easements/Areas.** Mr. Martin confirmed that the solar facility is not proposed to be located within a forest conservation easement or in a designated RC 4 or RC 6 zone conservancy area. (T. 246)

4. **Compliance with Setbacks.** Mr. Martin confirmed that the aboveground components of the solar facility, including solar collector panels, inverters, and similar equipment, will be set backs at least 50 feet from the tract boundary. (T. 246-247) *See also* Petitioner's Exhibit 2.

5. **Height Not Exceeded.** Mr. Sloan testified that no equipment associated with the solar facility will exceed 20 feet in height. (T. 42, 52, 142)

6. **Landscape Buffer/Screening Provided.** As Mr. Martin explained, Cypress will provide a landscaping buffer around the perimeter of the Property in areas where the solar facility may be visible from an adjacent residentially used property or a public street. (T. 248-252) And, the views into the Property from Middletown Road, a Baltimore County scenic route, will be screened in accordance with the Baltimore County Landscape Manual. (T. 241-242)

To demonstrate compliance with these landscaping and screening requirements, Mr. Martin prepared a Schematic Landscape Plan. *See* Petitioner's Exhibits 6 and 7. (T. 214-215) Prior to preparing the plan, Mr. Martin sought input from a Department of Planning representative, Wally Lippincott, who suggested a "naturalistic" screen with a "mix" of planting types. (T. 238-239, 242-242) Using the existing evergreen screen along Middletown Road, Mr. Martin supplemented that screen with a "freeform arrangement" of native evergreen, deciduous, and smaller species trees, which takes advantage of the "triangular spaces" created by the panel array "to create a more naturalistic way to screen." (T. 239-240) He submitted his proposed plan to Baltimore County's Landscape Architect, Mr. Jim Hermann, who, after consultation with Mr. Lippincott, approved the concept. (T. 240)

With regard to the screening of Middletown Road, a Baltimore County scenic route, Mr. Martin explained that evergreen trees planted along the road frontage have, effectively, "cut off" views into the property. The view along Middletown Road is now an "enclosed view" as described in the Department of Planning's Zoning Advisory Comment, which means that the view is limited to the road and road functions. (T. 241) *See* Petitioner's Exhibit 12. Therefore, "plantings...that will not allow an observer...to have a sustained view of the solar facility" are

required. *Id.* As Mr. Martin explained, his Schematic Landscape Plan "fills in the gaps" along Middletown Road frontage and satisfies this directive. (T. 241-242)

7. **Security Fencing Provided.** Mr. Sloan explained that a seven foot tall security fencing will be provided around the facility to "meet the national electric code." (T. 28, 179, 191) Mr. Sloan indicated that black chain-link fencing will be used. (T. 53) At the request of Protestants, Cypress agreed that the fence would not have barbed wire at the top and that the fence would not have a "raw edge." (T. 687-689)

8. **No Glare.** To demonstrate that the facility has been "designed and located in an arrangement that minimizes glare or reflection onto adjacent properties and adjacent roadways" and will not "interfere with traffic or create a safety hazard," Cypress presented Thomas Cleveland, who was accepted as an expert professional engineer with particularized knowledge related to solar facility installation and design as far as that expertise relates to glare. *See* Petitioner's Exhibit 14. (T. 399-412) Mr. Cleveland was retained as a consultant by Cypress to evaluate any potential glare from the proposed solar facility. (T. 413-414)

Using the ForgeSolar software tool, which is the recognized standard in the industry, Mr. Cleveland conducted a detailed site-specific glare analysis. *See* Petitioner's Exhibit 15. (T. 414-420) Mr. Cleveland input the footprint of the array and some specific information about the array itself into the program, which then placed the array onto a three-dimensional terrain map. (T. 415) He selected observation points for analysis of potential glare. (T. 415) The points were located along Middletown Road and adjacent properties (particularly where existing residences are situated). *See* Petitioner's Exhibit 15.

The study projects that there will be "no glare at any of the observation points" at any time during the year. (T. 419-420) From the results of this study as well as his own observation

of the site and the proposed layout, it was Mr. Cleveland's opinion that the proposed solar facility has been designed to minimize glare onto adjacent properties and roadways and that it will not interfere with traffic or create a safety hazard. (T. 420) This testimony was unrebutted.

9. **Plan Requirements Satisfied.** BCZR Section 4F-104.A.9 requires that Cypress "comply with the plan requirements of Section 33-3-108 of the County Code." Mr. Martin explained that this requirement was satisfied by the prior review, approval, and recording of a protective easement for forest buffer and forest conservation areas for the benefit of Baltimore County. *See* Petitioner's Exhibit 2, Development History & Notes, Note 2. (T. 216-21, 252-262) No portion of the facility is located within these established and protected easement areas. (T. 221)

By way of background, the stated intent of BCC Article 33, Title 3, which includes Section 33-3-108, is to protect the County's streams, wetlands, floodplains, and other water resources and to provide for the establishment of forest buffers (areas of non-disturbance protected by recorded covenants) around these resources prior to development or subdivision. BCC Section 33-3-103. The "water resources" are identified based on pre-development site conditions. Then, using the design standards outlined in Section 33-3-111, buffers, which will protect the resources, are delineated. The delineation of forest buffers also involves an evaluation of pre-development site conditions and does not take into account the type of development or subdivision proposed. *See, e.g.*, BCC Section 33-3-111(b)(3) ("For a surface water designated use I or I-P stream, the forest buffer shall be the greater of the following: (i) 75 feet; (ii) 25 feet from the outer wetland boundary; or (iii) 25 feet from the riverine floodplain reservation or easement boundary.")

Following the delineation of the forest buffers, a declaration of protective covenants must be recorded in the Land Records. BCC Section 33-3-110(b)(3). The delineation of the buffers and the recording of protective covenants imposes permanent restrictions on the land, which "run with the land" and bind present and future owners. BCC Section 33-3-110(b). The covenants prohibit certain activities within the buffer area, including restrictions against the removal of vegetation, soil disturbance, dumping, use of pesticides, grazing of animals, and other activities. BCC Section 33-3-112(b)(2). Areas outside of the established buffer are not subject to any such restrictions.

As indicated, the prior owner of the Middletown Road property already went through the steps outlined in BCC Article 33, Title 3, including the identification of onsite resources, delineation of the areas to be protected, and recordation of perpetual protective easements. This exercise not only established the areas to be protected, but it also necessarily determined the areas *not* subject to that protection ("development envelope"). Accordingly, there is no need to repeat this task in order to locate the proposed solar facility within the development envelope.

Indeed, Cypress' proposal fits entirely within the development envelope and, therefore, respects the areas of established forest buffer; no further action is required to demonstrate compliance with BCC Section 33-3-108. (T. 221, 246, 252-257, 283-287) Lastly, the Department of Environmental Protection and Sustainability ("DEPS") reviewed the requested special exception and plan and issued a "no comment," furthering demonstrating compliance. *See* Casefile from Administrative Law Judge level, introduced by People's Counsel in its entirety. (T. 111-113)

Section 4F-105, Section 4F-106, and Section 4F-107: Maintenance, Bond, and Removal Obligations

As confirmed by Mr. Sloan, Cypress is fully prepared to undertake all of the maintenance, bond, and removal obligations outlined in Sections 4F-105, 4F-106, and 4F-107. (T. 54-58) Cypress is an experienced utility-scale solar energy company that develops, constructs, operates, and maintains facilities across several states. It will retain ownership over the Middletown Road facility and will operate and maintain it as described by Mr. Sloan, which efforts will include regularly scheduled maintenance of the property and the facility and remote monitoring to alert of any performance or security issues. (T. 54-58) At the end of the lease, the entire facility will be removed, including the fencing, panels, racking system, posts, wiring, and related equipment, and the ground will be reseeded in compliance with Section 4F-107 . (T. 55) Although Protestants expressed concern about follow-through by Cypress, Protestants offered no evidence to rebut Mr. Sloan's testimony.

B. Cypress has Demonstrated Compliance with BCZR Section 502.1 and Applicable Caselaw.

Section 502.1 requires a finding on each of the factor outlined in that section. Cypress presented strong, substantial, and unrebutted evidence to demonstrate compliance with each:

502.1.A The solar facility will not be detrimental to the health, safety or general welfare of the surrounding locality.

Mr. Sloan's explained the installation, operation, and maintenance of the facility and described the anticipated conditions of the site during the term of the lease and after removal. (T. 26-69) In doing so, he identified no conditions that would impact the "health, safety and general welfare of the surrounding locality." When asked to compare the Middletown Road facility to any of the 250 solar facilities that his company owns or operates, he confirmed that "there's nothing unique about this site or the installation." (T. 56, 69)

He explained that the only piece of equipment that makes noise is the inverter, which sound will not be audible at the property line. (T. 42, 60-61) (All solar facilities have similar inverters. (T. 61)) As he described, the movement of the panels is so slow that it will not be detectable by the human eye. (T. 61-62) Mr. Cleveland testified that no glare will result. (T. 399-420) *See also* Petitioner's Exhibit 15. Mr. Martin confirmed that the facility will be adequately screened. (T. 248-252). *See also* Petitioner's Exhibits 6 and 7. Further, stormwater management measures, as required by Baltimore County, will be implemented to control runoff.[8] (T. 281-283, 840-845, 850-852) The property now has no such measures.

Based on the testimony of Cypress' witnesses, it is hard to fathom how this facility would impact the "health, safety and general welfare" of the surrounding community other than from an aesthetic perspective, which is inherent to the use and less impactful on this property because of the existing screening.

502.1.B The solar facility will not tend to create congestion in roads, streets or alleys.

As Mr. Sloan explained, the solar facility will be unmanned and only periodically visited (eight times per year) for maintenance of the property or the equipment. (T. 54-55) As such, the facility will not create any congestions in the roads, streets, or alleys. Additionally, the Middletown Road facility will be uniquely well-screened from views from the road because of the well-established evergreen screen along the road frontage.

[8] Despite Protestants' assertions, it is entirely appropriate and usual for final stormwater management design to occur after approval of the Petition for Special Exception in conjunction with the development and permitting processes. (T. 847-850) The legitimacy of this approach was confirmed by the Court of Appeals in *Attar*. 451 Md. at 289 (finding no error in the approval of a special exception despite a potential relocation of the floodplain not being addressed until at a later date through a different review and approval process).

502.1.F The solar facility will not interfere with adequate light and air.

The components of the Middletown Road solar facility, none of which exceed 11 feet in height, will not interfere with adequate light and air. (T. 42) Further, the facility, as proposed, meets all applicable setbacks from external property lines. (T. 279)

502.1.G The solar facility will not be inconsistent with the purposes of the property's zoning classification or the spirit and intent of the BZCR.

The RC 2 Zone is governed by BCZR Section 1A01. Section 1A01.1.B describes the "purposes" of the RC 2 zone to be "to foster conditions favorable to a continued agricultural use of the productive agricultural areas of Baltimore County by preventing incompatible forms and degrees of urban uses." In particular, "new residential subdivisions" are identified as being particularly problematic because, not only do they "destroy the specific area upon which the development occurs" (due to subdivision and sale) but they also introduce a residential component that is "incompatible with the agricultural use on the surrounding area." BCZR Section 1A01.1.A.1.

In fact, there was such concern about the intrusion of this type of development into these areas that the Baltimore County Council eventually passed legislation protecting agricultural operations from complaints arising from "inconveniences or discomforts rising from agricultural operations, including but not limited to noise, odors, fumes, dust, the operations of machinery of any kind during any twenty-four-hour period (including aircraft), the storage and disposal of manure and the application, by spraying or otherwise of chemical fertilizers soil amendments, herbicides and pesticides." BCZR Section 1A01.5. Unlike new homeowners or other business owners who might complain about or otherwise interfere with agricultural operations, solar facilities are unmanned and cannot be so offended.

Cypress anticipates that Protestants and People's Counsel will focus much of their argument on attempting to prove that the proposed solar facility is inconsistent with the purposes of the RC 2 zone, because, as they will allege, it will have a negative impact on the total amount of farmland and/or the availability of prime and productive soils in Baltimore County. Neither Article 4F, nor Section 502.1, require Cypress to disprove this assertion. In fact, the County Council, in adopting Bill No. 37-17 and permitting solar facilities by special exception in the RC 2 Zone has *already determined that the use is generally compatible with the RC 2 Zone and that it is appropriate and acceptable for at least some RC 2 Zoned land to be utilized for solar production.* Thus, it is not for this Board to second-guess the Council's determination that that solar facilities are an appropriate use on RC 2 Zoned land.

Cypress also anticipates that People's Counsel will make a separate, but related, argument that BCZR Section 1A01.2.C requires a finding that the solar facility will not be "detrimental to the primary agricultural uses in the vicinity" (or, an even more strained reading, that Cypress is required to demonstrate that use of the Property "supports the primary agricultural use in the vicinity"), neither of which argument is supported by the actual language of that section.[9] Section 1A01.2.C was never amended to include "solar facility" as a listed use in that section. A reading of Bill No. 37-17 clearly confirms that, with the enactment of that legislation, the Council made no changes to Section 1A01.2.C. The authority to approve this use and the particular requirements for such use are fully contained in Article 4F. No additional

[9] BCZR Section 1A01.2.C. Uses permitted by special exception. The following uses, only, may be permitted by special exception in any R.C.2 Zone, provided that in each case the hearing authority empowered to hear the request finds that the use would not be detrimental to the primary agricultural uses in its vicinity; and, in the case of any use permitted under Item 29, further provided that the hearing authority finds that the use would support the primary agricultural use in its vicinity and would not itself be situated on land more appropriately used for primary agricultural uses.... (Emphasis added).

findings are required beyond Article 4F and Section 502.1 in order to grant a special exception for a solar facility.

With respect to the allegation of general inconsistency with Section 1A01, Cypress will respond. It is true that, if the solar facility is approved and installed, the area of the special exception would not be available for farming. It is also true that certain soils designated as "prime and productive" exist within the special exception area and, if the solar facility is approved and installed, those soils would not be available for cultivation. These results are not "adverse impacts" but simple logical consequences. To the extent that they are considered "adverse impacts" (which they are not), they are *inherent in the solar facility use in the RC 2 Zone*, not specifically related to the Property or its zoning. Further, the same results (unavailability of land and soils for farming) would occur if the property owner simply chose not to farm the property any longer and, instead, chose to let the land lie fallow, a choice he or she is fully permitted to make.

A property owner may have the most productive soils in areas perfectly suited for farming, but he or she cannot be compelled to farm that land for the benefit of the farming industry. Nor can he or she be compelled to offer up land for agricultural preservation simply because his or her property has been "targeted" by a program because it is highly desirable for preservation, as alleged by Protestant Kathleen Pieper. (T. 778-786) Protestants and People's Counsel clearly disagree with the owner's choice to lease the property for use as a solar facility rather than leasing it out for farming. But that decision alone is not "inconsistent with the purposes of the property's zoning classification."

As for the use itself, a solar facility has no impact at all on "the primary agricultural uses in the vicinity." The use is a benign one other than any aesthetic complaints, which are really

limited strictly to appearance. The use, which is temporary (albeit long-term), does not result in subdivision of the land and sale to multiple parties. (T. 276-277) The installation, operation, and removal of the solar facility, the process of which was described by Mr. Sloan, has no impact on the actual soils themselves. (T. 94) With the removal of the equipment at the end of the lease, the land could be returned to farming, if desired. (T. 55-56, 274) Further, the facility, in no way, affects the ability of adjacent owners to farm their own land and has no impact of the farming industry's ability to carry on. (T. 281)

Protestants alleged on more than one occasion that allowing solar facilities in northern Baltimore County will drive up the cost for farmers to lease farmland. (T. 708-709, 804) As the Court of Appeals has found, "prevention of competition [in this case, competition over leasing farmland] is not a proper element of zoning." *Attar v. DMW Tollgate*, 451 Md. 272, 289 (2017) (quoting *Kreatchman v. Ramsburg*, 224 Md. 209, 219).

502.1.H The solar facility will not be inconsistent with the impermeable surface or vegetative retention provisions of the BCZR.

There are no impermeable surface or vegetative retention provisions applicable to RC 2 zone. Regardless, no grading or clearing will be done in conjunction with the installation of the solar facility, and existing vegetation will remain and be supplemented. (T. 55, 265-266)

502.1.I The solar facility will not be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers, and floodplains in the RC 2 zone.

Based on Mr. Sloan's description of the installation, operation, maintenance, and removal of the solar facility, and, based on his own review and expertise, Mr. Martin opined that the solar facility will not be detrimental to the onsite environmental and natural resources or to any such resources in the vicinity. (T. 246, 252-257, 283-287) Mr. Martin explained that the Property has

natural resources, in the form of streams and/or other water resources, located on the southwestern portion of the Property.

These resources were previously identified in conjunction with the prior approved minor subdivision plan, and buffers were delineated around these resources to the satisfaction of Baltimore County. (T. 284-285) *See also* Petitioner's Exhibit 2. The purpose of these buffers is to protect those resources from physical disturbance and to provide an area for additional infiltration of any runoff from uses on the remainder of the property, whether that use be farming or a solar facility. (T. 862) Mr. Martin confirmed that the solar array will not encroach into this protected area. (T. 221, 246, 252-257, 283-287)

As indicated above, the use itself is benign. It does not use water, which means no well will be drilled. In the unlikely event water is needed for upkeep of vegetation or cleaning of the panels, a water truck would be used. (T. 182-183) There is no waste from the facility, so there is no need for a septic disposal area. (T. 279-280) Stormwater management measures, approved by Baltimore County, will be implemented to provide additional management of runoff. (T. 281-283, 840-845, 850-852) There was simply no evidence that the facility will have any adverse impact to environmental or natural resources.

C. Protestants failed to Prove any Disqualifying Adverse Effects.

Instead of focusing on presenting evidence related to the actual legal standard, Protestants ineffectively attempted to prove that the Property itself is "above and beyond" others in the area, due to its adjacency to a scenic route, high quality of soils, and proximity to a stream; yet, they failed to identify any way in which the proposed facility adversely effects these characteristics beyond its inherent impacts.

Protestants voiced concerns over aesthetics, proper maintenance and removal of the facility, and noise being emitted from the components. These concerns relate to inherent aspects of the use. Regardless, the Property is actually very well-suited for this use. For example, the existence of a robust evergreen screen along Middletown Road, limiting views into the property, makes the use less impactful here than it would be on a property without such a mature screen. (T. 223, 231-234) *See also* Petitioner's Exhibit 11.

Protestants also voiced concerns about the potential for uncontrolled runoff and the resulting impact on natural resources or downstream properties. These concerns were sufficiently addressed by Mr. Martin. He testified that stormwater management measures would be implemented to the satisfaction of Baltimore County, thereby controlling any resulting runoff before it reached any resource or downstream property. (T. 281-283, 840-845, 850-852)

Protestants also expressed concern that farmland would be removed from production and productive soils would be used for non-farming uses. In order to operate properly, solar facilities require a certain amount of land area. That is an inherent aspect of the use.

As mentioned at the outset of this Post-Hearing Memorandum, Protestants are simply opposed the "solar facility" use being allowed on RC 2 Zoned property regardless of where that property is located in Baltimore County. Their presentation did nothing but highlight their displeasure with the solar facility use in general, as well as their desire to prevent *any* land zoned RC 2 – the Property or otherwise – from being used for purposes of a solar facility. These are not sufficient reasons for the Board to deny the requested special exception.

CONCLUSION

Given the "presumption in favor of a special exception" articulated in *Attar*, the strong, substantial, and unrebutted testimony offered by Cypress, and the failure of People's Counsel or Protestants to identify any "unique and different" adverse effects likely to result from the use, the Board of Appeals should grant the requested Petition for Special Exception.

Respectfully submitted,

Patricia A. Malone
Christopher D. Mudd
Venable LLP
210 W. Pennsylvania Ave., Suite 500
Towson, Maryland 21204
(410) 494-6200
Attorneys for Petitioner

CERTIFICATE OF SERVICE

I hereby certify on this 7th day of December, 2018, that a copy of the foregoing Post-Hearing Memorandum was mailed to: H. Barnes Mowell, P.A., 16925 York Road, Monkton, Maryland 21111, Attorney for Protestants; and to Peter M. Zimmerman, People's Counsel for Baltimore County, The Jefferson Building, Suite 204, 105 W. Chesapeake Avenue, Towson, Maryland 21204.

Patricia A. Malone

Board of Appeals of Baltimore County

JEFFERSON BUILDING
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105 WEST CHESAPEAKE AVENUE
TOWSON, MARYLAND, 21204
410-887-3180
FAX: 410-887-3182

November 2, 2018

NOTICE OF DELIBERATION

IN THE MATTER OF: David William Mathews – Legal Owner
Bluefin Origination 2 LLC – Lessee
17-108-X 20450 Middletown Road
6th Election District; 3rd Councilmanic District

Re: Petition for Special Exception pursuant to BCZR Section 4E-102 to operate a solar facility on approximately 18.73 acres of the subject property.

1/22/18 Opinion and Order of the Administrative Law Judge wherein the Petition for Special Exception was GRANTED, subject to conditions. Condition No. 7 required the Petitioners to submit a redline site plan showing a "special exception area" for the solar facility of no larger than 13 acres.

2/20/18 Redlined site plan submitted by the Petitioners for review by the ALJ.

2/20/18 Motion for Reconsideration filed by H. Barnes Mowell, Esquire on behalf of Freeland Legacy Alliance, Protestant.

3/1/18 Opinion and Order on Motion for Reconsideration issued by the ALJ wherein the Motion was DENIED.

This matter having been heard on July 12, 2018, October 16, 2018, and concluded on October 25, 2018, a public deliberation has been scheduled for the following:

DATE AND TIME: **JANUARY 24, 2019 AT 9:00 A.M.**

LOCATION: Jefferson Building - Second Floor
Hearing Room #2 - Suite 206
105 W. Chesapeake Avenue

NOTE: Closing briefs are due on
December 7, 2018 no later than 3:00 p.m.
(Original and three [3] copies)

NOTE: PUBLIC DELIBERATIONS ARE OPEN WORK SESSIONS WHICH ALLOW THE PUBLIC TO WITNESS THE DECISION-MAKING PROCESS. ATTENDANCE IS NOT REQUIRED AND PARTICIPATION IS NOT ALLOWED. A WRITTEN OPINION AND ORDER WILL BE ISSUED BY THE BOARD WITHIN A REASONABLE TIMEFRAME AFTER THE CONCLUSION OF THE DELIBERATION. A COPY OF THAT OPINION AND ORDER WILL BE SENT TO ALL PARTIES.

For further information, including our inclement weather policy, please visit our website www.baltimorecountymd.gov/Agencies/appeals/index.html

Krysundra "Sunny" Cannington
Administrator

c: Counsel for Petitioners : Patricia A. Malone, Esquire
Christopher D. Mudd, Esquire

Petitioner/Legal Owner : David W. Mathews
Petitioner/Lessee : Bluefin Origination 2, LLC

Counsel for Protestants : H. Barnes Mowell, Esquire
Protestants : Freeland Legacy Alliance, Inc., Richard and Rhonda Ryan, Jeanne Bowman, Scott Dykes, Beverly and Salvatore Scavone, Theresa and Christopher Norton, Kathleen and Christopher Marciniak, Christine Pignateri, Laverne Poe, Diana Householder, Betty Lou Holmes, Therese Sassler, Paul Hoeckel, Beverly Kram, Rhonda and William Rollins, Ed and Debra Myslinski, Matthew Myslinski, Michael Myslinski, Lynne Jones, Debbie Frank, Patricia Trump, Kathleen Pieper, Lisa Arthur, and Robin Arrington

Andrea Van Arsdale, Director/Department of Planning
Arnold Jablon, Director/PAI
Lawrence M. Stahl, Managing Administrative Law Judge
Michael E. Field, County Attorney
Nancy C. West, Assistant County Attorney
Office of People's Counsel

RECEIVED
OCT 17 2018
BALTIMORE COUNTY
BOARD OF APPEALS

RE:	PETITION FOR SPECIAL EXCEPTION 20450 Middletown Road; SW/S Middletown Road, 30' SE Flintstone Road 6th Election & 3rd Councilmanic Districts Legal Owner(s): David William Matthews Contract Purchaser(s): Bluefin Origination 2 LLC (and/or Bluefin Solar LLC) Petitioner(s)	*	BEFORE THE BOARD OF APPEALS FOR BALTIMORE COUNTY 2017-108-X

* * * * * * * * * * * * *

PEOPLE'S COUNSEL FOR BALTIMORE COUNTY'S INTERIM MOTION/SUBMISSION TO ADMIT USDA SOIL RESOURCE REPORT AND MEMORANDUM CONCERNING EVIDENCE LAW AND THE CENTRALITY OF PRIME AND PRODUCTIVE SOILS TO R.C. 2 ZONE SPECIAL EXCEPTIONS

People's Counsel for Baltimore County submits this interim motion and memorandum pursuant to County Board of Appeals (CBA) Rules 4b and 7, Applications and Evidence, and Maryland Rule 5-104, Preliminary Questions,

I. Introduction

1. It appears expeditious and timely to present, in advance of the October 25, 2018 scheduled hearing, this combined motion/submission to admit People's Counsel Exhibit 9, the attached USDA, National Resources Conservation Service Soils Resource Report, along with NRCS Resource Soil Scientist James Brewer's October 2, 2018 cover letter. This provides other parties the opportunity to review and respond, expedites and facilitates CBA evaluation of any issues, and economizes time at the upcoming hearing.

2. To begin, on October 9, 2018, the CBA accepted, without objection from the same law firm representing Petitioners here, a similar report by Mr. Brewer in the Atkinson case, 632 Freeland Road, Case No. 2018-194-X, Andrew Belt, Panel Chair. We also observe that David Martin, Petitioners' landscape architect, conceded that the USDA Soil Conservation Service is the recognized source for information on soils.

3. Nevertheless, out of an abundance of caution, we shall explain once again the evidentiary basis. Furthermore, in view of Petitioners' apparent position here that it is

irrelevant and improper in an Agricultural Zone special exception case to consider prime and productive soils, we shall explain the centrality of such soils.

II. Evidence Law

4. CBA Rule 7,"Evidence," states, among other things, that the CBA is not bound by the technical rules of evidence:

a. Any evidence admissible under the Maryland "general rules of evidence ... shall be admissible in [CBA] hearings ..."

" Proceedings before the board being administrative in nature, the board will not be bound by the technical rules of evidence but will apply such rules to the end that needful and proper evidence shall be most conveniently, inexpensively and speedily produced while preserving the substantial rights of the parties. Any oral or documentary evidence may be received ..."

b. "Documentary evidence may be received in the form of copies or excerpts or by incorporation by reference."

5. CBA Rule 7 is consistent with the flexible and lenient Maryland law generally applicable to administrative proceedings. As it is stated in 1 M.L.E., Administrative Law and Procedure Sec. 46,

"Administrative agencies are subject to relaxed rules of evidence."

There is cited, among others, Bereano v. State Ethics Comm'n 403 Md. 716 (2008). As Judge Harrell there stated, 403 Md. at 750,

"The rules of evidence are generally relaxed in administrative proceedings. [internal citations omitted]."

6. In this context, hearsay evidence is generally admissible in administrative proceedings where probative. Judge Harrell continued in Bereano, *supra*,, citing both the Maryland Code and regulations, he wrote,

"The [Ethics Commission] hearing need not be conducted according to the technical rules of evidence, and any relevant evidence, including hearsay of probative value, is admissible."). The rules of evidence are so relaxed that the Maryland Code states that "[e]vidence may not be excluded solely on the basis that it is hearsay." § 10–213(c). In fact, an administrative agency's decision may be wholly supported by hearsay. *Md. Dep't of Human Res. v. Bo Peep Day Nursery,* 317 Md. 573, 595, 565 A.2d 1015, 1026 (1989)."

This law is restated generally in 1 M.L.E., Administrative Law, Sec. 48, citing Bereano (among other cases) and Md. Code State Government Article Sec. 10-213.

7. Furthermore, reports and documentation are especially timely where Petitioners have an opportunity for review and rebuttal. Dal Maso v. Board of County Comm'rs 238 Md. 333, 335-37 (1965); Birckhead v. Board of County Comm'rs 260 Md. 594, 599-600 (1971); Montgomery County v. National Capital Realty Corp. 267 Md. 364, 375-76 (1972); Schultz v. Pritts 291 Md. 1, 7 (1981). In Schultz, the Court of Appeals sustained the admission of a traffic expert's summary report, even after the conclusion of the hearing, where the opposing party had the opportunity to review and respond to the report.

8. Furthermore, even under the Federal Rules of Evidence, government website documents and sources are admissible in evidence. Williams v. Long 585 F. Supp. 2d 679, 690-91 (D. Md. 2008); Shantillo v. Aramark Healthcare Support Services 2011 WL 3651048 (D. Md. 2011); United States v. Denius 330 F.3d 919, 925-26 (7th Cir. 2003).

9. Given these non-technical and relaxed rules of evidence, People's Counsel, as is its custom, did not object to hearsay and/or documentary exhibits submitted by Petitioner: Exh. 12, the Zoning Advisory Committee report from the Planning Department; and Exh. 3a-3b, Fire Department and Google Maps

10. Accordingly, we submit as People's Counsel Exhibit 9 the attached October 2, 2018 letter from James Brewer, USDA NRCS (National Resources Conservation Service) Resource Soil Scientist. Mr. Brewer evaluates 20450 Middletown Road :

> *** He encloses the USDA-NRCS Official Soils map and report for this farm property
>
> *** NRCS assists in the implementation of USDA Farmland Protection Policy Act of 1981 (FPPA).
>
> *** He references Part 523.2B of FPPA Manual, which includes the role of responding to request for technical assistance from local governments, among other constituencies.
>
> *** The FPPA does not directly regulate land use or affect property rights.

*** Lands subject to FPPA provisions are important farmlands, including lands identified with soils that are prime, unique or statewide or locally important farmland.

*** He provides his background, including, among other things:

* Bachelor's Degree from University of Maryland, Soil Science.
* Work with USDA Soil Conservation Service for over 40 years.
* Role to provide guidance to internal and external customers on interpretation and application of soil survey information relating to various specific concerns.
* Information and education activities relating to soils.
* Work with producers and landowners to providing technical expertise for USDA conservation programs.

*** He concludes, emphasis supplied,

> **"The Glenelg soils found on the site are considered Prime Farmland soils (GdA, GdB, and GhB) and statewide importance soils (GaC, GhC). Also the Brinklow soil found in the BhC map is considered a statewide importance soil. As stated in the report document (page 28) these soils are best suited to food, feed, fiber, forage, and oilseed crops. The Glenelg and Glenville soils have some of the highest ratings for crop productivity on the site (page 41)."**

Mr. Brewer also encloses a 55-page Custom Soil Resource Report, including:

How Soil Surveys Are Made
Soil Map (20450 Middletown Road Farm)
Legend
Map Unit Legend
Map Unit Descriptions (Each Soil Type Itemized)
Soil Information for All Uses,
Suitabilities and Limitations
Land Classifications
Soil Properties and Qualities
Soil Reports

There are included the relevant Baltimore County soil definitions and descriptions (11-27). There are helpful and informative aerial maps and legends – that is to say: charts, tables, and breakdowns. These are provided for the Soil Map (9-11), Farmland Classification (29-32), Hydric Ratings (34-36), National Commodity Crop Productivity (39-41), and Drainage Class (44-46).

III. R.C. 2 (Agricultural) Zone Special Exception Cases: the Centrality of Prime and Productive Soils

Statutory Special Exception Elements: BCZR Sec. 502.1.G

BCZR Sec. 502. 1.G requires review to assure that the proposed use will not:

> "G. Be inconsistent with the purposes of the property's zoning classification nor in any other way inconsistent with the spirit and intent of these Zoning Regulations; [Bill No. 45-1982]"

The Baltimore County Council established the initial Resource Conservation Zones in 1975: R.C. 2, R.C. 3, R.C. 4, and R.C. 5, Bill 98-75. (There have since been enacted amendments from time to time as well as the creation of additional R.C. Zones). There are relevant legislative findings and purposes for the Resource Conservation Zones generally and the R.C. 2 Zone specifically.

BCZR Sec. 1A00, attached, provides **"General Provisions for All R.C. Classifications."** It is attached. BCZR Sec. 1A00.1 sets forth the **Findings.** Among other things, BCZR Sec. 1A00.1.F refers to the cost of development which involves "the consumption and use of prime agricultural land ..." Sec. 1A00.2 sets forth the **Purposes.** This includes BCZR Sec. 1A00.2.C:

> "C. Protect both natural and man-made resources from compromising effects of specific forms and densities of development"

Turning to the R.C. 2 Zone, BCZR Sec. 1A01, attached, subsection 1A01.1.A and B provide the Declaration of findings and the Purposes. The findings are as follows:

> "A. Legislative statement of findings.
> 1. Declaration of findings. It is found:
> a. That Baltimore County is fortunate in that it is endowed with a variety of very productive agricultural soil types which should not be lost unnecessarily to urbanized development;
> b. That the agricultural industry is an integral part of the Baltimore economy and that a continued conversion of agricultural land will continue to undermine this basic industry;
> c. That scattered development is occurring in a sporadic fashion in areas of Baltimore County containing productive agricultural land;
> d. That continued urban intrusion into productive agricultural areas not only destroys the specific area upon which the development occurs but is incompatible with the agricultural use of the surrounding area;

e. That heretofore Baltimore County has been unable to effectively stem the tide of new residential subdivisions in productive agricultural areas of Baltimore County;
f. That Baltimore County has certain wetlands along Chesapeake Bay and its tributaries which serve as breeding grounds and nursery areas for the bay's biotic life; and
g. That Baltimore County possesses numerous areas which are highly suitable for urban development, including residential subdivisions which are not located in areas of productive agricultural land."

To make a long story short, as shown above, six of the seven findings refer to preservation and protection from loss of "very productive agricultural soil types," "agricultural industry" and "agricultural land," "productive agricultural land," and "productive agricultural areas." The thrust is to protect such areas from scattered suburban and commercial uses. In turn, the legislative purpose states,

> "Purposes. The R.C.2 zoning classification is established pursuant to the legislative findings above in order to foster conditions favorable to a continued agricultural use of the productive agricultural areas of Baltimore County by preventing incompatible forms and degrees of urban uses."

These findings and purposes have remained intact since 1975.

It is palpable that consideration of prime and productive soils is a central inquiry in an R.C. 2 Zone special exception case, both with respect to the subject property and the integral relationship with the surrounding agricultural area. This includes preservation of the critical mass of properties to sustain the agricultural industry and the availability of agricultural land for farming by owners as well as tenant farmers.

Statutory Special Exception Elements: BCZR Sec. 502.1.I

In turn, BCZR Sec. 502.1.I states,

> "I. Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5 or R.C.7 Zone, and for consideration of a solar facility use under Article 4F, the inclusion of the R.C. 3, R.C. 6, and R.C. 8 Zones. [Bill Nos. 74-2000; 37-2017]"

There should not be any doubt that the prime and productive soils, including soils of statewide importance, are part of the environment and natural resources targeted by this subsection. Indeed, the County Council recognized that the protections of environmental and natural resources is of the highest importance in the designated R.C. 2, R.C. 4, and

R.C. 5 Zones, and even added the R.C. 3, R.C. 6, and R.C. 8 for solar facilities. The County Council thus recognized that solar facilities could be especially problematic.

David Martin propagandized that they are not "included" in the list of several areas described in the section. As was conceded, and as the CBA recognized, Mr. Martin does not have legal training and is not an expert in statutory construction.

As we observed at the hearing, the word "including" is not exclusive. To confirm and verify this point, Judge Alan Wilner wrote in Housing Authority v. Bennett 359 Md. 356, 371 (2000):

> "Although this Court has stated that " '[o]rdinarily, the word "including" means comprising by illustration and not by way of limitation,' " *State v. Wiegmann,* 350 Md. 585, 593, 714 A.2d 841, 845 (1998), quoting *Group Health Ass'n v. Blumenthal,* 295 Md. 104, 111, 453 A.2d 1198, 1203 (1983), we have also recognized that, "[w]hile 'include' or 'including' may introduce illustrations of a general term, the words also may signal an expansion in meaning of previous language." *Pacific Indem. v. Interstate Fire & Cas.,* 302 Md. 383, 396, 488 A.2d 486, 492 (1985).

Judge Wilner went on to explain that the word must be understood in the context, as it relates to the overall legislative purpose. Here, it should be obvious from the name of the zone, the legislative findings, and the legislative purpose, that preservation of prime and productive soils is a central to environmental and natural resources protection in the Agricultural Zone. The Council likely added forests, streams, wetlands, aquifers and floodplains to make sure these other areas were not argued to be excluded.

Statutory Special Exception Elements: BCZR Sec. 502.1.I

BCZR Sec. 502.1.A states,

> "Be detrimental to the health, safety, or general welfare of the locality involved."

The "health, safety, or general welfare" clause is a shorthand description of state and local police power. The United States Supreme Court has confirmed again and again that the police power is an essential function of government and must be construed broadly. This is illustrated in the landmark comprehensive zoning decision in Village of Euclid v. Ambler Realty Co. 272 U.S. 365 (1926). The R.C. 2 Zone legislative intent and purpose plainly involve protection of prime and productive soils as an essential function of the police power. In this context, there also should be no doubt that the scope of the locality

extends to the subject property and surrounding area. See, e.g. Ruark v. Engineers Union 157 Md. 576 (1929) for a learned discussion of "locality" in context.

Schultz v. Pritts: Harmony with the Comprehensive Zoning Plan

It is often overlooked that special exception review encompasses not only the particular adverse effects likely to occur in the locality or neighborhood, but also the function of harmony with the comprehensive zoning plan. Judge Rita Davidson's landmark opinion in Schultz v. Pritts 291 Md. 1, 11 (1981), states, emphasis supplied,

> "This Court has frequently expressed the applicable standards for judicial review of the grant or denial of a special exception use. The special exception use is a part of the comprehensive zoning plan sharing the presumption that, as such, it is in the interest of the general welfare, and therefore, valid. The special exception use is a valid zoning mechanism that delegates to an administrative board a limited authority to allow enumerated uses which the legislature has determined to be permissible absent any fact or circumstance negating the presumption. The duties given the Board are to judge whether the neighboring properties in the general neighborhood would be adversely affected **and whether the use in the particular case is in harmony with the general purpose and intent of the plan.**
>
> Whereas, the applicant has the burden of adducing testimony which will show that his use meets the prescribed standards and requirements, he does not have the burden of establishing affirmatively that his proposed use would be a benefit to the community. If he shows to the satisfaction of the Board that the proposed use would be conducted without real detriment to the neighborhood **and would not actually adversely affect the public interest, he has met his burden.** The extent of any harm or disturbance to the neighboring area and uses is, of course, material. **If the evidence makes the question of harm or disturbance or the question of the disruption of the harmony of the comprehensive plan of zoning fairly debatable, the matter is one for the Board to decide.** But if there is no probative evidence of harm or disturbance in light of the nature of the zone involved or of **factors causing disharmony to the operation of the comprehensive plan,** a denial of an application for a special exception use is arbitrary, capricious, and illegal."

By now, it should be crystal clear from the name, language, findings, and purposes of the R.C. 2 Zone, in conjunction with the special exception standards, that protection of prime and productive soils is crucial to the harmony of the comprehensive zoning plan.

Wherefore, People's Counsel asks the CBA to admit James Brewer's October 2, 2018 USDA, Natural Resources Conservation Service Custom Soil Service Report as Exhibit 9.

PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

CAROLE S. DEMILIO
Deputy People's Counsel
The Jefferson Building, Suite 204
105 West Chesapeake Avenue
Towson, MD 21204
(410) 887-2188

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 17th day of October, 2018 a copy of the foregoing People's Counsel for Baltimore County's Interim Motion/Submission to Admit USDA Soil Resource Report and Memorandum Concerning Evidence Law and the Centrality Of Prime And Productive Soils To R.C. 2 Zone Special Exceptions was mailed by first class mail and e-mailed to R. Barnes Mowell, Esquire, 16925 York Road, Monkton, Maryland 21111 and Patricia Malone, Esquire, and Christopher Mudd, Esquire, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204, Attorney for Petitioner(s).

PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

USDA NRCS Natural Resources Conservation Service

28577 Mary's Court, Suite 3
Easton, Md 21601

Oct. 2, 2018

Peter Max Zimmerman
People's Counsel for Baltimore County
Jefferson Building
105 West Chesapeake Ave. Room 204
Towson, Maryland 21204

Re: 20450 Middletown Road Farm property
USDA Soils Configuration, USDA Soils Delineation
Baltimore County Board of Appeals Zoning

Dear Mr. Zimmerman,

Enclosed is the USDA-NRCS Official Soils map and report (containing soils information and several interpretation tables) of the farm property located at 20450 Middletown Road Freeland, Maryland. This Soils Report was generated at the web site known as the USDA- NRCS Web Soil Survey (https://websoilsurvey.nrcs.usda.gov/app/). **As stated at the bottom of page 2, this is the site for official soil survey information.**

In your email dated Oct. 2, 2018, you asked me to provide you with my observations on several statements as related to the soils and soil survey for 20450 Middletown Road.

1) NRCS assists in the implementation of the USDA Farmland Protection Policy Act of 1981. As stated in Part 523.2B of the Farmland Protection Policy Act Manual:

B. General Role

Under FPPA, NRCS will provide technical assistance to Federal agencies, State and local governments, Tribes, and nonprofit organizations that receive Federal funds or technical assistance. Examples of technical assistance include the following:

(i) Responding to requests for technical assistance in developing programs or policies that limit the conversion of productive farmland to nonagricultural uses
(ii) Advising agencies when a change in law, regulation, administrative rule, or other type of policy may affect the agency's compliance with FPPA
(iii) Providing site assessment criteria to governmental agencies and nonprofit organizations;
(iv) Developing important farmland maps
(v) Providing technical assistance during alternative site considerations, upon request by another Federal agency

The Farmland Protection Policy Act (FPPA) applies only to Federal assistance and actions that would convert important farmland to nonagricultural uses. It does not authorize the Federal Government in any way to regulate the use of private or non-Federal land or in any way affect the private property rights of owners of private land.

Provisions of FPPA apply to USDA programs that provide financial assistance as well as to programs that provide technical assistance.

Lands Subject to Provisions of FPPA are Important farmlands, including lands identified with soils that are prime, unique, or statewide or locally important farmland, are subject to the provisions of the Farmland Protection Policy Act.

NRCS also provides technical soils assistance to several Maryland State land preservation programs along with assistance to the Farm and Ranch Lands Protection Program (FRPP).

2) I have a Bachelor's Degree from the University of Maryland in Soil Science. I have worked with the USDA Soil Conservation Service, now known as the Natural Resources Conservation Service for over 40 years. My role as a Resource Soil Scientist is to provide guidance to internal and external customers on the interpretation and application of soil survey information related to specific soil, water, air, plant, and animal resource concerns. And providing direction and guidance for natural resource management, farm bill compliance, conducting information and education activities related to soils. I work closely with producers and landowners to provide technical expertise for USDA conservation programs.

3) I confirm that the My Neighborhood soils map, you included with the email, is accurate and consistent with the USDA official soil survey found in the enclosed document.

4) The Glenelg and Glenville soils found on site are considered Prime Farmland soils (GdA, GdB, and GhB) and statewide importance soils (GeC and GhC). Also the Brinklow soil found in the BhC map unit is considered a statewide importance soil. As stated in the report document (page 28) these soils are best suited to food, feed, fiber, forage, and oilseed crops. The Glenelg and Glenville soils have some of the highest ratings for crop productivity on the site (page 41).

If you have any questions about this letter or document, you may contact me at 443-746-4319.

Sincerely,

James E. Brewer

James E. Brewer, CPSS/SC
NRCS Resource Soil Scientist
Easton, Maryland

RECEIVED
JUL 12 2018
BALTIMORE COUNTY
BOARD OF APPEALS

To: Baltimore County Board of Appeals
From: Dru Schmidt-Perkins
Date: June 12, 2018
RE: Petition for Special Exception to operate a solar facility on approximately 18.73 acres of the subject property. Case number 2017-108-X.

Over the past three plus years I have been researching best practices for siting large scale solar projects. As the president of 1000 Friends of Maryland this included hosting a facilitated discussion with over a dozen organizations including the Maryland Farm Bureau, Partners for Open Space, Maryland Chapter of the Sierra Club, CCAN, Maryland Association of Counties and solar companies' representatives. Currently, I am wrapping up a report for a foundation on how Maryland can achieve renewable energy goals and locate solar projects in areas that maximize benefits and minimize time consuming and expensive conflicts.

Baltimore County has a remarkable history protecting its rural and agricultural areas from development. The Urban Rural Demarcation Line and rigorous zoning have ensured that rural lands stay rural and the agricultural economy can thrive.

Suddenly these rural lands are now being targeted for solar projects. Not only is large scale solar not zoned for rural and agricultural areas, but the Baltimore County Master Plan does not mention using these lands for commercial use. These reasons alone should keep these commercial projects out of the rural and agriculture lands. Importantly, Baltimore's current system of designating 10 solar sites per council district rather than by most optimal locations is a disservice to both the county and the solar industry. This impacts negatively both agriculture success and does not maximize the county's solar potential.

Baltimore County can look to other jurisdictions both inside Maryland as well as other states to see how renewable energy can be generated while at the same time protecting land important for other uses. There are many examples from all across the country as communities grapple with this issues and a common recognition that to succeed with renewable energy requires clarity on siting; both designated zones for renewable energy as well as clearly defining off-limited areas. It should be noted that consistently throughout all these examples agriculture and open spaces have been designated areas that should be avoided while already disturbed lands including landfills, brown and gray fields and commercial/industrial areas are preferred sites.

Two examples:

Kent County, Maryland
In 2010 the County Commissioners established the Renewable Energy Task Force to develop a policy for where to locate renewable energy projects. The County designated mostly commercial, industrial zoned lands for these commercial enterprises. They especially noted that their agriculture areas were not a permitted location. Kent County, like Baltimore, has decades of work protecting these areas from development.

New Jersey
The Garden State is one of the renewable energy leaders. Yet they recognized that the piecemeal approach to siting large solar projects is " an inconsistent, unpredictable and inefficient process saps municipal and private sector resources and can retard the growth of solar energy". They further recognized that lack of clear guidance and standards "can be an inherent conflict between farms and open space preservation efforts and masterplans and large land based solar development."(Solar Guidebook for New Jersey Municipalities)

Last December the New Jersey Department of Environmental Protection completed the Solar Siting Analysis Update - December 2017
This Solar Siting Analysis Update (2017) identifies areas in New Jersey where the Department encourages and discourages solar PV development by utilizing a Geographic Information System (GIS) mapping tool and the NJDEP's 2012 LU/LC data. Land was classified for solar PV as either "Preferred", "Not-Preferred" or "Indeterminate". Preferred lands are largely characterized as having existing impervious surfaces, typically associated with urban development, since siting solar PV at these locations would result in minimal if any additional ecosystem degradation; Not-Preferred lands were largely characterized as forests, wetlands, agricultural lands, and open space which the Department sets out to protect and preserve; and Indeterminate lands represent areas where additional information is necessary to determine whether the site is viable for siting solar PV.

Vermont, Massachusetts and New York also have addressed the issue of reducing conflicts on siting large solar through various guides, templates and models that focus these projects on landfills, disturbed land and commercial industrial areas and keeping ag land for agriculture production.

The Board of Appeals should not permit the Special Exemption to build this commercial solar project on the Matthew's property. Renewable energy is a needed and it is vital for each county to find the best plan going forward. As we can see from New Jersey and Kent County there are great options and opportunities for Baltimore County that also continue and respect the preservation of the county's rural and agriculture history.

Contact information:

Dru Schmidt-Perkins
dschmidtperkins@gmail.com
410-258-8601

Krysundra Cannington

From: Dru Schmidt-Perkins <dschmidtperkins@gmail.com>
Sent: Thursday, July 12, 2018 7:31 AM
To: Appeals Board
Subject: Letter on case #2017-108 -X
Attachments: Mathews property - hearing 7-12-18.docx

Thank you for submitting this letter to the file on the Maxwell case #2017-108

Dru Schmidt-Perkins
410-258-8601

SIGN IN SHEET FOR Case # 2017-108-X Middletown Rd, Day 2 10 / 16 /2018

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People's Counsel
CBA Exhibit
8

SIGN IN SHEET FOR OPPONENTS OF SOLAR FACILITIES ON FARMLAND, Middletown Rd Case # 2017-108-X July 12, 2018

~~(For local community use only)~~

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SIGN IN SHEET FOR OPPONENTS OF SOLAR FACILITIES ON FARMLAND, Middletown Rd Case # 2017-108-X July 12, 2018

~~(For local community use only)~~

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United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Baltimore County, Maryland

20450 Middletown Road Farm

October 1, 2018

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

The following format is suggested for citing Web Soil Survey:

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: https://websoilsurvey.sc.egov.usda.gov/. Accessed [month/day/year].

Last Modified: 08/21/2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

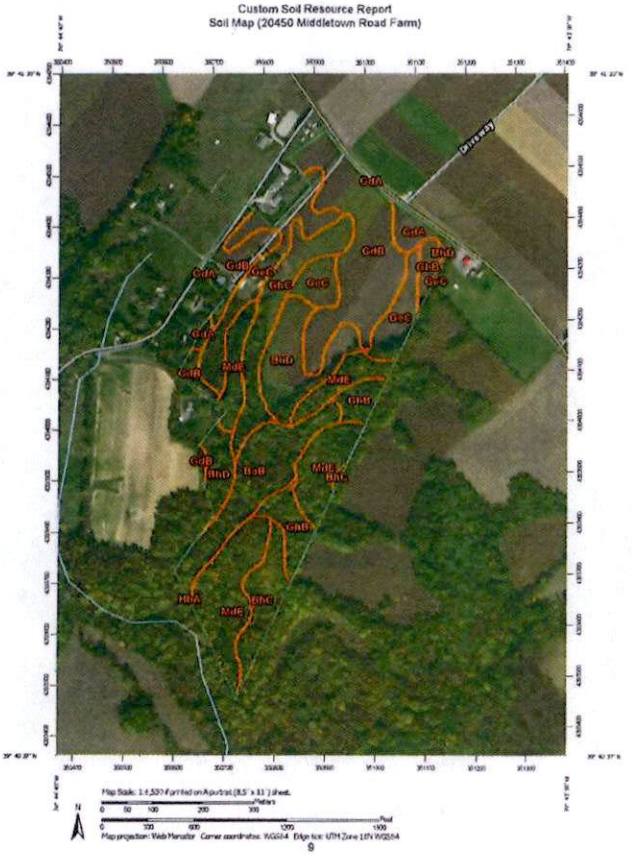
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map (20450 Middletown Road Farm)



MAP LEGEND

MAP INFORMA

Map Unit Legend (20450 Middletown Road Farm)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BaB	Bale silt loam, 3 to 8 percent slopes	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	6.1	8.5%
HbA	Halboro silt loams, 0 to 3 percent slopes	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	14.7	20.3%
Totals for Area of Interest		72.4	100.0%

Map Unit Descriptions (20450 Middletown Road Farm)

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

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

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

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

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

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

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

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

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

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion

of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

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

Baltimore County, Maryland

BaB—Baile silt loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: gqp5
Elevation: 250 to 980 feet
Mean annual precipitation: 35 to 60 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 120 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition
Baile and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Baile

Setting
Landform: Drainageways, hillslopes, swales, depressions
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Linear, concave

Typical profile
A - 0 to 9 inches: silt loam
Btg - 9 to 32 inches: silty clay loam
Cg - 32 to 65 inches: loam

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: High (about 10.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Glenville
Percent of map unit: 15 percent
Landform: Drainageways, swales
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Linear

Hydric soil rating: No

BhC—Brinklow channery loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2v7gg
Elevation: 30 to 1,200 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Brinklow and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brinklow

Setting
Landform: Interfluves, hillslopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist

Typical profile
Ap - 0 to 10 inches: channery loam
Bt - 10 to 19 inches: channery silt loam
BC - 19 to 25 inches: channery loam
Cr - 25 to 35 inches: weathered bedrock
R - 35 to 45 inches: bedrock

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 36 inches to paralithic bedrock; 26 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Glenelg
Percent of map unit: 15 percent
Landform: Hillslopes, interfluves
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Linear
Across-slope shape: Concave, convex, linear
Hydric soil rating: No

BhD—Brinklow channery loam, 15 to 25 percent slopes

Map Unit Setting
National map unit symbol: 2v7gl
Elevation: 250 to 1,000 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: Not prime farmland

Map Unit Composition
Brinklow and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brinklow

Setting
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist

Typical profile
Ap - 0 to 10 inches: channery loam
Bt - 10 to 19 inches: channery silt loam
BC - 19 to 25 inches: channery loam
Cr - 25 to 35 inches: bedrock
R - 35 to 45 inches: bedrock

Properties and qualities
Slope: 15 to 25 percent
Depth to restrictive feature: 20 to 36 inches to paralithic bedrock; 26 to 40 inches to lithic bedrock
Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.6 inches)

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

Minor Components

Blocktown
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Glenelg
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

GdA—Glenelg loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2w062
Elevation: 30 to 1,200 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Glenelg and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenelg

Setting
Landform: Hillslopes
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear, concave
Parent material: Residuum weathered from mica schist

Typical profile
Ap1 - 0 to 6 inches: loam
Ap2 - 6 to 10 inches: clay loam
Bt1 - 10 to 18 inches: clay loam
Bt2 - 18 to 25 inches: clay loam
Bt3 - 25 to 30 inches: clay loam
BCt - 30 to 42 inches: loam
C - 54 to 76 inches: very channery fine sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Brinklow
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Glenville
Percent of map unit: 5 percent
Landform: Swales, drainageways
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Head slope, interfluve, base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear

Hydric soil rating: No

GdB—Glenelg loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2v7gp
Elevation: 30 to 1,200 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Glenelg and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenelg

Setting
Landform: Interfluves, hillslopes
Landform position (two-dimensional): Summit, backslope, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear, concave
Parent material: Residuum weathered from mica schist

Typical profile
Ap1 - 0 to 6 inches: loam
Ap2 - 6 to 10 inches: clay loam
Bt1 - 10 to 18 inches: clay loam
Bt2 - 18 to 25 inches: clay loam
Bt3 - 25 to 30 inches: clay loam
BCt - 30 to 42 inches: loam
C - 54 to 76 inches: channery fine sandy loam

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Gaila
Percent of map unit: 10 percent
Landform: Hillslopes, ridges
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Glenville
Percent of map unit: 5 percent
Landform: Drainageways, swales
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

GeC—Glenelg channery loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2tp6x
Elevation: 250 to 1,050 feet
Mean annual precipitation: 37 to 55 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 110 to 265 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Glenelg and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenelg

Setting
Landform: Hillslopes, interfluves
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy residuum weathered from phyllite

Typical profile
Ap - 0 to 10 inches: channery loam

Bt1,Bt2,BCt1 - 10 to 30 inches: clay loam
BCt2, Cdt - 30 to 54 inches: loam
C - 54 to 76 inches: very channery sandy loam

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.7 inches)

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

Minor Components

Gaila
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Manor
Percent of map unit: 5 percent
Landform: Hillslopes, interfluves, ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

GhB—Glenville silt loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2lmch
Elevation: 20 to 1,090 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Glenville and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenville

Setting
Landform: Drainageways, swales
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope, head slope, interfluve
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Parent material: Colluvium derived from metamorphic rock over schist, gneiss or phyllite residuum

Typical profile
Ap - 0 to 11 inches: silt loam
Bt1 - 11 to 20 inches: channery silt loam
Bt2 - 20 to 30 inches: silt loam
Btx - 30 to 49 inches: silt loam
C1 - 49 to 59 inches: loam
C2 - 59 to 82 inches: loam

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: 29 to 31 inches to fragipan
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.03 to 0.11 in/hr)
Depth to water table: About 18 to 22 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Unnamed
Percent of map unit: 15 percent
Landform: Drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

Balls
Percent of map unit: 10 percent
Landform: Swales, drainageways

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

GhC—Glenville silt loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2p5wp
Elevation: 250 to 1,050 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 110 to 235 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Glenville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenville

Setting
Landform: Drainageways, swales
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy colluvium derived from phyllite and/or loamy colluvium derived from schist

Typical profile
Ap - 0 to 8 inches: silt loam
Bt1, Bt2 - 8 to 30 inches: silt loam
Btx - 30 to 40 inches: loam
C1, C2 - 40 to 70 inches: loam

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 24 to 39 inches to fragipan
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.00 to 0.57 in/hr)
Depth to water table: About 20 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Glenelg
Percent of map unit: 15 percent
Landform: Hillslopes, interfluves
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

HbA—Hatboro silt loams, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2lp74
Elevation: 200 to 600 feet
Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 140 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition
Hatboro and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hatboro

Setting
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy alluvium derived from greenstone, quartzite, phyllite, schist and/or diabase

Typical profile
A - 0 to 11 inches: silt loam
Bg1,Bg2,BCg - 11 to 44 inches: silt loam
Cg1 - 44 to 55 inches: silty clay loam
Cg2 - 55 to 80 inches: sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: High (about 10.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Codorus
Percent of map unit: 15 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

MdE—Manor-Brinklow complex, 25 to 45 percent slopes, very rocky

Map Unit Setting
National map unit symbol: 2lptp
Elevation: 250 to 4,000 feet
Mean annual precipitation: 8 to 46 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 110 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition
Manor and similar soils: 55 percent
Brinklow and similar soils: 30 percent
Rock outcrop: 5 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manor

Setting
Landform: Hillslopes, ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy residuum derived from phyllite and/or loamy residuum derived from schist

Typical profile
A1, A2 - 0 to 6 inches: loam
Bw1, Bw2 - 6 to 22 inches: sandy loam
C1,C2,C3,C4 - 22 to 72 inches: channery loamy sand

Properties and qualities
Slope: 25 to 45 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Brinklow

Setting
Landform: Hillslopes, hillslopes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, free face
Parent material: Gravelly residuum weathered from schist and/or gravelly residuum weathered from phyllite

Typical profile
Ap - 0 to 10 inches: channery loam
BE,BC - 10 to 25 inches: channery loam
Cr - 25 to 35 inches: weathered bedrock
R - 35 to 80 inches: bedrock

Properties and qualities
Slope: 25 to 45 percent
Depth to restrictive feature: 20 to 33 inches to paralithic bedrock; 33 to 60 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rock Outcrop

Typical profile
H1 - 0 to 60 inches: bedrock

Properties and qualities
Slope: 25 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Blocktown
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, interfluve, nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

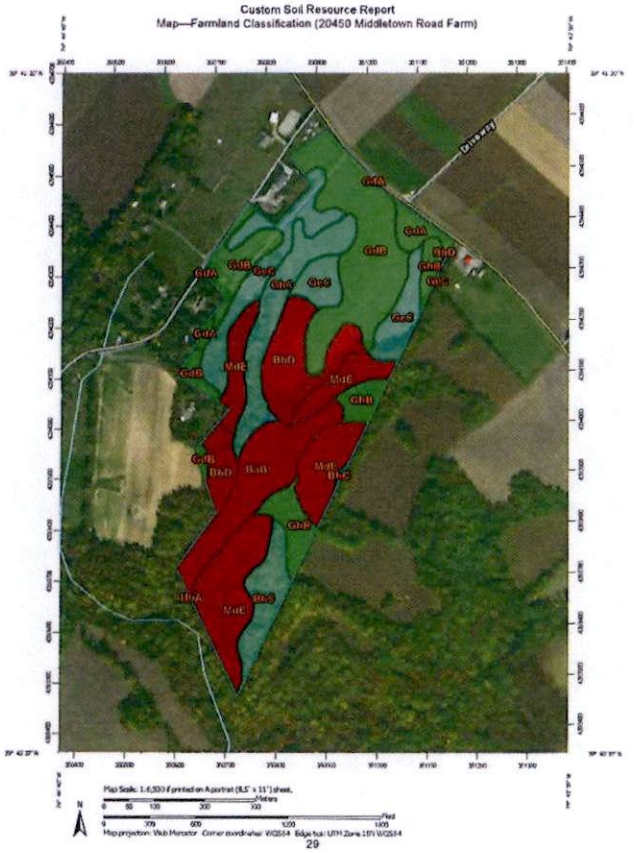
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification (20450 Middletown Road Farm)

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Map—Farmland Classification (20450 Middletown Road Farm)



Map Scale: 1:6,530 if printed on A portrait (8.5" x 11") sheet.

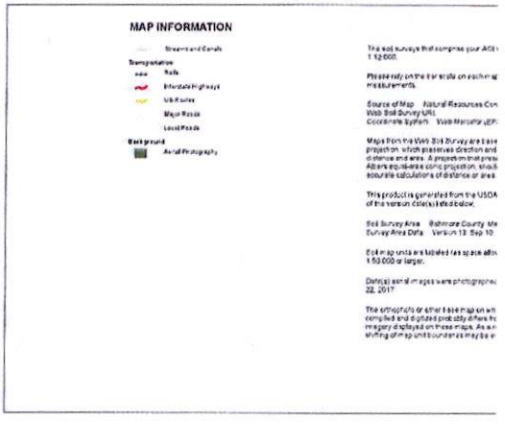
Meters: 0 50 100 200 300

Feet: 0 300 600 1200 1800

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

MAP LEGEND

MAP INFORMATION



Table—Farmland Classification (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	Not prime farmland	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	Farmland of statewide importance	3.7	5.2%
BnD	Brinklow channery loam, 15 to 25 percent slopes	Not prime farmland	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	All areas are prime farmland	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	All areas are prime farmland	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	Farmland of statewide importance	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	All areas are prime farmland	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	Farmland of statewide importance	6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	Not prime farmland	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Not prime farmland	14.7	20.3%
Totals for Area of Interest			72.4	100.0%

Rating Options—Farmland Classification (20450 Middletown Road Farm)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Hydric Rating by Map Unit (20450 Middletown Road Farm)

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register. 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas. 2006).

References.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

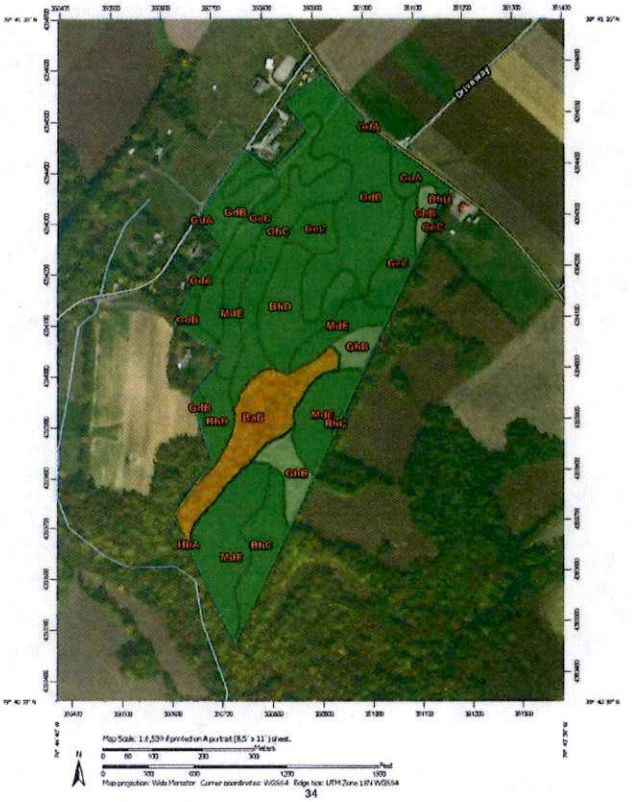
Hurt, G.W., and L.M. Vasilas, editors, Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff, 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436.

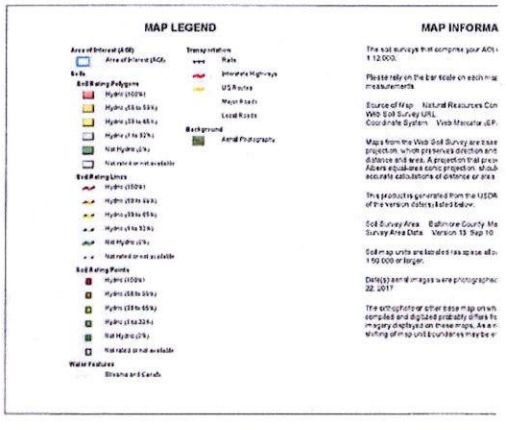
Soil Survey Staff, 2006. Keys to soil taxonomy, 10th edition. U.S. Department of Agriculture. Natural Resources Conservation Service.

Map—Hydric Rating by Map Unit (20450 Middletown Road Farm)



MAP LEGEND

MAP INFORMA



Table—Hydric Rating by Map Unit (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	65	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	0	3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	0	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	0	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	0	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	0	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	10	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	0	6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	85	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	0	14.7	20.3%
Totals for Area of Interest			72.4	100.0%

Rating Options—Hydric Rating by Map Unit (20450 Middletown Road Farm)

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

National Commodity Crop Productivity Index (20450 Middletown Road Farm)

National Commodity Crop Productivity Index is a method of arraying the soils of the United States for non-irrigated commodity crop production based on their inherent soil properties. This version features a separate index for soybeans. In the past, soybeans and corn were considered together. The rating a soil is assigned is the highest one of four basic crop group indices, which are based on the climate where the crop is typically grown. Cooler climates are represented by winter wheat, moderate climates are represented by corn and soybeans, and warmer climates are represented by cotton. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_050734.pdf)

The interpretation is applicable to both heavily populated and sparsely populated areas. Ratings are for soils in their present condition. The present land use is not considered in the ratings.

Ratings are based on properties and qualities to the depth normally observed during soil mapping (approximately 6 feet). Soil, site, and climate properties that influence the growth of crops are major considerations. Soil productivity is influenced by many soil properties. An ideal soil will store adequate amounts of water to nurture the crop between rains. This soil will have a near-neutral pH, will store nutrients, and lack toxic materials. The soil will have no barriers, either physical or chemical, to root growth. Water and gas transmission through the soil will be sufficient to maintain both water and oxygen at sufficient levels in the root zone. The soil will not be saturated with water during the growing season to the point that root growth is inhibited. The soil will not be subject to excessive flooding or ponding during the growing season. Slope is an important consideration because it affects erosion by water, runoff, and the operation of equipment. The climate must provide adequate water and heat to allow the desired crop to mature. A soil that differs from the ideal in any of these features will have lower inherent productivity for a particular crop. The further a soil differs from ideality in any one or all of the factors that determine inherent productivity, the lower its inherent productivity will be.

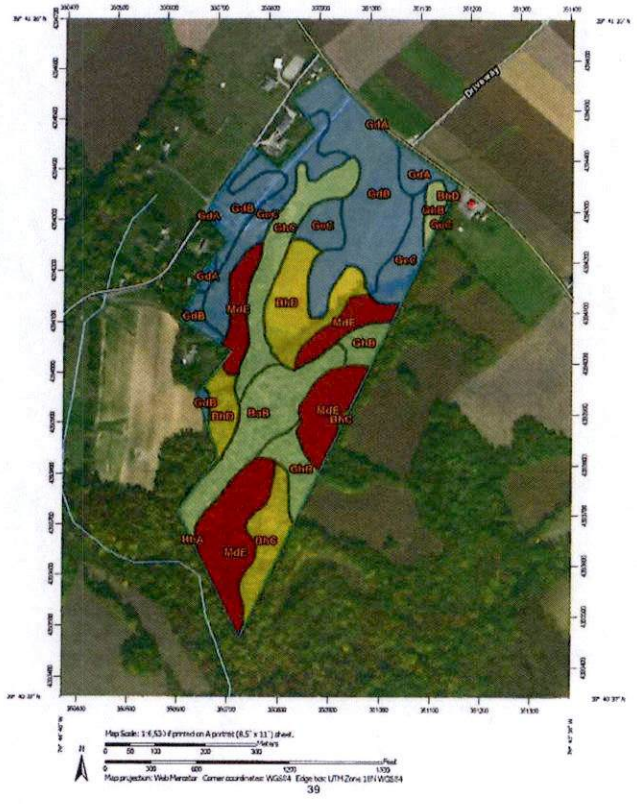
The ratings are both verbal and numerical. Rating class terms indicate the estimated productivity which is determined by all of the soil, site, and climatic features that affect crop productivity. "High inherent productivity" indicates that the soil, site, and climate have features that are very favorable for crop production. High yields and low risk of crop failure can be expected if a high level of management is employed. "Moderately high inherent productivity" indicates that the soil has features that are generally quite favorable for crop production. Good yields and moderately low risk of crop failure can be expected. "Moderate inherent productivity" indicates that the soil has features that are generally favorable for crop production. Good yields and moderate risk of crop failure can be expected. "Moderately low inherent productivity" indicates that the soil has features that are generally not favorable for crop production. Low yields and moderately high risk of crop failure can be expected. "Low inherent productivity" indicates that the soil has one or more features that are unfavorable for crop production. Low yields and high risk of crop failure can be expected.

Numerical ratings indicate the overall productivity of the soil. The ratings are shown in decimal fractions ranging from 1.00 to 0.01. They indicate gradations between the point at which the combination of soil, site, and climate features has the greatest positive impact on inherent productivity (1.00) and the point at which the soil features are very unfavorable (0.01).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map—National Commodity Crop Productivity Index (20450 Middletown Road Farm)



Tables—National Commodity Crop Productivity Index (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
BaB	Bath silt loam, 3 to 8 percent slopes	0.453			7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	0.390			3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	0.319			7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	0.683			1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	0.693			15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	0.720			10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	0.553			4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	0.502			6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	0.266			0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	0.100			14.7	20.3%
Totals for Area of Interest					72.4	100.0%

Rating	Acres in AOI	Percent of AOI
0.693	15.9	22.0%
0.100	14.7	20.3%
0.720	10.0	13.8%
0.319	7.9	10.9%
0.453	7.5	10.4%
0.502	6.1	8.5%
0.553	4.7	6.5%

Rating	Acres in AOI	Percent of AOI
0.390	3.7	5.2%
0.683	1.8	2.5%
0.266	0.0	0.0%
Totals for Area of Interest	72.4	100.0%

Rating Options—National Commodity Crop Productivity Index (20450 Middletown Road Farm)

Aggregation Method: Weighted Average

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Properties and Qualities

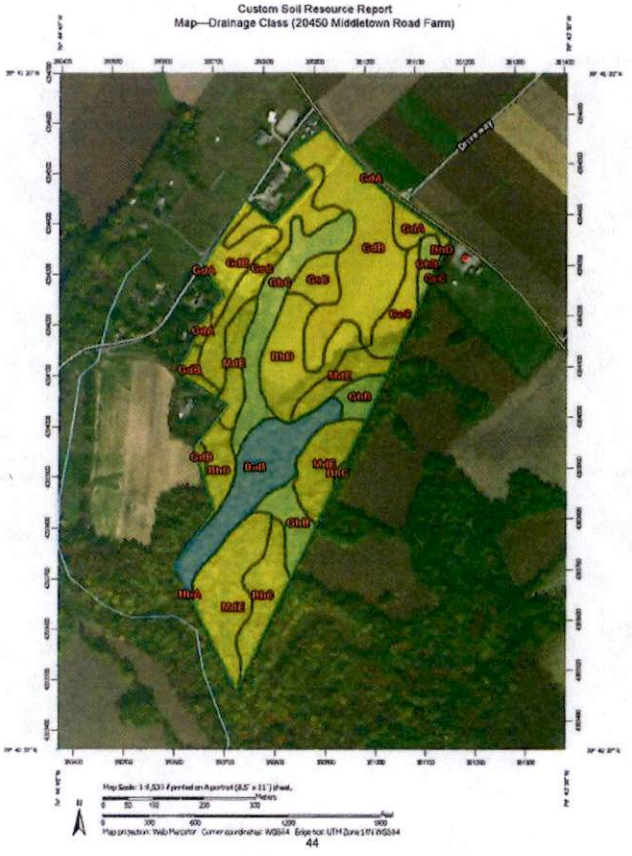
The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

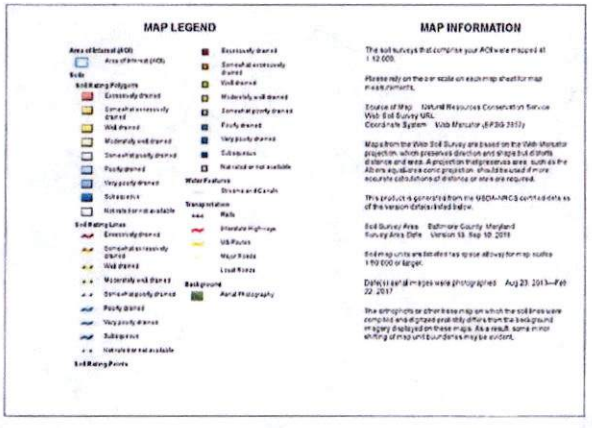
Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Drainage Class (20450 Middletown Road Farm)

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."





Table—Drainage Class (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	Poorly drained	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	Well drained	3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	Well drained	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	Well drained	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	Well drained	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	Well drained	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	Moderately well drained	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	Moderately well drained	6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	Poorly drained	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Well drained	14.7	20.3%
Totals for Area of Interest			72.4	100.0%

Rating Options—Drainage Class (20450 Middletown Road Farm)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

AOI Inventory

This folder contains a collection of tabular reports that present a variety of soil information. Included are various map unit description reports, special soil interpretation reports, and data summary reports.

Map Unit Description (Brief, Generated) (20450 Middletown Road Farm)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

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

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

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

Report—Map Unit Description (Brief, Generated) (20450 Middletown Road Farm)

Baltimore County, Maryland

Map Unit: BaB—Baile silt loam, 3 to 8 percent slopes

Component: Baile (85%)

The Baile component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on depressions, drainageways, swales, piedmonts. The parent material consists of loamy colluvium derived from phyllite and/or loamy colluvium derived from schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Glenville (15%)

Generated brief soil descriptions are created for major soil components. The Glenville soil is a minor component.

Map Unit: BhC—Brinklow channery loam, 8 to 15 percent slopes

Component: Brinklow (85%)

The Brinklow component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes on piedmonts. The parent material consists of gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 36 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Glenelg (15%)

Generated brief soil descriptions are created for major soil components. The Glenelg soil is a minor component.

Map Unit: BhD—Brinklow channery loam, 15 to 25 percent slopes

Component: Brinklow (60%)

The Brinklow component makes up 60 percent of the map unit. Slopes are 15 to 25 percent. This component is on hillslopes on piedmonts. The parent material consists of gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 36 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Glenelg (10%)

Generated brief soil descriptions are created for major soil components. The Glenelg soil is a minor component.

Component: Blocktown (10%)

Generated brief soil descriptions are created for major soil components. The Blocktown soil is a minor component.

Map Unit: GdA—Glenelg loam, 0 to 3 percent slopes

Component: Glenelg (85%)

The Glenelg component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on upland piedmonts, nearly level to steeply dissected hillslopes. The parent material consists of residuum weathered from mica schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.

Component: Brinklow (10%)

Generated brief soil descriptions are created for major soil components. The Brinklow soil is a minor component.

Component: Glenville (5%)

Generated brief soil descriptions are created for major soil components. The Glenville soil is a minor component.

Map Unit: GdB—Glenelg loam, 3 to 8 percent slopes

Component: Glenelg (85%)

The Glenelg component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on nearly level to steeply dissected hillslopes, upland piedmonts. The parent material consists of residuum weathered from mica schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Gaila (10%)

Generated brief soil descriptions are created for major soil components. The Gaila soil is a minor component.

Component: Glenville (5%)

Generated brief soil descriptions are created for major soil components. The Glenville soil is a minor component.

Map Unit: GeC—Glenelg channery loam, 8 to 15 percent slopes

Component: Glenelg (85%)

The Glenelg component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes, piedmonts. The parent material consists of loamy residuum weathered from phyllite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Gaila (10%)

Generated brief soil descriptions are created for major soil components. The Gaila soil is a minor component.

Component: Manor (5%)

Generated brief soil descriptions are created for major soil components. The Manor soil is a minor component.

Map Unit: GhB—Glenville silt loam, 3 to 8 percent slopes

Component: Glenville (75%)

The Glenville component makes up 75 percent of the map unit. Slopes are 3 to 8 percent. This component is on drainageways, piedmonts. The parent material consists of colluvium derived from metamorphic rock over schist, gneiss or phyllite residuum. Depth to a root restrictive layer, fragipan, is 20 to 31 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 20 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Unnamed (15%)

Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

Component: Gaila (10%)

Generated brief soil descriptions are created for major soil components. The Gaila soil is a minor component.

Map Unit: GhC—Glenville silt loam, 8 to 15 percent slopes

Component: Glenville (85%)

The Glenville component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on drainageways, swales, piedmonts. The parent material consists of loamy colluvium derived from phyllite and/or loamy colluvium derived from schist. Depth to a root restrictive layer, fragipan, is 24 to 39 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Glenelg (15%)

Generated brief soil descriptions are created for major soil components. The Glenelg soil is a minor component.

Map Unit: HbA—Hatboro silt loams, 0 to 3 percent slopes

Component: Hatboro (85%)

The Hatboro component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains, river valleys. The parent material consists of loamy alluvium derived from greenstone, quartzite, phyllite, schist and/or diabase. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Codorus (15%)

Generated brief soil descriptions are created for major soil components. The Codorus soil is a minor component.

Map Unit: MdE—Manor-Brinklow complex, 25 to 45 percent slopes, very rocky

Component: Manor (55%)

The Manor component makes up 55 percent of the map unit. Slopes are 25 to 45 percent. This component is on hillslopes, piedmonts. The parent material consists of loamy residuum derived from phyllite and/or loamy residuum derived from schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria.

Component: Brinklow (30%)

The Brinklow component makes up 30 percent of the map unit. Slopes are 25 to 45 percent. This component is on hillslopes, piedmonts, hillslopes. The parent material consists of gravelly residuum weathered from schist and/or gravelly residuum weathered from phyllite. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 33 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component: Blocktown (10%)

Generated brief soil descriptions are created for major soil components. The Blocktown soil is a minor component.

Component: Rock outcrop (5%)

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

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ARTICLE 1A. Resource Conservation Zones

[Bill No. 98-1975 *Editor's Note: Bill No. 98-1975, which enacted this Article, also repealed former Article 1A, Sections 1A00 and 1A01, previously added by Bill No. 100-1970.*]

SECTION 1A00. General Provisions for All R.C. Classifications

§ 1A00.1. Findings.

It is found:

A. That development in the rural areas of Baltimore County has in recent years been taking place at an increasing rate;

B. That this development has occurred without the framework of a land use plan or other planning components;

C. That due to this and other factors, this development has formed very undesirable land use patterns;

D. That in general, these patterns are, or can be described as, urban sprawl;

E. That a significant amount of urban sprawl development is occurring as linear development along the various highways of the rural areas of the county as tracts of land immediately fronting along highways are "lotted off"; the utility of the road system is being impaired and future improvements will be frustrated if this process continues;

F. That it has been established that this development carries with it an extremely high cost to the county in a number of respects including:

1. The cost of servicing this pattern of development;

2. The cost with respect to its consumption and use of prime agricultural land, critical watershed areas, mineral extractive sites, as well as of other important natural resource areas;

3. The cost of future development opportunities due to the fact that viable, rational alternatives will be lost totally or compromised significantly by the present form of development;

G. That the aspect of the comprehensive plan that is applicable and which is being considered for rural Baltimore County embodies solutions to the various problems;

H. That the effective implementation of this plan requires additional zoning classifications; and

I. That effective implementation of the resource conservation area requirements in the Chesapeake Bay Critical Area criteria requires additional resource conservation zoning classifications to accommodate strictly controlled growth while conserving habitat and water quality within the Critical Area.

[Bill No. 32-1988]

§ 1A00.2. Purposes.

Pursuant to the above findings, it is the purpose of the Resource Conservation Zones to:

A. Discourage present land use patterns of development and to create a framework for planned or orderly development;

B. Provide sufficient and adequate areas for rural-suburban and related development in selected and suitable areas;

C. Protect both natural and man-made resources from compromising effects of specific forms and densities of development;

D. Protect areas desirable for more intensive future development by regulating undesirable forms of development within these areas until such time as intensive development commences.

E. Help achieve the goals of the Chesapeake Bay Critical Area Protection Law *Editor's Note: See Title 8, Subtitle 18, of the Natural Resources Article of the Annotated Code of Maryland.* by enacting land use policies to control development within the Critical Area by conserving the land and water resource base for agriculture, forestry and other natural resource uses; minimizing adverse effects on water quality; and conserving fish, wildlife and plant habitat.

[Bill No. 32-1988]

§ 1A00.3. Rezoning.

[Bill No. 32-1988]

A. Filing of rezoning petitions.

1. No petition to reclassify an R.C. Zone or portion thereof as other than an R.C. Zone may be accepted for filing by the Zoning Commissioner unless:

a. The capital program, duly adopted Baltimore County Master or Comprehensive Plans, and the "county plan" required under Subtitle 5 of Title 9 in the Environment Article of the Annotated Code of Maryland 1987, as amended, show that the property under petition is to be serviced by public sewerage and water supply systems within two years after the date the petition is submitted; and

b. Required recommendations.

(1) No zoning reclassification may be granted for property zoned R.C.20 or R.C.50 by the Board of Appeals of Baltimore County unless the Board has received, in addition to any other recommendations from county agencies required by law or regulations, a recommendation on such requested reclassification from the Director of the Department of Environmental Protection and Sustainability.

[Bill No. 122-2010]

(2) The recommendations shall be provided to the Board of Appeals within 30 days after the Department is notified by certified mail, return receipt requested, by the petitioner of the filing of the petition for reclassification, unless the Department by written request to the Board of Appeals, with good cause shown, moves that additional time not to exceed an additional 30 days is required to prepare and file said recommendations with the Board of Appeals.

B. The meeting of criteria established in this article for the filing of zoning reclassification petitions shall not in itself be sufficient grounds to reclassify property.

§ 1A00.4. Plans and plats.

Development plans and final subdivision plats shall be required in the manner prescribed under Section 1B01.3, and, for the purpose of this section, all references to D.R. Zones shall include the R.C. Zones.

§ 1A00.5. Application to tract divided by zone boundary.

Whenever a single tract is divided by a zone boundary so that portions of such a tract lie within R.C. Zones of different classifications, the total number of dwellings or density units permitted shall apply to each tract individually and, for the purpose of these regulations, shall be considered as separate parcels.

SECTION 1A01. R.C.2 (Agricultural) Zone

§ 1A01.1. General provisions.

A. Legislative statement of findings.

1. Declaration of findings. It is found:

a. That Baltimore County is fortunate in that it is endowed with a variety of very productive agricultural soil types which should not be lost unnecessarily to urbanized development;
b. That the agricultural industry is an integral part of the Baltimore economy and that a continued conversion of agricultural land will continue to undermine this basic industry;
c. That scattered development is occurring in a sporadic fashion in areas of Baltimore County containing productive agricultural land;
d. That continued urban intrusion into productive agricultural areas not only destroys the specific area upon which the development occurs but is incompatible with the agricultural use of the surrounding area;
e. That heretofore Baltimore County has been unable to effectively stem the tide of new residential subdivisions in productive agricultural areas of Baltimore County;
f. That Baltimore County has certain wetlands along Chesapeake Bay and its tributaries which serve as breeding grounds and nursery areas for the bay's biotic life; and
g. That Baltimore County possesses numerous areas which are highly suitable for urban development, including residential subdivisions which are not located in areas of productive agricultural land.

B. Purposes. The R.C.2 zoning classification is established pursuant to the legislative findings above in order to foster conditions favorable to a continued agricultural use of the productive agricultural areas of Baltimore County by preventing incompatible forms and degrees of urban uses.

§ 1A01.2. Use regulations.

A. Preferred use permitted as of right. Agricultural operations, when conducted in accordance with good and reasonable husbandry practices, shall be afforded preferential treatment over and above all other permitted uses in R.C.2 Zones.

B. Uses permitted as of right. *Editor's Note: "Churches and schools for agriculture training," originally included in this section by Bill No. 98-1975, were moved to Section 1A01.2.C by Bill No. 178-1979.* The following uses only are permitted as of right in all R.C.2 Zones:

[Bill No. 178-1979]

1. Dwellings, one-family detached.

[Bill No. 178-1979]

2. Farms and limited acreage wholesale flower farms (Section 404).

[Bill Nos. 178-1979; 51-1993]

3. Open space, common.

[Bill No. 178-1979]

4. Public schools.

[Bill Nos. 63-1980; 47-1982; 47-1985]

5. Streets and ways.

[Bill No. 178-1979]

6. Telephone, telegraph, electrical-power or other lines or cables, provided that any such line or cable is underground; underground gas, water or sewer mains or storm drains; or other underground conduits, except interstate or international pipelines.

[Bill No. 178-1979]

7. Trailers or mobile homes, provided that any trailer or mobile home allowed under this provision must be used or stored in accordance with the provisions of Subsection B, C, E or F of Section 415.1 and Section 415.2.A.1 or 415.3.C.1, as applicable.

[Bill Nos. 178-1979; 27-2015]

8. Antennas used by CATV systems operated by companies franchised under Article 25 of the Baltimore County Code, if situated on property owned by the county, state or federal government or by a governmental agency.

[Bill Nos. 220-1981; 137-2004]

9. Accessory uses or structures, including, but not limited to, the following:

a. Excavations, uncontrolled.

[Bill No. 178-1979]

b. Farmer's roadside stand and produce stand, subject to the provisions of Section 404.4.

[Bill Nos. 178-1979; 41-1992]

c. Home occupations (see Section 101).

[Bill Nos. 124-1978; 178-1979]

d. Offices or studios of physicians, dentists, lawyers, architects, engineers, artists, musicians or other professional persons, provided that any such office or studio is established within the same building as that serving as the professional person's primary residence at the time of application; does not occupy more than 25% of the total floor area of that residence; and does not involve the employment of more than one nonresident employee.

[Bill Nos. 78-1979; 105-1982; 65-1999]

e. Parking space, including residential-garage space and space for recreational vehicle (Section 415A).

[Bill No. 178-1979]

f. Piers, wharves, docks and bulkheads, subject to the provisions of Section 417.

[Bill No. 178-1979]

g. Radio operator antennas, subject to Section 426A.

[Bill Nos. 178-1979; 30-1998]

h. Swimming pools, tennis courts, garages, utility sheds, satellite receiving dishes (subject to Section 429) or other accessory structures or uses (subject to the height and area provisions for buildings as set forth in Section 400).

[Bill No. 178-1979; Bill No. 71-1987]

i. Tenant houses, including mobile homes used as tenant houses.

[Bill Nos. 178-1979; 27-2015]

j. Rubble landfills, provided that the actual fill area does not exceed 3% of the total contiguous acreage of the property in the same ownership and subject to the provisions of Section 412.7 only.

[Bill No. 97-1987]

k. Signs, subject to Section 450.

[Bill No. 89-1997]

10. Commercial film production, subject to Section 435.

[Bill No. 57-1990]

11. Transit facilities.

[Bill No. 91-1990]

12. Equestrian centers, provided that any such equestrian center has access to two roads, one of which is a road having, within two miles from the equestrian center, an interchange with an interstate expressway; contains no permanent grandstand; and contains no lights other than those consistent with farm use. Temporary structures, such as removable tents, viewing stands and seating, are permitted, provided that they are removed within a reasonable time following the event or events which they serve.

[Bill No. 24-2002]

13. Farmstead creamery, subject to the provisions of Section 404.13.

[Bill No. 34-2009]

14. Domestic animal sanctuary, if located on or within property that is greater than 7.5 acres in size.

[Bill No. 20-2010]

C. Uses permitted by special exception. *Editor's Note: The following uses were included in this section by Bill No. 98-1975, and deleted by Bill No. 178-1979: "baseball batting ranges," "cemeteries," "community bldgs. swimming pools," "fish hatcheries," "golf driving ranges, mintature-golf," "helistops," "hospitals," "nursing, convalescant*

homes," "railroads," "sanitariums" and "shooting preserves." The following uses, only, may be permitted by special exception in any R.C.2 Zone, provided that in each case the hearing authority empowered to hear the petition finds that the use would not be detrimental to the primary agricultural uses in its vicinity; and, in the case of any use permitted under Item 29, further provided that the hearing authority finds that the use would support the primary agricultural use in its vicinity and would not itself be situated on land more appropriately used for primary agricultural uses:

[Bill No. 178-1979]

1. Airports.

[Bill No. 178-1979]

2. Animal boarding places (regardless of class), commercial kennels, private kennels, veterinarians' offices or veterinariums (see Section 421).

[Bill Nos. 178-1979; 87-2001]

3. Antique shops (see Section 402B).

[Bill No. 178-1979]

4. Camps, including day camps.

[Bill No. 178-1979]

5. Community care centers provided that no residential community care center, i.e., a center which serves as the residence of the persons for whom care is provided, shall provide care for more than 15 persons per site, and no day community care center shall provide care for more than 15 persons per acre nor more than 75 persons per site; however, if the site is in excess of two net acres and is located outside the urban rural demarcation line, the hearing authority shall determine the maximum number of persons permitted in a day community care center based on the total acreage of the site and the testimony and evidence presented.

[Bill Nos. 178-1979; 157-1986; 19-2014]

6. Churches or other buildings for religious worship.

[Bill No. 178-1979]

7. Community building owned by a nonprofit civic or improvement association and used by its members and guests for recreational, social, educational, or cultural activities.

[Bill No. 26-2015 *Editor's Note: This bill also provided for the renumbering of former Subsections 7 through 29 as Subsections 8 through 30, respectively. Section 2 of this bill stated that it would apply to existing structures located within the geographic boundary of a nonprofit civic or improvement association, or as a replacement in the same footprint of said structures, as of the effective date of this Act (45 days after its 3-16-2015 enactment).* **]**

8. Excavations, controlled.

[Bill No. 178-1979]

9. Farm market, subject to the provisions of Section 404.4.

[Bill Nos. 178-1979; 41-1992]

10. Fishing and shellfishing facilities, Class I and II.

[Bill No. 178-1979]

11. Golf courses or country clubs.

[Bill No. 178-1979]

12. Home occupations of disabled persons, where the use is established in a structure originally constructed as a dwelling or as accessory to a dwelling or where the use is established in a structure that is situated on the same lot as a dwelling and which the Zoning Commissioner finds to be compatible with its surrounding neighborhood, provided that:

a. Only three persons, including the disabled person and the members of his immediate family who are residents of the dwelling, are employed in the use on the premises; and

b. In any case the use is conducted by a disabled person whose domicile is the dwelling to which the use is accessory and whom the hearing authority finds is so severely disabled as to be unable to engage in his occupation away from the premises of his home.

Any provision of Section 502.2 to the contrary notwithstanding, any special exception granted pursuant to this item shall expire upon the first to occur of the following:

(1) Five years after the issuance of the permit;

(2) The death of a disabled person;

(3) The termination of the disability; or

(4) The failure of the disabled person to permanently reside at the premises.

A new special exception for the use may be granted when the previous special exception expires but only upon the completion of the entire application and hearing process in the same manner as if it were the initial application for this special exception. It is the purpose of this provision to prevent the use of residential property for business purposes by an occupant other than a disabled person and to ensure that any occupation permitted pursuant to this item will be conducted in a manner appropriate to its surroundings.
[Bill No. 27-1981]

13. Horticultural nurseries, subject to the provisions of Sections 404.1 and 404.2.
[Bill No. 41-1992]

14. Hunting or fishing preserves.
[Bill No. 178-1979]

15. Landscape service operations, subject to the provisions of Sections 404.1 and 404.3.
[Bill No. 41-1992]

16. Offices for agriculture-related uses.
[Bill Nos. 178-1979; 37-1988]

17. Offices or studios of physicians, dentists, lawyers, architects, engineers, artists, musicians or other professional persons as an accessory use, provided that any such office or studio is established within the same building as that serving as the professional person's primary residence at the time of application; does not occupy more than 25% of the total floor area of that residence; and does not involve the employment of more than one nonresident professional associate nor two other nonresident employees.
[Bill Nos. 105-1982; 65-1999]

18. Public utility uses not permitted as of right.
[Bill No. 178-1979]

19. Rail passenger station, subject to Section 434.
[Bill No. 91-1990 *Editor's Note: Former Item 14, "Research institutes (see Section 418)," which followed this item, was repealed by Bill No. 122-1984.* **]**

20. Residential art salons (see Section 402C).
[Bill No. 178-1979]

21. Standard restaurants or tearooms converted from dwellings (Section 402.2).
[Bill Nos. 178-1979; 110-1993]

22. Riding stables.
[Bill No. 178-1979]

23. Sanitary landfills, or rubble landfills in which the actual fill area exceeds 3% of the total contiguous acreage of the property in the same ownership. However, the fill area of a rubble landfill may not exceed 7% of the total contiguous acreage, nor may the fill area exceed a depth of 20 feet unless the Zoning Commissioner specifically finds that the landfill should be exempt from the depth limitation (see Section 412).
[Bill Nos. 178-1979; 97-1987]

24. Schools, including schools for agricultural training, private preparatory schools, business or trade schools, conservatories or colleges.
[Bill No. 178-1979]
25. Shooting ranges, including archery, pistol, skeet, trap or small-bore rifle ranges, or turkey shoots.
[Bill No. 178-1979]
26. Sludge disposal facility — landspreading (Section 412A.2.E).
[Bill No. 46-1982]
27. Mobile homes, as provided in Section 415.1.D.
[Bill Nos. 178-1979; 27-2015]
28. Volunteer fire company or ambulance-rescue facilities.
[Bill No. 178-1979]
29. Wireless telecommunications towers, subject to Section 426.
[Bill No. 30-1998]
30. The following "agricultural-support" uses as principal commercial uses:
[Bill Nos. 178-1979; 51-1993]
a. Farm-machinery sales, storage or service; blacksmithing.
[Bill No. 178-1979]
b. Feed or grain mills or driers.
[Bill No. 178-1979]
c. Fertilizer sales or storage.
[Bill No. 178-1979]
d. Sawmills.
[Bill No. 178-1979]
e. Slaughterhouses or manufacture, processing or packing of fruit, vegetables, animal or meat products, or by-products.
[Bill No. 178-1979]
f. Spirits manufacture, including the manufacture of alcohol to be used in gasoline/alcohol mixtures, but excluding the production of these mixtures.
[Bill Nos. 178-1979; 51-1993]
g. Firewood operations.
[Bill No. 151-1992]
h. Winery, including accessory retail and wholesale distribution of wine produced on-premises. Temporary promotional events, such as wine tastings or public gatherings associated with the winery, are permitted, within any limits set by the special exception.
[Bill No. 51-1993]
i. Bottled water plant, if the source of the water is located on the same site as the plant, and provided that the Director of Environmental Protection and Sustainability makes a recommendation that the proposed facility will not adversely affect the quality or capacity of surface water or groundwater.
[Bill Nos. 51-1993; 122-2010]
j. Brewery, Class 7 or Class 8, including accessory retail and wholesale distribution of beer produced on the premises. Temporary promotional events, such as beer tasting or public gatherings associated with the brewery, are permitted subject to approval by the Administrative Law Judge or Board of Appeals on appeal.
[Bill No. 64-2015]

§ 1A01.3. Height and area regulations.

A. Height regulation. No structure hereafter erected in an R.C.2 Zone shall exceed a height of 35 feet, except as otherwise provided under Section 300.

B. Area regulations.

[Bill No. 178-1979]

1. Subdivision lot density. No lot of record lying within an R.C.2 Zone and having a gross area of less than two acres may be subdivided. No such lot having a gross area between two and 100 acres may be subdivided into more than two lots (total), and such a lot having a gross area of more than 100 acres may be subdivided only at the rate of one lot for each 50 acres of gross area. In cases where land in single ownership is crossed by existing or proposed roads, rights-of-way or easements, the portions of land on either side of the road, right-of-way or easement shall not be considered separate parcels for the purpose of calculating the number of lots of record.

[Bill Nos. 199-1990; 125-2005]

2. Lot size. A lot having an area less than one acre may not be created in an R.C.2 Zone.
3. Setback requirements. No principal structure or dwelling (whether or not it is a principal structure) in an R.C.2 Zone may be situated within 75 feet of the center line of any street or within 35 feet of any lot line other than a street line.
4. Principal dwellings per lot. No more than one principal dwelling is permitted on any lot in an R.C.2 Zone.

§ 1A01.4. Maryland Agricultural Land Preservation Program.

[Bill Nos. 178-1979; 137-2004]

The use or development of land in an agricultural district established in accordance with Title 2, Subtitle 5 of the Agriculture Article of the Annotated Code of Maryland shall be governed by agricultural land preservation provisions enacted by the County Council pursuant to § 2-513 of the Agriculture Article in the case of any conflict between those provisions and these regulations.

§ 1A01.5. Inconveniences arising from agricultural operations.

[Bill No. 34-2009]

Any dwelling, business or use in or near an R.C. 2 Zone may be subject to inconveniences or discomforts arising from agricultural operations, including but not limited to noise, odors, fumes, dust, the operations of machinery of any kind during any twenty-four-hour period (including aircraft), the storage and disposal of manure and the application, by spraying or otherwise, of chemical fertilizers, soil amendments, herbicides and pesticides. The County shall not consider an agricultural operation to be a public or private nuisance if the operation complies with these regulations and all federal, state or County health or environmental requirements.

SECTION 1A02. R.C.3 (Deferral of Planning and Development) Zone

§ 1A02.1. Legislative policy.

[Bill Nos. 178-1979; 54-2004 *Editor's Note: This bill also stated that it would not apply to any concept plan or application for limited exemption or waiver accepted for filing prior to June 7, 2004, and that any structure, building or use in existence prior to the effective date of this bill that is damaged or destroyed by fire or other casualty after the effective date of this bill would be subject to the provisions of Section 104 of the Baltimore County Zoning Regulations regarding nonconforming uses. The effective date of this bill is 6-11-2004.*]

Board of Appeals of Baltimore County

JEFFERSON BUILDING
SECOND FLOOR, SUITE 203
105 WEST CHESAPEAKE AVENUE
TOWSON, MARYLAND, 21204
410-887-3180
FAX: 410-887-3182

July 30, 2018

NOTICE OF REASSIGNMENT

IN THE MATTER OF: David William Mathews – Legal Owner
Bluefin Origination 2 LLC – Lessee
17-108-X 20450 Middletown Road
6th Election District; 3rd Councilmanic District

Re: Petition for Special Exception pursuant to BCZR Section 4E-102 to operate a solar facility on approximately 18.73 acres of the subject property.

1/22/18 Opinion and Order of the Administrative Law Judge wherein the Petition for Special Exception was GRANTED, subject to conditions. Condition No. 7 required the Petitioners to submit a redline site plan showing a "special exception area" for the solar facility of no larger than 13 acres.

2/20/18 Redlined site plan submitted by the Petitioners for review by the ALJ.

2/20/18 Motion for Reconsideration filed by H. Barnes Mowell, Esquire on behalf of Freeland Legacy Alliance, Protestant.

3/1/18 Opinion and Order on Motion for Reconsideration issued by the ALJ wherein the Motion was DENIED.

A hearing was held in this matter on July 12, 2018. This matter did not conclude and has been

ASSIGNED FOR: **October 16, 2018, at 10:00 a.m. – Day 2**
and October 25, 2018, at ~~10:00~~ 9:00 a.m. – Day 3

LOCATION: Hearing Room #2, Second Floor, Suite 206
Jefferson Building, 105 W. Chesapeake Avenue, Towson

NOTICE:

- This appeal is an evidentiary hearing. Parties should consider the advisability of retaining an attorney.
- Please refer to the Board's Rules of Practice & Procedure, Appendix B, Baltimore County Code.
- No postponements will be granted without sufficient reasons; said requests must be in writing and in compliance with Rule 2(b) of the Board's Rules. No postponements will be granted within 15 days of scheduled hearing date unless in full compliance with Rule 2(c).
- If you have a disability requiring special accommodations, please contact this office at least one week prior to hearing date.
- Parties must file one (1) original and three (3) copies of all Motions, Memoranda, and exhibits (including video and PowerPoint) with the Board unless otherwise requested.
- Projection equipment for digital exhibits is available by request. A minimum of forty-eight (48) hours-notice is required. Supply is limited and not guaranteed.

For further information, including our inclement weather policy, please visit our website www.baltimorecountymd.gov/Agencies/appeals/index.html

Krysundra "Sunny" Cannington, Administrator

c: Counsel for Petitioners : Patricia A. Malone, Esquire
Christopher D. Mudd, Esquire

Petitioner/Legal Owner : David W. Mathews
Petitioner/Lessee : Bluefin Origination 2, LLC

Counsel for Protestants : H. Barnes Mowell, Esquire
Protestants : Freeland Legacy Alliance, Inc., Richard and Rhonda Ryan, Jeanne Bowman, Scott Dykes, Beverly and Salvatore Scavone, Theresa and Christopher Norton, Kathleen and Christopher Marciniak, Christine Pignateri, Laverne Poe, Diana Householder, Betty Lou Holmes, Therese Sassler, Paul Hoeckel, Beverly Kram, Rhonda and William Rollins, Ed and Debra Myslinski, Matthew Myslinski, Michael Myslinski, Lynne Jones, Debbie Frank, Patricia Trump, Kathleen Pieper, Lisa Arthur, and Robin Arrington

People's Counsel for Baltimore County : Peter M. Zimmerman, Esquire

Andrea Van Arsdale, Director/Department of Planning
Arnold Jablon, Director/PAI
Lawrence M. Stahl, Managing Administrative Law Judge
Michael E. Field, County Attorney
Nancy C. West, Assistant County Attorney

17-108-X

Board of Appeals of Baltimore County

JEFFERSON BUILDING
SECOND FLOOR, SUITE 203
105 WEST CHESAPEAKE AVENUE
TOWSON, MARYLAND 21204

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Ed and Debra Myslinski
Matthew Myslinski
Michael Myslinski
6 Hedricks Court
Parkton, MD 21120

8/14/18 updated file and re-mailed to both. J

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MYSLINSKI MICHAEL
1230 HULL ST
BALTIMORE MD 21230-5239

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Krysundra Cannington

From: Peter Max Zimmerman
Sent: Thursday, July 26, 2018 2:55 PM
To: Krysundra Cannington; barney Mowell; Mudd, Christopher D.; Malone, Patricia A.
Subject: RE: Mathews 17-108-X - Day 2

Ms. Cannington,

It has come to our attention that we now have two cases to be scheduled in the Court of Special Appeals sometime between October 1 and October 11th 2018. The first is case of Loren Staples, et al. v. Baltimore County, et al., CSA # 1271 . Secondly, we have also just learned that the CSA has rescheduled the case of Baddock v. Baltimore County, et al., CSA Case No. 1479, previously scheduled for Séptember. Our office will be arguing both cases. Therefore, we must ask at this time that the Matthews case not be schedule on either October 2nd or 3rd. Unfortunately, we are unable to obtain an exact scheduling date from the Court until the end of August. We have no choice but to ask that this case be reset later than October 11th.

Peter Max Zimmerman

From: Krysundra Cannington
Sent: Monday, July 23, 2018 10:04 AM
To: barney Mowell <barneymowell@hotmail.com>; Mudd, Christopher D. <CDMudd@Venable.com>; Malone, Patricia A. <PAMalone@Venable.com>; Peoples Counsel <peoplescounsel@baltimorecountymd.gov>; Peter Max Zimmerman <pzimmerman@baltimorecountymd.gov>
Subject: RE: Mathews 17-108-X - Day 2

Thank you, Counsel.

Mr. Zimmerman did provide his availability verbally.

I will follow up with the Board members and get the notice out as soon as I can.

Thank you again,

Sunny

Krysundra "Sunny" Cannington
Administrator
Board of Appeals of Baltimore County
410-887-3180

Confidentiality Statement

This electronic mail transmission contains confidential information belonging to the sender which is legally privileged and confidential. The information is intended only for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or taking of any action based on

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From: Krysundra Cannington
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From: barney Mowell [mailto:barneymowell@hotmail.com]
Sent: Friday, July 20, 2018 4:22 PM
To: Mudd, Christopher D. <CDMudd@Venable.com>; Krysundra Cannington <kcannington@baltimorecountymd.gov>; Malone, Patricia A. <PAMalone@Venable.com>; Peoples Counsel <peoplescounsel@baltimorecountymd.gov>
Subject: Re: Mathews 17-108-X - Day 2

I have a district court trial scheduled for September 26th at 1:15 p.m. in Glen Burnie, State v. Michael Scott Saunders, case no. OK50LTT. I have heard from Kathie Pieper, who will be a primary witness on our side, that she will be on vacation the week of the September dates. I am available for the October dates except for October 18th and Oct 30th, when I have trials scheduled. Barney Mowell

---

From: Mudd, Christopher D. <CDMudd@Venable.com>
Sent: Friday, July 20, 2018 3:40:38 PM
To: Krysundra Cannington; Malone, Patricia A.; barney Mowell; Peoples Counsel
Subject: RE: Mathews 17-108-X - Day 2

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Sent: Friday, July 20, 2018 3:40:38 PM
To: Krysundra Cannington; Malone, Patricia A.; barney Mowell; Peoples Counsel
Subject: RE: Mathews 17-108-X - Day 2

Peter and Barney – please advise Sunny of your availability.

Sunny – if Counsel do not advise of their availability promptly, I request that the Board please schedule the matter for new dates based on the availability that I provided on Wednesday.

Thank you,

Chris

Christopher D. Mudd, Esq. | Venable LLP
t 410.494.6365 | f 410.821.0147 | m 410.271.9105
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CDMudd@Venable.com | http://secure-web.cisco.com/1I2Pt2eGmYj0nsP5n2YG9T8NyUOV4ZOuhMPA6d4GUzJiguQKeuwJEpUe9sLOAAhq-lFConjeJPsQwHnHvToenh1jcbpLNHwSbC9simVRVs4FaF8NAUDLkKTKDhouGzU0hiURbcN_Ycnu7iJzMpItsjbHIUUEmZyDywpxNPxICWZtj4did0liBudzZ2LnIAnx_Uuy5VkCQ4r8izVDqHCYnBzAVsZoz-QyrJnOpuy_INGvQL4R03v45LCsGWbkvEWBeU9CUE7WEIEDDXN0GH_IZGNMT5AuvW8adLlaL8syd8nuTW4XJNpi_c8W42SIlxnCm9bsJi4a5ILhse5oDqErWLrUK2X5r1uTLqDWkLehyqNWyMH8oCsG5-E6gQ6X2MMaOHxOAblel4TliroL-It4qyWDxb7rFSII9w82y1Hx4dR68AEskWJ__O3pa15YtHCGRR0HPi2C65rsrEuOJYu7kjg/http%3A%2F%2Fwww.Venable.com

From: Mudd, Christopher D.
Sent: Thursday, July 19, 2018 3:52 PM
To: 'Krysundra Cannington' <kcannington@baltimorecountymd.gov>; Malone, Patricia A. <PAMalone@Venable.com>; 'barney Mowell' <barneymowell@hotmail.com>; 'Peoples Counsel' <peoplescounsel@baltimorecountymd.gov>
Subject: RE: Mathews 17-108-X - Day 2

Peter and Barney – can you please advise Sunny of your availability. We have had almost a week to check with clients/witnesses.

Thank you,

Chris

Christopher D. Mudd, Esq. | Venable LLP
t 410.494.6365 | f 410.821.0147 | m 410.271.9105

Krysundra Cannington

From: Mudd, Christopher D. <CDMudd@Venable.com>
Sent: Wednesday, July 18, 2018 5:47 PM
To: Krysundra Cannington; Malone, Patricia A.; barney Mowell; Peoples Counsel
Subject: RE: Mathews 17-108-X - Day 2

Sunny:

We would like to proceed in September, please. We think 2 dates should be reserved. We are available on all of those dates.

All October dates work as well, except for October 30th.

Thanks,

Chris

Christopher D. Mudd, Esq. | Venable LLP
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From: Mudd, Christopher D.
Sent: Friday, July 13, 2018 8:48 AM
To: 'Krysundra Cannington' <kcannington@baltimorecountymd.gov>; Malone, Patricia A. <PAMalone@Venable.com>; barney Mowell <barneymowell@hotmail.com>; Peoples Counsel <peoplescounsel@baltimorecountymd.gov>
Subject: RE: Mathews 17-108-X - Day 2

Thanks Sunny – I am going to check with our witnesses. I also want to relay what Barney and I spoke about yesterday, which is that I think we should aim for 2 more days (ideally consecutive), in light of the pace of yesterday's hearing. So I ask that, as everyone is checking schedules, bear that in mind.

Thanks,

Chris

Christopher D. Mudd, Esq. | Venable LLP
t 410.494.6365 | f 410.821.0147 | m 410.271.9105
210 W. Pennsylvania Avenue, Suite 500, Towson, MD 21204

CDMudd@Venable.com | http://secure-web.cisco.com/1gbGq88kj2oDjtbnWAxsxHTgj-fM_VDxxfxazB5MflThIKRu6pD7cChPSexKAJViP6KUnTWCw4Po-ou_5-CThcfBn3l4UJVEzix7DjATKYALUcFvpGlagMQRPUNGQ4IQlUFN6a40HafPWtxEvVSshre99Zx7cC5DMhewdwbB1Q_i3BamWtanBxVyaqKkR-84p7iQ8GT1XPgo3N_YCJJh7jFxLrkBjoGacnsMUzGMoQSGI_wEttK4D2sAzdu_rWwJ-qaUs-Kil46_92YvRMxx8d1SBNa52_UcHSe-ijlC8wChsAbtOqArMh5oNQqyRqdTDITnS--XKi-

Krysundra Cannington

From: Krysundra Cannington
Sent: Friday, July 13, 2018 8:07 AM
To: Chris Mudd, Esquire; Malone, Patsy; barney Mowell; Peoples Counsel
Subject: Mathews 17-108-X - Day 2

Good morning Counsel,

As you are aware, the above referenced matter did not reach a conclusion yesterday. In an effort to reschedule this matter without further postponements, I offer the following dates:

September 25, 26, 27, October 2, 3, 16, 17, 18, 25, and 30

Additionally, please advise if you believe this matter will take more than one additional date.

Thank you in advance for your prompt response.

Sunny

Krysundra "Sunny" Cannington
Administrator
Board of Appeals of Baltimore County
The Jefferson Building, Suite 203
105 W. Chesapeake Avenue
Towson, MD 21204
Phone: 410-887-3180
Fax: 410-887-3182

Confidentiality Statement

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Board of Appeals of Baltimore County

JEFFERSON BUILDING
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105 WEST CHESAPEAKE AVENUE
TOWSON, MARYLAND, 21204
410-887-3180
FAX: 410-887-3182

April 11, 2018

NOTICE OF ASSIGNMENT

IN THE MATTER OF: David William Mathews – Legal Owner
Bluefin Origination 2 LLC – Lessee
17-108-X 20450 Middletown Road
6th Election District; 3rd Councilmanic District

Re: Petition for Special Exception pursuant to BCZR Section 4E-102 to operate a solar facility on approximately 18.73 acres of the subject property.

1/22/18 Opinion and Order of the Administrative Law Judge wherein the Petition for Special Exception was GRANTED, subject to conditions. Condition No. 7 required the Petitioners to submit a redline site plan showing a "special exception area" for the solar facility of no larger than 13 acres.

2/20/18 Redlined site plan submitted by the Petitioners for review by the ALJ.

2/20/18 Motion for Reconsideration filed by H. Barnes Mowell, Esquire on behalf of Freeland Legacy Alliance, Protestant.

3/1/18 Opinion and Order on Motion for Reconsideration issued by the ALJ wherein the Motion was DENIED.

ASSIGNED FOR: JULY 12, 2018, AT 10:00 A.M.

LOCATION: Hearing Room #2, Second Floor, Suite 206
Jefferson Building, 105 W. Chesapeake Avenue, Towson

NOTICE:

- This appeal is an evidentiary hearing. Parties should consider the advisability of retaining an attorney.
- Please refer to the Board's Rules of Practice & Procedure, Appendix B, Baltimore County Code.
- No postponements will be granted without sufficient reasons; said requests must be in writing and in compliance with Rule 2(b) of the Board's Rules. No postponements will be granted within 15 days of scheduled hearing date unless in full compliance with Rule 2(c).
- If you have a disability requiring special accommodations, please contact this office at least one week prior to hearing date.
- Parties must file one (1) original and three (3) copies of all Motions, Memoranda, and exhibits (including video and PowerPoint) with the Board unless otherwise requested.
- Projection equipment for digital exhibits is available by request. A minimum of forty-eight (48) hours-notice is required. Supply is limited and not guaranteed.

For further information, including our inclement weather policy, please visit our website www.baltimorecountymd.gov/Agencies/appeals/index.html

Krysundra "Sunny" Cannington, Administrator

c:	Counsel for Petitioners	: Patricia A. Malone, Esquire Christopher D. Mudd, Esquire
	Petitioner/Legal Owner	: David W. Mathews
	Petitioner/Lessee	: Bluefin Origination 2, LLC
	Counsel for Protestants	: H. Barnes Mowell, Esquire
	Protestants	: Freeland Legacy Alliance, Inc., Richard and Rhonda Ryan, Jeanne Bowman, Scott Dykes, Beverly and Salvatore Scavone, Theresa and Christopher Norton, Kathleen and Christopher Marciniak, Christine Pignateri, Laverne Poe, Diana Householder, Betty Lou Holmes, Therese Sassler, Paul Hoeckel, Beverly Kram, Rhonda and William Rollins, Ed and Debra Myslinski, Matthew Myslinski, Michael Myslinski, Lynne Jones, Debbie Frank, Patricia Trump, Kathleen Pieper, Lisa Arthur, and Robin Arrington

Andrea Van Arsdale, Director/Department of Planning
Arnold Jablon, Director/PAI
Lawrence M. Stahl, Managing Administrative Law Judge
Michael E. Field, County Attorney
Nancy C. West, Assistant County Attorney
Office of People's Counsel

Board of Appeals of Baltimore County

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TOWSON, MARYLAND, 21204
410-887-3180
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July 10, 2018

H. Barnes Mowell, Esquire
16925 York Road
Monkton, Maryland 21111

Re: In the matter of: David Mathews – Legal Owner
Bluefin Origination 2, LLC – Lessee
Case No: 17-108-X

In the matter of: Charles Atkinson and Stephen Atkinson – Legal Owners
OneEnergy Development, LLC – Lessee
Case No: 18-194-X

In the matter of Jerry Phillips – Legal Owner
Forefront Power, LLC – Lessee
Case No: 18-072-X

Dear Mr. Mowell:

We are in receipt of your request for postponement of the above referenced cases and responses thereto. I have reviewed your request with our Chairman.

Please be advised that your request for postponement is being denied in all of the above referenced cases. All hearings will proceed as scheduled.

Should you have any questions, please do not hesitate to contact me.

Very truly yours,

Sunny Cannington

Krysundra Cannington

cc: Adam Rosenblatt, Esquire
Christopher Mudd, Esquire
Lawrence Schmidt, Esquire
Patricia Malone, Esquire
People's Counsel for Baltimore County

VENABLE® LLP

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HAND-DELIVERED

RECEIVED
JUL 9 2018
BALTIMORE COUNTY
BOARD OF APPEALS

July 9, 2018

Krysundra L. Cannington, Administrator
Board of Appeals of Baltimore County
The Jefferson Building, Suite 203
105 West Chesapeake Avenue
Towson, Maryland 21204

Re: Case No. 17-108-X - 20450 Middletown Road
6th Election District, 3rd Councilmanic District

Dear Ms. Cannington:

I am writing to respond to Mr. Mowell's letter submitted today, wherein, on behalf of Appellants, he requests that the Board of Appeals postpone two pending cases being handled by our office. I appreciate that Appellants were upfront in their reason for requesting the postponement. However, for the reasons stated below, I am asking the Board to deny the requested postponement.

This is not a situation where cases are being rushed to hearing to beat a looming threat. Last year, the Baltimore County Council passed legislation regulating solar facilities. *See* Bill No. 37-17, codified as Article 4F of the Baltimore County Zoning Regulations. Each of the cases referenced by Apellants was filed more than a year ago, and, with the passage of Bill No. 37-17, Appellees have proceeded forward in good faith reliance on that law.

As the basis for their postponement request, Appellants use the excuse that the Planning Board is expected to make recommendations on solar facilities later this summer. Even if the Planning Board recommends a moratorium, only the Council has the ability to change the law, which currently permits these facilities.

There is nothing pending before the Council that would impact these cases. Regardless, Appellants are requesting that the Board of Appeals put a hold on these cases to give them time to try to pursue a moratorium. Such action by the Board of Appeals would be unprecedented and inappropriate. Appellees should be allowed to continue their efforts unless and until the Council takes action.

For these reasons, Appellees request that the Board deny the requested postponement and allow the cases to proceed as scheduled.

Very truly yours,

Patricia A. Malone

cc: Lawrence E. Schmidt, Esq.

H. BARNES MOWELL, P.A.
Attorney At Law
16925 York Road
Monkton, Maryland 21111
Phone: 410-329-6488 Fax: 410-357-4663
barneymowell@hotmail.com
July 9, 2018

RECEIVED
JUL 09 2018
BALTIMORE COUNTY
BOARD OF APPEALS

Board of Appeals of Baltimore County
105 W. Chesapeake Avenue
Suite 203
Towson, Maryland 21204

VIA HAND-DELIVERY

Re: In the Matter of: David William Matthews - Legal Owner
Bluefin Origination 2 LLC - Lessee
20450 Middletown Road
6th Election District, 3rd Councilmanic District
Case No: 17-108-X
Hearing Date: July 12, 2018 at 10 a.m.

In the Matter of: Charles Gary Atkinson & Stephen Gordon Atkinson - Legal Owners
OneEnergy Development, LLC - Lessee
632 Freeland Road
7th Election District; 3rd Councilmanic District
Case No: 18-194-X
Hearing Dates: July 24, 2018 and July 25, 2018 at 10 a.m.

In the Matter of: Jerry Phillips - Legal Owner
Forefront Power, LLC- Lessee
19735 Graystone Road
7th Election District, 3rd Councilmanic District
Case No: 18-072-X
Hearing Date: July 31, 2018 at 10 a.m.

Ladies and Gentlemen:

I represent the Protestants in the three captioned cases, all of which are scheduled for hearings in July. I am requesting that all three cases be postponed, for the following reasons.

All three cases concern a request to construct a solar facility on farmland in northern Baltimore County. The legislation allowing such facilities, County Council Bill No. 37-17, took effect on July 17, 2017. Section Two of that Bill required the Baltimore County Planning Board, with participation from other entities, to "study and evaluate the impact of Solar Facilities in Baltimore County and the effect of Article 4E of these Regulations, and by July 1, 2018 submit recommendations to the County Council and the County Executive regarding potential changes to current law." (See attached Exhibit 1).

The Planning Board has missed the July 1st deadline. It held a public meeting on June 7th for the purpose of "Evaluation of the Impacts of Solar Facilities in Baltimore County." (See minutes of meeting attached hereto as Exhibit 2). After summarizing a discussion among the Board members, and noting input from 26 registered speakers, the minutes from the June 7th meeting conclude by saying that "Chairman Phillips stated that the Board members will take all comments into consideration as the vote is tentatively scheduled for June 21, 2018."

The Agenda for the June 21st Board meeting is attached hereto as Exhibit 3, and in fact lists the Solar Facilities Bill as an Item for Discussion and Vote. No minutes of that meeting have been posted at the Planning Board website, but our understanding is that the vote was put off until the next meeting, scheduled for July 5th. As shown on the attached notice from the website, attached as Exhibit 4, the July 5th Planning Board meeting was just cancelled. The next scheduled meeting shown on the Planning Board website is July 19th.

My clients believe that there will be changes made to the Solar Facilities law, and perhaps a moratorium, when the Planning Board finally makes its recommendations. That belief is supported by the Recommendations included in a Staff Report of the Department of Planning's Review of Article 4F of Baltimore County Zoning Regulations Regarding Solar Facilities, which is dated May 17, 2018. The Report concludes with six Staff Recommendations. Recommendation #4 is to "Investigate whether some additional conditions are warranted to reduce the impact on farms." (See attached Exhibit 5.)

The Board of Appeals has four full hearing days scheduled in July for the three captioned cases. My clients believe that the law to be applied by the Board in making its decisions is about to change. The recommendations for such changes were expected on July 5th. They have now been delayed until July 19th, at the earliest. The resources of the parties, and the Board, will be best spent by having these hearings held after the Planning Board's recommendations have been made. For the foregoing reasons, the Protestants in the three captioned cases respectfully request that the hearing dates in each case be postponed until such recommendations have been made.

Very truly yours,

H. Barnes Mowell

Certificate of Service

I HEREBY CERTIFY that a copy of this Request was e-mailed and mailed by first class mail this 9th day of July 2018 to Patricia A. Malone and Christopher D. Mudd, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204, Adam Rosenblatt, Esquire, Venable, LLP, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204, Lawrence E. Schmidt, Esquire, 600 Washington Avenue, Suite 200, Towson, Maryland 21204 and to Peter Max Zimmerman, Esquire, 105 W. Chesapeake Avenue, Room 204, Towson, Maryland 21204.

H. Barnes Mowell

PETITIONER AND LANDOWNER AGREE TO ALLOW ENTRY TO REMOVE AN
NDONED FACILITY.

THE CODE OFFICIAL MAY ISSUE A CITATION TO THE OWNER OR OPERATOR
REMOVAL OF A SOLAR FACILITY IF:

1. THE CODE OFFICIAL DETERMINES THAT THE SOLAR FACILTY HAS NOT
N IN ACTUAL AND CONTINUOUS USE FOR 12 CONSECUTIVE MONTHS;
2. THE OWNER OR OPERATOR FAILED TO CORRECT AN UNSAFE OR
ARDOUS CONDITION OR FAILED TO MAINTAIN THE SOLAR FACILITY UNDER
TION 4E-106 WITHIN THE TIME PRESCRIBED IN A CORRECTION NOTICE
JED BY THE CODE OFFICIAL; OR
3. THE OWNER OR OPERATOR HAS FAILED TO REMOVE THE SOLAR
ILITY IN ACCORDANCE WITH PARAGRAPH C.

2.1. Conditions Determining Granting of Special Exception.

ore any special exception may be granted, it must appear that the use for which the special
ption is requested will not:

Be detrimental to the environment and natural resources of the site and vicinity including
sts, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5, or R.C.7 Zone,
D FOR CONSIDERATION OF A SOLAR FACILITY USE UNDER ARTICLE 4E, THE
CLUSION OF THE R.C.3, R.C.6, AND R.C.8 ZONE.

SECTION 2. AND BE IT FURTHER ENACTED, that the Planning Board shall, in
sultation with the Departments of Planning and Environmental Protection and Sustainability,

and with participation of the Baltimore County Commission on Environmental Quality, representatives of the Solar Industry, the Sierra Club's Greater Baltimore Group, and the Valleys Planning Council, study and evaluate the impact of Solar Facilities in Baltimore County and the effect of Article 4E of these Regulations, and by July 1, 2018 submit recommendations to the County Council and the County Executive regarding potential changes to current law.

SECTION 3. AND BE IT FURTHER ENACTED, that this Act, having been passed by the affirmative vote of five members of the County Council, shall take effect on July 17, 2017 and shall apply retroactively to any zoning petition filed after October 18, 2016.

Exhibit 1

Mr. Jakubiak opined that a mobile home park is a defined term in the zoning regulations which is considered a commercial use. This is not allowed in the BR except by special exception so this is not a residential use. Chairman Phillips asked if people live there. Mr. Jakubiak confirmed that people live there but there is a commercial element in the front for a R.V. center.

Other Business

3. Recent County Council Legislation of Interest to the Board

Mr. DelMonico provided a brief report on the recently passed County Council legislation which are listed below.

d) Bill 28-18 Medical Cannabis Dispensaries – Location

e) Bill 29-18 Zoning Regulations – Commercial Recreational Facilities

f) Bill 30-18 Zoning Regulations – Uses in Certain B.L. Zones

Adjournment of the Board Meeting

Chairman Phillips called for a motion to adjourn the Board meeting. Ms. Hafford made the motion and Mr. Warren seconded the motion, which passed unanimously at 5:20 p.m. Absent for the vote was Ms. Berzins, Ms. Lipkowitz, and Mr. Perlow.

Public Hearing**
by the
Baltimore County Planning Board

Call to Order, Introduction of Board Members, and Remarks on Procedure by Chairman

Items for Public Hearing

1. Bill 37-17: Solar Facilities – Evaluation of the Impacts of Solar Facilities in Baltimore County

Chairman Phillips called the Public Hearing to order at 5:38 pm and welcomed Wally Lippincott to present before the Board. Mr. Lippincott provided an overview of the Department of Planning's report on Bill 37-17 as well as the process for how the report was produced. Mr. Lippincott showcased a number of solar facility projects which have already come in for review by the County and explained the process which they have gone through. Mr. Lippincott stated that the Department's recommendations as defined within the report.

Ms. Hafford asked if there were hearings in all of the Councilmatic districts. Mr. Lippincott stated that there were two meetings to solicit stakeholder input but not in every district.

Mr. McGinnis asked if the report states the number of farmers who provided input. Mr. Lippincott stated that there was one farmer that is not full time. Chairman Phillips asked if any others attended the meetings. Mr. Lippincott confirmed that no other farmers attended.

Mr. Schlossberg asked if acreage was ever discussed in the meetings. Mr. Lippincott shared that the areas for special exception are 15 acres or less which is what is needed to produce 2 megawatts.

Mr. McGinnis asked if the committee discussed the difference between prime and productive soils such as class 1, 2, 3 soils (more productive) vs. 4, 5, and 6 (less productive). Mr. Lippincott stated that this was not discussed at the meetings.

Mr. Schweitzer asked about the legislation's ability to account for potential technological improvements which may increase the output of the solar panels. Mr. Lippincott stated that there is a limitation on the capacity of the lines but the technology is blossoming which will require vigilance. Mr. Schweitzer asked if there is an understanding on how runoff of water would impact the ground underneath the panels. Mr. Lippincott stated that there has to be a plan submitted to the Department of Environmental Protection and Sustainability (EPS) for them to consider storm water management.

Ms. Wolfson asked why the committee which met on this legislation so exclusive. Mr. Lippincott stated that Bill 37-17 called for who shall participate and the meetings were open for others to attend. Ms. Van Arsdale stated that if more agricultural professionals wanted to come than they were welcome to come. Mr. Lippincott stated that the Department had expanded upon the group listed in Bill 37-17 to include representatives from the Rural Land Trust and the Agricultural Land Preservation Advisory Board to provide input on the agricultural issues.

Mr. McGinnis asked if the R.C. 2 regulations were ever amended to allow commercial non-agricultural uses. Mr. Lippincott stated that back in the early 1990's new rules were issued to balance between rural communities with agriculture. The State recently changed the uses permitted on agricultural easements to take into consideration additional agricultural commercial activities which take place on farms.

Chairman Phillips allowed for testimony from the public on this topic. There were a total of 26 registered speakers, the list of speakers and submitted comments are located in the Planning Board's file. The speakers were largely in opposition to allowing solar facilities be integrated into the rural landscape. Some speakers recognized the benefits of renewable energy but also stressed the importance of protecting the agricultural capacity of Baltimore County. Speakers also expressed concerns on the potential impacts that a solar facility would have on home values if located in view of a residence. Suggestions comprised of locating solar facilities in more visually isolated areas, in urban settings, and in "brown fields". One speaker asked the Board to provide him flexibility with his land as he investigates building a solar facility on a portion of his land or sub-dividing it to generate earnings.

Chairman Phillips stated that the Board members will take all comments into consideration as the vote is tentatively scheduled for June 21, 2018.

Adjournment of Public Hearing

DONALD I. MOHLER III
County Executive

ANDREA VAN ARSDALE, *Director*
Department of Planning

PLANNING BOARD

Tentative Agenda*
Thursday, June 21, 2018

PUBLIC MEETING
Beginning at 4:00 p.m.

Hearing Room 104, Jefferson Building
105 W. Chesapeake Avenue
Towson, Maryland

Meeting
of the
Baltimore County Planning Board
N. Scott Phillips, Chairman

Call to Order, Introduction of Board Members, Pledge of Allegiance, and Announcements

Review of Today's Agenda

Minutes of the June 7, 2018 Meeting

Item for Introduction

1. Cycle 36 Water Supply and Sewerage Master Plan Amendments

Items for Discussion and Vote

2. Bill 37-17: Solar Facilities – Evaluation of the Impacts of Solar Facilities in Baltimore County
3. Pulaski Crossing, PAI #: XI-1041, Master Plan Conflict

Other Business

4. Report from the June 14th, 2018 meeting of the Landmarks Preservation Commission
5. Recent County Council Legislation of Interest to the Board
   a. Bill 47-18 – Zoning Regulations – Manufacturing, Light (M.L.) Zone
   b. Bill 51-18 – Development – Vesting
   c. Res. 46-18 – Amending the Baltimore National Pike Commercial Revitalization District

105 West Chesapeake Avenue, Suite 101 | Towson, Maryland 21204 | Phone: 410-887-3211 | Fax: 410-887-5862
planning@baltimorecountymd.gov | www.baltimorecountymd.gov/planning

DONALD I. MOHLER III
County Executive

ANDREA VAN ARSDALE, *Director*
Department of Planning

PLANNING BOARD

July 5, 2018

The meeting of the Baltimore County Planning Board tentatively scheduled for July 5, 2018 has been **canceled**.

Andrea J. Van Arsdale

Andrea Van Arsdale
Secretary to the Board

AVA:jdd

105 West Chesapeake Avenue | Towson, Maryland 21204 | Phone 410-887-3211 | Fax 410-887-5862
planning@baltimorecountymd.gov | www.baltimorecountymd.gov/planning

Exhibit 4

Review of Article 4F* of Baltimore County Zoning Regulations Regarding Solar Facilities

A Staff Report of the Baltimore County Department of Planning
May 17, 2018

PROJECT DESCRIPTION

This report responds to County Council Bill 37-17 Section 2 directing the Baltimore County Planning Board in consultation and participation with others to study and evaluate the impact of solar facilities in Baltimore County and the effect of the Regulations adopted in Article 4F and to submit the recommendations to the County Council and the County Executive regarding potential changes to the current law. In 2017, the Baltimore County Council approved Bill 37-17, which permits a Solar Facility to be located in certain zones of the County by special exception; provides for certain requirements; provides for security; provides for maintenance, abandonment and removal of a facility; authorizes enforcement; and generally relating to Solar Facilities.

BACKGROUND

The County recognizes solar energy for many positive attributes and seeks to balance the benefits with the potential impact upon the County's land use policies (BCZR 4E101.1). The Maryland Renewable Energy Portfolio Standard set a goal of 2.5% of in-State power to be generated by solar power by 2020 (MD Office of Attorney General). There is a spectrum of solar facilities ranging from residential roof top to community solar to very large utility systems. Bill 37-17 permits limited accessory and commercial systems of a maximum of 2 megawatt (MW)** in size. The Baltimore County Master Plan 2020 recognizes the potential impact of new development on the character of the "countryside" and provides policies to protect those resources while permitting limited development (Baltimore County 2020 Master Plan, Adopted by Baltimore County Council November 15, 2010, Page 91).

STUDY METHODOLOGY

The Department of Planning with concurrence of the Department of Environmental Protection and Sustainability convened two stakeholder meetings to solicit input on the impact of the existing proposed projects and to receive recommendations for any changes that should be made to the regulations.

*The Solar Facilities Article was enacted as Article 4E, however, it was retitled as Article 4F. in the Baltimore County Zoning Regulations.

** Solar power production varies depending on many factors including sunshine, temperature and wind. 1 MW of Solar can power from 164 to 1000 homes depending on those conditions. According to the CEQ report (2016) 2 MW will produce enough energy to provide power to 150 to 200 "typical" homes in Maryland.

ist for additional wildlife/pollinator on the property that could also have a positive impact on the visual appearance of the facilities.

- **Dependency on BGE Community Solar Pilot Program**- Most of the proposed solar projects in the county are also applicants to the state's Community Solar Pilot program. Approval into the Community Solar program may be a significant or dependent factor in such projects becoming a reality, in addition to seeking county approval. Additionally, it was revealed that projects to be considered for years 2 & 3 of the Community Solar program must be submitted this year (June 2018), which could have implications on the timing and how many projects are proposed in the county in the coming years.

- **Unknown Transmission Capacity**- Available capacity in local transmission lines was noted to be a key factor in the viability of solar projects. There is limited information available to determine what areas have available capacities for solar projects, and capacity availability is usually unknown until an energy project applies for approval with BGE. Solar companies may apply for the maximum permitted megawatt output, but actual approval may grant less megawatt output than permitted based on system capacity.

- **Regional Allocation of Solar Facilities** - Carroll and Harford counties currently don't allow commercial solar facilities on their agricultural and rural zoned land, and Anne Arundel county currently has a moratorium on commercial solar projects, appearing that Baltimore County is receiving a disproportionate number of projects within the region.

- **Master Plan Guidance/Potential Conflicts**- *Master Plan 2020* does not give direction on a comprehensive strategy for renewable energy or its siting. While the Master Plan does speak about sustainable housing and efforts to make housing more energy efficient, there is no mention of a renewable energy policy in regards to solar energy. Meanwhile, agricultural land preservation is a dominant theme which is discussed throughout the master plan.

STAFF RECOMMENDATIONS

1. **Seek stakeholder input into developing goals for solar facilities in the County to be included in the 2030 Master Plan.** The goals should include use and development of solar facilities on new development and on existing commercial and industrial projects as well as the rural areas. The goal should take into consideration State and Federal goals.

2. **Maintain the limit of 10 projects per councilmanic district.** The number of projects in the 3rd is approaching the limit, however, the limitations may encourage development of solar facilities for commercial and industrial lands.
3. **Encourage the State to incentivize the development of solar on greyfields and brownfields.** Much like the State has incentivized the development of community solar projects which utilize greenfields, the State should incentivize the development of projects on greyfields and brownfields.
4. **Investigate whether some additional conditions are warranted to reduce the impact on farms.** There is the potential for the loss of a considerable amount of farms which previously had been protected from loss to other uses such as golf courses and development.
5. **Investigate if changes to the approval process could reduce the number of appeals.** The majority of projects that have received Special Exception approval have been appealed. Look at models such as the Tower Review Committee procedure or other processes that might result in more input and fewer appeals.
6. **Plan to review the law five years from date of its passage so as to review built projects, assess impacts, and make changes as warranted.**

Krysundra Cannington

From: barney Mowell <barneymowell@hotmail.com>
Sent: Friday, July 06, 2018 4:57 PM
To: Krysundra Cannington
Cc: Lawrence Schmidt; amrosenblatt@Venable.com; pamalone@venable.c; cdmudd@Venable.com; peter max zim; Kathleen Pieper; dryad101@hotmail.com
Subject: solar panel hearings

Ms. Cannington: I represent the Protestants in three solar hearings that are scheduled in July: 20450 Middletown Road on July 12th (case 17-108-X), 632 Freeland Road on July 24th (case 18-194-X) , and 19735 Graystone Road on July 31st (case 18-072-X). I am writing to advise that I will be filing a request to postpone these hearings, on Monday. The solar facilities legislation required the Planning Board to submit recommendations to the County Council regarding potential changes to the law by July 1st. The Planning Board has missed the July 1st deadline. The Board agreed to continue their discussion regarding changes to the law at a July 5th meeting, but that meeting was just canceled. The next meeting is scheduled for July 19th. My clients believe that there will be changes made to the law, and perhaps a moratorium, when the Planning Board makes its recommendations. The resources of the parties, and the Board, will be best spent by having these hearings held after those recommendations have been made, and that will be the basis for the postponement request. Barney Mowell

THE VALLEYS
PLANNING COUNCIL INC

The Valleys Planning Council – Position on Case number: 17-108
20450 Middletown Road

Resolved: That the position of the Valleys Planning Council (VPC) as adopted by the Executive Committee on the zoning matter known as: Middletown Road Special Exception Request for a Solar Facility is OPPOSED.

The VPC opposes the special exception request for an industrial solar facility at 20450 Middletown Road due to the negative impact on the agricultural industry in the immediate area as well as the entire north county. This property is designated in the Baltimore County Master Plan Land Management Areas map as being within the "Agricultural Priority Preservation Area (APPA)." A critical mass of agricultural land is needed to sustain this $300 million industry for the county, a goal that is supported by decades of public policy, regulation and investments. Prime and productive soils are extremely important to the ag industry and to ensure local food production now and in the future. According to soil maps available online from Baltimore County's My Neighborhood and the Natural Resource Conservation Service, the bulk of the project site is comprised of Class I, II, and III soils, which equate to prime and productive soils.

It makes no sense, and is inconsistent with the Baltimore County Master Plan and RC2 zoning regulations, to waste the most productive soils on a use that can be located almost anywhere in the county. Solar panels can be placed on rooftops, parking lots, contaminated lands, and lesser soils, but crops can only be grown on a finite supply of productive soil.

As stated in the legislative statement of findings for the RC 2 zone:

- *.... Baltimore County is fortunate in that it is endowed with a variety of very productive agricultural soil types which should not be lost unnecessarily to urbanized development;*
- *... the agricultural industry is an integral part of the Baltimore economy and that a continued conversion of agricultural land will continue to undermine this basic industry;*
- *... continued urban intrusion into productive agricultural areas not only destroys the specific area upon which the development occurs but is incompatible with the agricultural use of the surrounding area.*

The VPC believes the solar facility proposed for Middletown Road does not meet certain conditions contained in Section 502.1 of the Baltimore County Zoning Regulations:

- A. Because the facility utilizes prime and productive soils, it harms the ag industry in the general area and therefore is detrimental to the general welfare of the locality.
- G. Because the project utilizes prime and productive soils for a non-farm use, it is inconsistent with the purpose of the RC2 zone as well as the Master Plan designation of APPA.

118 W. Pennsylvania Avenue Towson, Maryland 21204
Mailing Address: P.O. Box 5402 Towson, Maryland 21285-5402
Phone: 410-337-6877 *Fax:* 410-296-5409

RECEIVED
JUL 6 2018
BALTIMORE COUNTY
BOARD OF APPEALS

We therefore recommend that the special exception request for a solar facility at 20450 Middletown Road be denied.

As witness our hands and seal this July 6, 2018.

Attest: Valleys Planning Council

John W. Beckley, Esq.
Secretary

Peter R. Fenwick
President

THE VALLEYS
PLANNING COUNCIL INC

RECEIVED
JUL 6 2018
BALTIMORE COUNTY
BOARD OF APPEALS

AFFIDAVIT

State of Maryland
Baltimore County

To Wit:

I hearby swear upon penalty of perjury that I am currently the executive director of The Valleys Planning Council and authorized to testify on behalf of the organization before the Baltimore County Board of Appeals in the matter of the Middletown Road Solar Facility request for a special exception.

As witness our hands and seal this 6th day of July 2018.

Teresa Moore
Teresa Moore, Executive Director
Valleys Planning Council

Attest:

John W. Beckley
Secretary, Valleys Planning Council

Peter R. Fenwick
President, Valleys Planning Council

118 W. Pennsylvania Avenue Towson, Maryland 21204
Mailing Address: P.O. Box 5402 Towson, Maryland 21285-5402
Phone: 410-337-6877 *Fax:* 410-296-5409

THE VALLEYS
PLANNING COUNCIL INC

Rule 8 Authorization

The Valleys Planning Council (VPC) is a non-profit, land use planning organization established in 1962. It oversees planning issues, policies, and regulations and supports conservation of natural, historic, and environmental assets. Its primary focus is on properties within its 130 square mile territory in the northeast quadrant of Baltimore County; however, it sometimes takes positions on projects or issues that affect a broader area or that would have implications within the VPC territory. The VPC is supported by approximately 500 member families.

RESOLVED: That at the May 8, 2018 annual meeting of the Valleys Planning Council, the responsibility for review and action on all zoning matters for the period May 8, 2018 – May 8, 2019 be placed in the Board of Directors and that the VPC executive director is authorized to testify on behalf of the organization before the County Board of Appeals or other duly constituted zoning agency, body, or commission.

Teresa Moore, Executive Director

As witness our hands and seal this July 6, 2018

Attest: Valleys Planning Council

John W. Beckley, Esq.
Secretary

Peter R. Fenwick
President

RECEIVED
JUL 6 2018
BALTIMORE COUNTY
BOARD OF APPEALS

118 W. Pennsylvania Avenue Towson, Maryland 21204
Mailing Address: P.O. Box 5402 Towson, Maryland 21285-5402
Phone: 410-337-6877 *Fax:* 410-296-5409

Office of Administrative Hearings
105 West Chesapeake Avenue, Room 103
Jefferson Building
Towson, Maryland 21204

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4-11-18
Correct on
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Hampstead, MD 21074

K.A. Pieper
4310 Beckleysville Road
~~Freeland, M~~

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KEVIN KAMENETZ
County Executive

LAWRENCE M. STAHL
Managing Administrative Law Judge
JOHN E. BEVERUNGEN
Administrative Law Judge

March 29, 2018

RECEIVED
MAR 29 2018
BALTIMORE COUNTY
BOARD OF APPEALS

Patricia A. Malone, Esq.
Christopher D. Mudd, Esq.
210 W. Pennsylvania Avenue, Suite 500
Towson, Maryland 21204

RE: **APPEAL TO BOARD OF APPEALS**
Case No. 2017-0108-X
Property: 20450 Middletown Road

Dear Counsel:

Please be advised that an appeal of the above-referenced case was filed in this Office on March 28, 2018. All materials relative to the case have been forwarded to the Baltimore County Board of Appeals ("Board").

If you are the person or party taking the appeal, you should notify other similarly interested parties or persons known to you of the appeal. If you are an attorney of record, it is your responsibility to notify your client.

If you have any questions concerning this matter, please do not hesitate to contact the Board at 410-887-3180.

Sincerely,

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:dlw
Enclosure

c: H. Barnes Mowell, Esq., H. Barnes Mowell, P.A., 16925 York Road, Monkton, MD 21111
Baltimore County Board of Appeals
People's Counsel

K.A. Pieper, 4310 Beckleysville Road, Freeland, MD 21053
Lois Bowman, 2709 Flintstone Road, Freeland, MD 21053
Richard Ryan, 2602 Flintstone Road, Freeland, MD 21053
Jeanne Schubert, 4204 Church Road, Millers, MD 21102
Slava Shener, 3012 Rockdale Road, Freeland, MD 21052
Jackie Brooks, 411 Buedel Court, Sparks, MD 21152
Teresa Moore, PO Box 5402, Towson, MD 21285
Renee Hamidi, PO Box 408, Monkton, MD 21111
Lynne Jones, 815 Stablers Church Road, Parkton, MD 21120
Patrick Kelley, 20458 Middletown Road, Freeland, MD 21053
Frances Fulton, 4300 Beckleysville Road, Hampstead, MD 21074
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Paul Hoecker, 3521 Baker Schoolhouse Road, Freeland, MD 21053
Robert Knudson, 18123 Schoolhouse Road, White Hall, MD 21161
Bruce Doak, 3801 Baker Schoolhouse Road, Freeland, MD 21053

APPEAL

Petition for Special Exception
(20450 Middletown Road)
6th Election District – 3rd Councilmanic District
Legal Owner: David William Matthews
Lessee: Bluefin Origination 2 LLC
Case No. 2018-0108-X

"Old" Petition for Special Hearing (October 17, 2016)

"Amended" Petition for Special Hearing (Not Dated)

Zoning Description of Property (October 14, 2016)

Certificate of Posting – None

Newspaper Advertisement – December 19, 2017 – The Jeffersonian

Notice of Zoning Hearing – November 22, 2017

People's Counsel Entry of Appearance – October 25, 2016

Zoning Advisory Committee Comments

Petitioner's Sign-in Sheets – 1 Sheet

Citizen's Sign-in Sheets- 1 Sheet

Petitioner(s) Exhibits –

1. Site Plan
2. Zoning Description
3. Sloan Resume
4. Webber CV
5. Martin CV
6. Photos
7. Photos
8. Landscape Plan
9. Letter from J. Hermann January 2, 2018

Protestant(s) Exhibits –

1. Photos of Damaged Solar Panels; Internet Printouts re: Same
2. Photos of Vicinity with Key Sheet
3. Map Showing Distance from Property to Prettyboy Reservoir
4. Map Showing Ponds, Streams and Springs on Property
5. Aerial Photo
6. Letter from Jocelyn Kelley dated January 9, 2018
7. Letter dated January 5, 2018 from North County Community Group w/Attachment

Miscellaneous (Not Marked as Exhibits)

Administrative Law Judge Order and Letter (GRANTED with Conditions – January 22, 2018)

Motion for Reconsideration from H. Barnes Mowell, Esq. – Received February 20, 2018

Correspondence from Christopher D. Mudd, Esq. – February 20, 2018 (Pursuant to Condition No. 7 in Opinion & Order – Redlined Site Plan showing a "special exception area" for proposed solar facility of no more than 13 acres

ALJ Order on Motion for Reconsideration – DENIED – March 1, 2018

Appeal Notice, Letter & Receipt received from H. Barnes Mowell, Esq. – March 28, 2018

KEVIN KAMENETZ
County Executive

LAWRENCE M. STAHL
Managing Administrative Law Judge
JOHN E. BEVERUNGEN
Administrative Law Judge

March 29, 2018

RECEIVED
MAR 29 2018
BALTIMORE COUNTY
BOARD OF APPEALS

Patricia A. Malone, Esq.
Christopher D. Mudd, Esq.
210 W. Pennsylvania Avenue, Suite 500
Towson, Maryland 21204

RECEIVED
APR 09 2018
OFFICE OF
ADMINISTRATIVE HEARINGS

RE: **APPEAL TO BOARD OF APPEALS**
Case No. 2017-0108-X
Property: 20450 Middletown Road

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If you have any questions concerning this matter, please do not hesitate to contact the Board at 410-887-3180.

Sincerely,

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:dlw
Enclosure

c: H. Barnes Mowell, Esq., H. Barnes Mowell, P.A., 16925 York Road, Monkton, MD 21111
Baltimore County Board of Appeals
People's Counsel

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KEVIN KAMENETZ
County Executive

LAWRENCE M. STAHL
Managing Administrative Law Judge
JOHN E. BEVERUNGEN
Administrative Law Judge

March 29, 2018

RECEIVED
MAR 29 2018
BALTIMORE COUNTY
BOARD OF APPEALS

Patricia A. Malone, Esq.
Christopher D. Mudd, Esq.
210 W. Pennsylvania Avenue, Suite 500
Towson, Maryland 21204

RE: **APPEAL TO BOARD OF APPEALS**
Case No. 2017-0108-X
Property: 20450 Middletown Road

Dear Counsel:

Please be advised that an appeal of the above-referenced case was filed in this Office on March 28, 2018. All materials relative to the case have been forwarded to the Baltimore County Board of Appeals ("Board").

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If you have any questions concerning this matter, please do not hesitate to contact the Board at 410-887-3180.

Sincerely,

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:dlw
Enclosure

c: H. Barnes Mowell, Esq., H. Barnes Mowell, P.A., 16925 York Road, Monkton, MD 21111
✓Baltimore County Board of Appeals
People's Counsel

K.A. Pieper, 4310 Beckleysville Road, Freeland, MD 21053
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H. BARNES MOWELL, P.A.
Attorney At Law
16925 York Road
Monkton, Maryland 21111
Phone: 410-329-6488 Fax: 410-357-4663
barneymowell@hotmail.com

March 27, 2018

Arnold Jablon, Director
Department of Permits, Approvals & Inspections
111 W. Chesapeake Avenue
Suite 205
Towson, Maryland 21204

via Hand-Delivery

Re: Notice of Appeal of OAH Decision
Case No: 2017-0108-X

Dear Mr. Jablon:

I have enclosed a Notice of Appeal of the Opinion and Order of the Office of Administrative Hearings in the captioned case, as well as my check for the $385 filing fee.

Should you have any questions, please contact me.

Very truly yours,

H. Barnes Mowell

cc: Baltimore County Board of Appeals
Office of Administrative Hearings

IN RE: PETITION FOR SPECIAL EXCEPTION (20450 Middletown Road) 6th Election District 3rd Council District David William Matthews *Legal Owner* Bluefin Origination 2 LLC *Lessee*	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY
Petitioners	*	CASE NO: 2017-0108-X

* * * * * * *

NOTICE OF APPEAL

Please enter my appearance as counsel on behalf of the Freeland Legacy Alliance, Inc., 20216 Middletown Road, Freeland, Maryland 21053, Richard and Rhonda Ryan, 2602 Flintstone Road, Freeland, Maryland 21053, Jeanne Bowman, 2709 Flintstone Road, Freeland, Maryland 21053, Scott Dykes, 2603 Flintstone Road, Freeland, Maryland 21053, Beverly and Salvatore Scavone, 20220 Middletown Road, Freeland, Maryland 21053, Theresa and Christopher Norton, 20222 Middletown Road, Freeland, Maryland 21053, Kathleen and Christopher Marciniak, 21321 Ridge Road, Freeland, Maryland 21053, Christine Pignateri, 20910 Middletown Road, Freeland, Maryland 21053, Laverne Poe, 1043 Freeland Road, Freeland, Maryland 21053, Diana Householder, 1151 Freeland Road, Freeland, Maryland 21053, Paul Hoeckel, 3521 Baker Schoolhouse Road, Freeland, Maryland 21053, Betty Lou Holmes, 506 Freeland Road, Freeland, Maryland 21053, Therese Sassler, 10 Twin Oaks Court, Freeland, Maryland 21053, Beverly Kram, 3315 Baker Schoolhouse Road, Freeland, Maryland 21053, Rhonda and William Rollins, 16724 Miller Lane, Parkton, Maryland 21120, Ed, Debra, Matthew, and Michael Myslinski, 6 Hedricks Court, Parkton, Maryland 21120, Lynne Jones, 815 Stablers Church Road, Parkton, Maryland 21120, Debbie Frank, 16724 Miller Lane, Parkton, Maryland 21120, Patricia Trump,

18631 York Road, Parkton, Maryland 21120, Kathleen Pieper, 4310 Beckleysville Road, Hampstead, Maryland 21074, Lisa Arthur, 19500 Burke Road, White Hall, Maryland 21161 and Robin Arrington, 21705 Gunpowder Road, Manchester, Maryland 21102.

Please note the appeal by the above-named entity and individuals to the Baltimore County Board of Appeals of the Opinion and Order entered in the captioned case by the Office of Administrative Hearings on January 22, 2018, and the Order denying the Motion to Reconsider that decision dated March 1, 2018.

H. Barnes Mowell, P.A.
16925 York Road
Monkton, Maryland 21111
410-329-6488
barneymowell@hotmail.com

Certificate of Service

I HEREBY CERTIFY that a copy of the foregoing was mailed this 28th day of March 2018 to Patricia A. Malone and Christopher D. Mudd, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204.

H. Barnes Mowell

H. BARNES MOWELL, P.A.
Attorney At Law
16925 York Road
Monkton, Maryland 21111
Phone: 410-329-6488 Fax: 410-357-4663
barneymowell@hotmail.com
March 27, 2018

Arnold Jablon, Director
Department of Permits, Approvals & Inspections
111 W. Chesapeake Avenue
Suite 205
Towson, Maryland 21204

via Hand-Delivery

Re: Notice of Appeal of OAH Decision
Case No: 2017-0108-X

Dear Mr. Jablon:

I have enclosed a Notice of Appeal of the Opinion and Order of the Office of Administrative Hearings in the captioned case, as well as my check for the $385 filing fee.

Should you have any questions, please contact me.

Very truly yours,

H. Barnes Mowell

RECEIVED
MAR 28 2018
BALTIMORE COUNTY
BOARD OF APPEALS

cc: Baltimore County Board of Appeals
Office of Administrative Hearings

KEVIN KAMENETZ
County Executive

LAWRENCE M. STAHL
Managing Administrative Law Judge
JOHN E. BEVERUNGEN
Administrative Law Judge

March 1 , 2018

Patricia A. Malone, Esq.
Christopher D. Mudd, Esq.
210 W. Pennsylvania Avenue, Suite 500
Towson, Maryland 21204

RE: **MOTION FOR RECONSIDERATION**
Case No. 2017-0108-X
Property: 20450 Middletown Road

Dear Counsel:

Enclosed please find a copy of the decision rendered in the above-captioned matter.

In the event any party finds the decision rendered is unfavorable, any party may file an appeal to the County Board of Appeals within thirty (30) days of the date of this Order. For further information on filing an appeal, please contact the Office of Administrative Hearings at 410-887-3868.

Sincerely,

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:sln
Enclosure

c: H. Barnes Mowell, Esq. 16925 York Road, Monkton, MD 21111

IN RE: PETITION FOR SPECIAL EXCEPTION (20450 Middletown Road) 6th Election District 3rd Council District David William Matthews *Legal Owner* Bluefin Origination 2 LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2017-0108-X

* * * * * * * * * * *

OPINION AND ORDER ON MOTION FOR RECONSIDERATION

Now pending is a Motion for Reconsideration filed on behalf of "Freeland Legacy Alliance." As an initial matter it is unclear whether the movant participated in the initial hearing, although that issue need not be decided at this juncture.

In any event, the motion seeks a modification of the order to require Petitioners to move the solar field away from dwellings on Middletown and Flintstone Roads. Petitioners were required in the original order to reduce the size of the solar facility and they satisfy the 50 ft. setback requirements in the B.C.Z.R. As such, this aspect of the motion will be denied.

The second aspect of the motion concerns landscaping, and in particular movant seeks a condition requiring a buffer to screen the facility from adjacent homes. As noted in the motion, a condition was included in the original order requiring Petitioners to submit for approval by Baltimore County a landscape plan for the site. Such plans are reviewed by a licensed landscape architect, who is well-aware of the requirements for landscaping set forth in the solar facility legislation and the Landscape Manual. I believe it would be inappropriate to hamstring his discretion and I trust the County's landscape architect will take into consideration the view sheds of adjoining neighbors.

ORDER RECEIVED FOR FILING
Date 9-28-18
By

THEREFORE, IT IS ORDERED this **1st** day of **March, 2018,** by this Administrative Law Judge, that the Motion for Reconsideration be and is hereby DENIED.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

ORDER RECEIVED FOR FILING
Date 2-28-18
By sln

H. BARNES MOWELL, P.A.
Attorney At Law
16925 York Road
Monkton, Maryland 21111
Phone: 410-329-6488 Fax: 410-357-4663
barneymowell@hotmail.com

RECEIVED
FEB 20 2018
OFFICE OF
ADMINISTRATIVE HEARINGS

February 19, 2018

Office of Administrative Hearings
105 W. Chesapeake Avenue
Suite 103
Towson, Maryland 21204

via Hand-Delivery

Re: Petition for Special Exception
Case No: 2017-0108-X
Property: 20450 Middletown Road

Ladies and Gentlemen:

I have enclosed, for filing, a Motion for Reconsideration of the Opinion and Order in this case dated January 22, 2018.

Should you have any questions, please contact me.

Very truly yours,

H. Barnes Mowell

cc: Patricia A. Malone and Christopher D. Mudd

RECEIVED
FEB 20 2018
OFFICE OF
ADMINISTRATIVE HEARINGS

RECEIVED
FEB 20 2018
OFFICE OF
ADMINISTRATIVE HEARINGS

IN RE: PETITION FOR SPECIAL EXCEPTION (20450 Middletown Road) 6th Election District 3rd Council District David William Matthews *Legal Owner* Bluefin Origination 2 LLC *Lessee*	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY
Petitioners	*	CASE NO: 2017-0108-X

* * * * * * *

MOTION FOR RECONSIDERATION

Please enter my appearance as counsel on behalf of the Freeland Legacy Alliance, 20216 Middletown Road, Freeland, Maryland 21053, Protestant, which submits the following Motion for Reconsideration of the Opinion and Order in this case, pursuant to Rule 4K of the Zoning Commissioner's Rules of Procedure. The Protestant raises two issues for reconsideration: the solar array should be moved away from the closest homes, and the Order should require a landscape buffer around the perimeter of any portion of the solar facility that is visible from an adjacent home.

Location of Solar Facility

The Petitioners proposed to use 18.73 acres of their property for a solar facility. The drawing submitted with their Petition, attached hereto as Exhibit 1, showed the panels being placed toward the northeast corner of the property. That configuration would place the panels close to two homes, which are outlined on Exhibit 1. The first property, at 20458 Middletown Road, is owned by Patrick and Jocelyn Kelley. The Kelleys appeared at the hearing, and Mrs. Kelly expressed her opposition to the Petitioners' request, particularly the view she would have from her home of the neighboring array of solar panels. The second property, at 2603 Flintstone Road, is owned by Scott Dykes. He, too, appeared at the hearing in opposition to the Petition.

The Opinion and Order granted the Petitioners' request for a Special Exception, but reduced the size of the solar facility to 13 acres. The Order directed the Petitioners to submit a new drawing, within 30 days, showing how their smaller facility would be situated on the property. In effect, 5.3 acres are to be shaved from the solar array shown on their original drawing. The best use of those 5.3 acres would be to increase the distance between the field of solar panels and the homes at 20458 Middletown Road and 2603 Flintstone Road. As noted in their comments regarding this case, the Department of Planning wanted to insure that the "facility will not be detrimental to the adjacent residential properties". Moving the solar field away from the closest homes will help to allay concerns about the safety of the panels, which were expressed by many at the hearing. The reconfigured solar field should be moved to the south and west on the Petitioners' property, with the 5.3 acres gained in the downsizing invested in a buffer that benefits the two homes described above.

Landscape Buffer

Baltimore County's Solar Facilities statute, at BCZR 4F-104.6, states that

A landscaping buffer shall be provided around the perimeter of any portion of a solar facility that is visible from an adjacent, residentially used property or a public street. Screening of state and local scenic routes and scenic views is required in accordance with the Baltimore County Landscape Manual.

While the Opinion and Order, in condition #2, requires screening and vegetation along the scenic route, there is no mention of screening for the adjacent residential properties. Because the statute mandates both types of screening, condition #2 should be revised to add the requirement of a landscaping buffer to screen any portion of the solar facility that is visible from an adjacent residentially used property.

For the foregoing reasons, the Protestant respectfully requests that the Opinion and Order be revised to require the Petitioners to place the solar facility as far from 20458 Middletown

Road and 2603 Flintstone Road as possible, and to require a landscaping buffer around the perimeter of any portion of the solar facility that is visible from an adjacent, residentially used property.

Respectfully submitted;

H. Barnes Mowell, P.A.
16925 York Road
Monkton, Maryland 21111
410-329-6488
barneymowell@hotmail.com

Certificate of Service

I HEREBY CERTIFY that a copy of the foregoing was mailed this 19th day of February 2018 to Patricia A. Malone and Christopher D. Mudd, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204.

H. Barnes Mowell

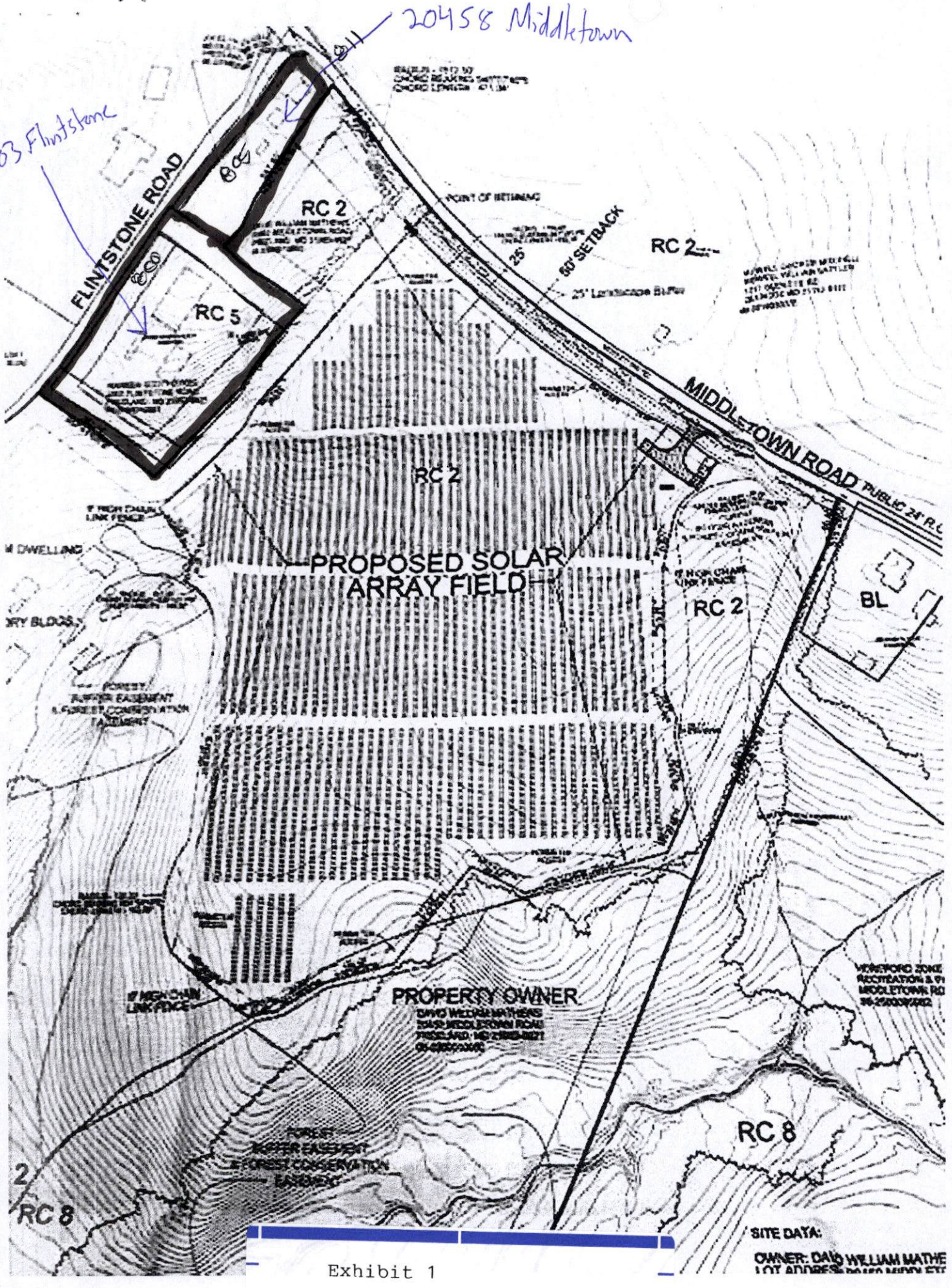
20458 Middletown
2603 Flintstone
FLINTSTONE ROAD
RC 2
RC 5
POINT OF BEGINNING
25'
60' SETBACK
25' Landscape Buffer
RC 2
MIDDLETOWN ROAD PUBLIC 24' R/
RC 2
PROPOSED SOLAR ARRAY FIELD
RC 2
BL
6' HIGH CHAIN LINK FENCE
DWELLING
FOREST BUFFER EASEMENT & FOREST CONSERVATION EASEMENT
PROPERTY OWNER
DAVID WILLIAM MATHERS
6' HIGH CHAIN LINK FENCE
RC 8
FOREST BUFFER EASEMENT & FOREST CONSERVATION EASEMENT
RC 8
SITE DATA:
OWNER: DAVID WILLIAM MATHE

Exhibit 1

KEVIN KAMENETZ
County Executive

LAWRENCE M. STAHL
Managing Administrative Law Judge
JOHN E. BEVERUNGEN
Administrative Law Judge

January 22, 2017

Patricia A. Malone, Esq.
Christopher D. Mudd, Esq.
210 W. Pennsylvania Avenue, Suite 500
Towson, Maryland 21204

RE: Petition for Special Exception
Case No. 2017-0108-X
Property: 20450 Middletown Road

Dear Counsel:

Enclosed please find a copy of the decision rendered in the above-captioned matter.

In the event any party finds the decision rendered is unfavorable, any party may file an appeal to the County Board of Appeals within thirty (30) days of the date of this Order. For further information on filing an appeal, please contact the Office of Administrative Hearings at 410-887-3868.

Sincerely,

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:sln
Enclosure

c: K.A. Pieper, 4310 Beckleysville Road, Freeland, MD 21053
Lois Bowman, 2709 Flintstone Road, Freeland, MD 21053
Richard Ryan, 2602 Flintstone Road, Freeland, MD 21053
Jeanne Schubert, 4204 Church Road, Millers, MD 21102
Slava Shener, 3012 Rockdale Road, Freeland, MD 21052

Jackie Brooks, 411 Buedel Court, Sparks, MD 21152
Teresa Moore, PO Box 5402, Towson, MD 21285
Renee Hamidi, PO Box 408, Monkton, MD 21111
Lynne Jones, 815 Stablers Church Road, Parkton, MD 21120
Patrick Kelley, 20458 Middletown Road, Freeland, MD 21053
Frances Fulton, 4300 Beckleysville Road, Hampstead, MD 21074
Wanda Lehman, 19701 Gunpowder Road, Millers, MD 21102
Rebecca Harris, 3135 Cotter Road, Millers, MD 21102
Scott (Warren) Dykes, 2603 Flintstone Road, Freeland, MD 21053
Paul Hoecker, 3521 Baker Schoolhouse Road, Freeland, MD 21053
Robert Knudson, 18123 Schoolhouse Road, White Hall, MD 21161
Bruce Doak, 3801 Baker Schoolhouse Road, Freeland, MD 21053

IN RE: PETITION FOR SPECIAL EXCEPTION (20450 Middletown Road) 6th Election District 3rd Council District David William Matthews *Legal Owner* Bluefin Origination 2 LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2017-0108-X

* * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings ("OAH") for consideration of a Petition for Special Exception filed on behalf of David William Matthews, legal owner and Bluefin Origination 2, LLC, lessee ("Petitioners"). The Petition for Special Exception pursuant to Section 4E-102 of the Baltimore County Zoning Regulations ("B.C.Z.R.") seeks approval to operate a solar facility at the subject property.

Jeffrey S. Webber and Parker Sloan with Cypress Creek Renewables, Tim Dertebaugh, Brian Conlon, and David L. Martin, L.A. with Martin & Phillips Design Associates, Inc., the firm that prepared the site plan, appeared in support of the petition. Christopher D. Mudd, Esq. and Patricia A. Malone, Esq. represented the Petitioners. Numerous citizens attended the hearing to express opposition to the request. Substantive Zoning Advisory Committee ("ZAC") comments were received from the Department of Planning ("DOP") and the Bureau of Development Plans Review ("DPR"). Neither agency opposed the requests.

The subject property is approximately 70.979 acres and is split-zoned RC-2, RC-4, RC-5 and RC-8. The property is on Middletown Road, which is designated as a scenic route. The property was previously a farm, although with the exception of a small area there are no farming activities at the property presently. Petitioners propose to utilize 18.73 acres of the tract for a solar

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Date 1/22/18
By DEN

facility. Petitioners would install between 8,500 to 9,000 solar panels, which would generate approximately 1.9 Mw of AC electricity.

The Lessee's zoning manager, Parker Sloane, testified his company is one of the largest solar providers in the United States, with projects in 12 states. Mr. Sloane testified the panels will be approximately 9 to 10 ft. in height and will rotate throughout the day to face the sun, although he noted the movement would be imperceptible. Like other solar proposals in Baltimore County, this facility would be unmanned and the operator will perform routine inspections 1 to 2 times per year.

Mr. Sloan stated the company had an alert system that would provide immediate notification of any problem or malfunction at the site. The witness testified his company used an "industry standard tool" and determined that there will be no concern with glare from the panels. Mr. Sloane indicated that only the inverter would generate noise, which he likened to a hair dryer. But given its location on the site he stated no noise at all would be heard from outside the property boundaries. In response to questions on cross-examination, Mr. Sloane testified Cypress Creek has completed over 200 projects since 2006, and that based on reports of appraisers hired by the company they have determined solar facilities do not have an adverse impact upon property values.

Many of the citizens had questions concerning the safety of the panels, and to address these issues the Petitioners presented testimony from Jeff Webber, an engineer employed by Cypress Creek. Mr. Webber, who was accepted as an expert, described the different types of silicon used in solar panels, and the attributes of each. He testified silicon is not a hazardous material and that the modules and the racks in which they are located are made of sand, aluminum, copper wire and steel. Mr. Webber stated only the transformer could "leak", and that if that occurred only mineral oil would be discharged. He said there was only an "extremely small risk" such a leak would

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Date 1/22/18
By

occur, and he said the hardwired monitoring system would alert the company immediately if that happened.

With regard to safety, Mr. Webber testified if the electric grid went down, the solar facility would immediately shut down. The witness stated the inverter would shut off within 2 seconds in such a scenario, and that while the panels would continue to function there would not be a current of electricity flowing and there would be no danger of electrocution. In response to questions on cross examination, Mr. Webber conceded economics drives how a facility is designed. He said while it might be possible (i.e., through use of higher efficiency panels) to generate 1.9Mw of electricity on less than 18 acres, the company would incur higher costs in doing so, which would make the project less profitable and/or economically unfeasible.

The final witness was David Martin, a registered landscape architect accepted as an expert. Mr. Martin prepared both the site plan (Exhibit 1) and the schematic landscape plan (Exhibit 8) for the project. He described the project and reviewed each of the requirements of B.C.Z.R. Article 4E, which he stated Petitioners satisfied. Mr. Martin opined the use proposed was "benign," and he testified Petitioners satisfied all requirements for a special exception. He also indicated that in connection with an earlier zoning case (No. 2000-0342-SPH) involving this property--which permitted the construction of a dwelling on an undersized parcel--environmental buffers were provided to Baltimore County to protect the water and forest resources on the site.

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court

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Date 1/22/18
By

again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Mr. Martin opined Petitioners satisfied the requirements of B.C.Z.R. § 502.1 and applicable case law, which under *Attar* and similar cases established a *prima facie* case entitling them to the special exception. While the neighbors expressed many valid concerns with the facility, the issues they identified are inherent in the operation of a solar facility. As such, I do not believe that testimony can rebut the presumption provided by Maryland law that special exception uses are in the public interest.

Having said that, I believe the community raised one issue in particular which warrants further discussion; i.e., the size of the special exception area. The law states that the "maximum area permitted for a single solar facility is the amount of acreage that produces no more than two megawatts . . . of electricity." B.C.Z.R. §102.A.1. Based on Mr. Webber's testimony, there appear to be numerous variables involved in determining the appropriate size and design of a solar facility. As the witness noted, economics is certainly an important consideration. These facilities are operated by for-profit ventures, and Petitioners are entitled to maximize the return they receive on their land and investments.

But in this scenario, they must do so in keeping with the above-quoted provision. Similar solar facilities have been approved in several recent cases. What follows is the case number, special exception area and electricity generated:

2018-0047 (9 acres; 2Mw)
2018-0052 (6.4 acres; 1Mw)
2018-0072 (6 acres; 840Kw)
2018-0078 (9.8 acres; 2Mw)
2018-0095 (16 acres; 2Mw)

ORDER RECEIVED FOR FILING
Date 1/22/18
By

While the community opposed the request in each of the above cases (with the exception of No. 2018-0095, which was unopposed), this is the first case in which the acreage issue was squarely presented. Each of the petitioners in the above cases was (like the Lessee here) a for-profit entity, which means it is safe to assume the projects proposed were economically viable. I certainly understand there are a variety of factors which inform the design and layout of a solar facility, but based on the foregoing I believe a 13 acre special exception area would be sufficient to allow for the production of 2Mw of electricity, and such a restriction will be included below.

THEREFORE, IT IS ORDERED this 22nd day of **January, 2018,** by this Administrative Law Judge, that the Petition for Special Exception pursuant to Section 4E-102 of the Baltimore County Zoning Regulations ("B.C.Z.R.") for a Solar Facility, be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must submit for approval by Baltimore County a landscape plan for the site demonstrating, among other things, appropriate screening and vegetation is provided along the scenic route, as required by the Landscape Manual.

3. Petitioners shall install a fence of sufficient height surrounding the solar panels which will, per the electric code, prevent the need for a barbed wire fence enclosure.

4. No weed killers or herbicides shall be used to control weed or grass growth at the facility.

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Date 1/22/18
By

5. Prior to issuance of permits, Petitioners must satisfy the environmental regulations set forth in Article 33 of the Baltimore County Code, pertaining to the protection of water quality, streams, wetlands and floodplains.

6. No trees shall be removed from the special exception area shown on the site plan in connection with the construction and/or operation of the solar facility.

7. Petitioners shall within 30 days of the date hereof submit to the OAH a redlined site plan showing a "special exception area" for the solar facility no larger than thirteen (13) acres.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

ORDER RECEIVED FOR FILING
Date 1/22/18
By sln

Amended PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

address 20450 Middletown Road **which is presently zoned** RC-2, RC-4, RC-5, RC-8

Deed Reference 33873 / 119 10 Digit Tax Account # 2 3 0 0 0 1 0 0 5 0

Property Owner(s) Printed Name(s) David William Mathews

CASE NUMBER 2017-0108-X **Filing Date** 10/17/2016 **Estimated Posting Date** __/__/____ **Reviewer** LW

(SELECT THE HEARING(S) BY MARKING X AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1.____ **a Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve

2. X **a Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for

See Attachment No. 1

3.____ **a Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons: **(Indicate below your hardship or practical difficulty or indicate below "To Be Presented At Hearing". If you need additional space, you may add an attachment to this petition)**

To be presented at the hearing.

Property is to be posted and advertised as prescribed by the zoning regulations.
I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.
Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

See Attachment No. 2
Name- Type or Print

Signature

Mailing Address City State

Zip Code Telephone # Email Address

ORDER RECEIVED FOR FILING
Date 1/22/18
By ASN

Legal Owners:

See Attachment No. 3
Name #1 – Type or Print / Name #2 – Type or Print

Signature #1 / Signature # 2

Mailing Address City State

Zip Code Telephone # Email Address

Attorney for Petitioner:

Patricia A. Malone
Name- Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

Representative to be contacted:

Patricia A. Malone
Name – Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

REV. 2/23/11

ATTACHMENT No. 1 TO PETITION FOR SPECIAL EXCEPTION

Petition for Special Exception, pursuant to Section 4E-102 of the Baltimore County Zoning Regulations, for a solar facility.

ATTACHMENT No. 2 TO PETITION FOR SPECIAL EXCEPTION

Contract Lessee:

Bluefin Origination 2, LLC
3250 Ocean Park Boulevard, Suite 355
Santa Monica, California 90405

Signature: Geoff Fallon
Name: Geoff Fallon
Title: Authorized Person
Phone: 828-367-9035
Email: parker.sloan@ccrenew.com

ATTACHMENT No. 3 TO PETITION FOR SPECIAL EXCEPTION

Legal Owner:

David William Mathews
1410 Wiseburg, Road
White Hall, Maryland 21161

Signature: [signature]
Phone: 443-928-7324
Email: bevanddave05@yahoo.com

MARTIN & PHILLIPS

DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
222 BOSLEY AVENUE, SUITE B1, TOWSON, MARYLAND 21204

ZONING DESCRIPTION

October 14, 2016

20450 Middletown Road
Freeland, MD 21053-9621

Beginning for the description of a 18.64 acre tract being a part of Parcel 0069 Tax Map 06, Baltimore County at a point at the centerline intersections of Middletown Road 24' wide and Flintstone Road 50' wide thence S 30° 38' 19" E 423.63' feet more or less to a point of beginning at the northwestern most corner of the subject Special Exception area and to a point on a curve running parallel to Middletown Road having a:

1) Radius of 1755.60' with a chord bearing of S 47° 29' 37"E, and a length of 316.34' thence
2) S 54° 46' 59"E, 28.95' thence
3) S 32° 49' 43"W, 61.36', to a point on a curve having a radius of 99.82' and a chord bearing of S 37° 28' 07"W, and a length of 80.83' thence to a line bearing
4) S 13° 35' 13"W, and a length of 91.82', thence
5) S 03° 07' 02"W, 215.51', thence
6) S 20° 22' 19" E 46.65', thence
7) S 10° 55' 43"W, 26.17', thence
8) S 05° 56' 55"E, 112.93', thence
9) S 25° 45' 24"W, 81.26', thence
10) S 74° 07' 58"W, 200.14', thence
11) N 63° 42' 20"W, 89.55', thence
12) S 39° 42' 30"W, 177.52', thence
13) S 76° 08' 24"W, 104.52', thence
14) S 61° 36' 19"W, 81.53', thence
15) S 80 59' 07"W, 41.40', thence
16) N 55° 36' 49"W, 155.96', to a point on curve having a radius of 126.32' and a chord bearing of N 04° 54' 16"E, 163.58', thence
17) N 03° 36' 33"E, 305.92', to a point on curve having a radius of 151.05 and a chord bearing of N28° 13' 11"W thence
18) N11° 16' 41"E, 46.16' thence
19) N 32° 59' 36"W, 113.05', thence
20) N 41° 42' 37"E, 669.63', back to the point of beginning

Containing 811,958.4Square Feet or 18.64 Acres of Land more or less.

STATE OF MARYLAND
LLOYD MARTIN
LANDSCAPE ARCHITECT

The above bearings are based on the Maryland State Coordinate System (NAD83/91).
NOTE: THE ABOVE DESCRIPTION IS FOR ZONING PURPOSES ONLY AND IS NOT TO BE USED FOR CONTRACTS, CONVEYANCES OR AGREEMENTS.

TELEPHONE: 410.321.8444, TOLL FREE: 866.395.8595
FAX: 410.321.1175

MARTIN & PHILLIPS

DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
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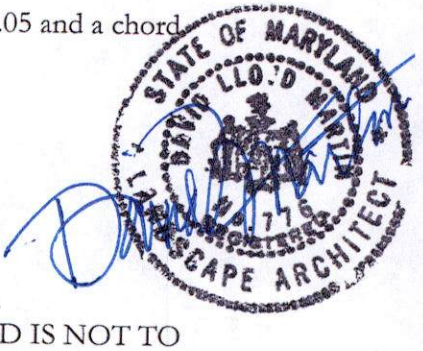

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TELEPHONE: 410.321.8444, TOLL FREE: 866.395.8595
FAX: 410.321.1175

CASE NO. 2018-0108-X

CHECKLIST

Comment Received	Department	Support/Oppose/ Conditions/ Comments/ No Comment
11/9 & 11/18	DEVELOPMENT PLANS REVIEW (if not received, date e-mail sent _____)	Comment
10/26	DEPS (if not received, date e-mail sent _____)	No Comment
_____	FIRE DEPARTMENT	~~no objection w/ conditions~~
12/4	PLANNING (if not received, date e-mail sent _____)	
10/24	STATE HIGHWAY ADMINISTRATION	No Objection
_____	TRAFFIC ENGINEERING	_____
_____	COMMUNITY ASSOCIATION	_____
_____	ADJACENT PROPERTY OWNERS	_____

ZONING VIOLATION (Case No. _____)

PRIOR ZONING (Case No. _____)

NEWSPAPER ADVERTISEMENT Date: 12/19/17

SIGN POSTING Date: _____ by _____

PEOPLE'S COUNSEL APPEARANCE Yes ☒ No ☐

PEOPLE'S COUNSEL COMMENT LETTER Yes ☐ No ☐

Comments, if any: _____

THE BALTIMORE SUN MEDIA GROUP

501 N. Calvert St., P.O. Box 1377
Baltimore, Maryland 21278-0001
tel: 410/332-6000
800/829-8000

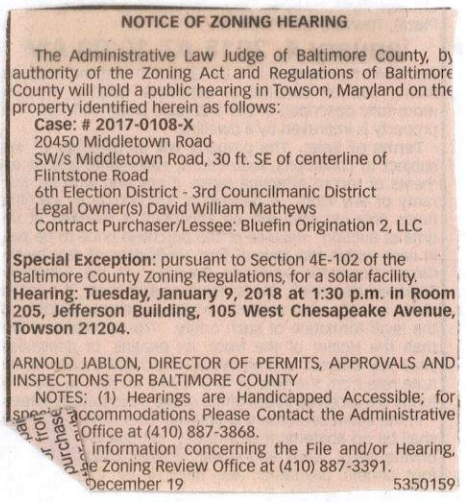
WE HEREBY CERTIFY, that the annexed advertisement of Order No 5350159

Sold To:
VENABLE LLP - CU00174151
210 W Pennsylvania Ave Ste 500
TOWSON,MD 21204-5304

Bill To:
VENABLE LLP - CU00174151
210 W Pennsylvania Ave Ste 500
TOWSON,MD 21204-5304

Was published in "Jeffersonian", "Bi-Weekly", a newspaper printed and published in Baltimore County on the following dates:

Dec 19, 2017



NOTICE OF ZONING HEARING

The Administrative Law Judge of Baltimore County, by authority of the Zoning Act and Regulations of Baltimore County will hold a public hearing in Towson, Maryland on the property identified herein as follows:

Case: # 2017-0108-X
20450 Middletown Road
SW/s Middletown Road, 30 ft. SE of centerline of Flintstone Road
6th Election District - 3rd Councilmanic District
Legal Owner(s) David William Mathews
Contract Purchaser/Lessee: Bluefin Origination 2, LLC

Special Exception: pursuant to Section 4E-102 of the Baltimore County Zoning Regulations, for a solar facility.
Hearing: Tuesday, January 9, 2018 at 1:30 p.m. in Room 205, Jefferson Building, 105 West Chesapeake Avenue, Towson 21204.

ARNOLD JABLON, DIRECTOR OF PERMITS, APPROVALS AND INSPECTIONS FOR BALTIMORE COUNTY

NOTES: (1) Hearings are Handicapped Accessible; for special accommodations Please Contact the Administrative Office at (410) 887-3868.
(2) For information concerning the File and/or Hearing, Contact the Zoning Review Office at (410) 887-3391.

December 19 5350159

The Baltimore Sun Media Group

By S. Wilkinson

Legal Advertising

KEVIN KAMENETZ
County Executive

ARNOLD JABLON
Deputy Administrative Officer
Director, Department of Permits,
Approvals & Inspections

November 22, 2017

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Arnold Jablon
Director

AJ:kl

C: Patricia Malone, 210 W. Pennsylvania Avenue, Ste. 500, Towson 21204
Geoff Fallon, 3250 Ocean Park Blvd., Ste. 355, Santa Monica, CA 90405
David Mathews, 1410 Wiseburg Road, White Hall 21161

NOTES: (1) **THE PETITIONER MUST HAVE THE ZONING NOTICE SIGN POSTED BY AN APPROVED POSTER ON THE PROPERTY BY WED., DECEMBER 20, 2017.**
(2) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMMODATIONS PLEASE CALL THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3868.
(3) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.

TO: PATUXENT PUBLISHING COMPANY
Tuesday, December 19, 2017 Issue - Jeffersonian

Please forward billing to:
Barbara Lukasevich 410-494-6200
Venable, LLP
210 W. Pennsylvania Avenue, Ste. 500
Towson, MD 21204

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Arnold Jablon
Director of Permits, Approvals and Inspections for Baltimore County

NOTES: (1) HEARINGS ARE HANDICAPPED ACCESSIBLE; FOR SPECIAL ACCOMODATIONS, PLEASE CONTACT THE ADMINISTRATIVE HEARINGS OFFICE AT 410-887-3868.
(2) FOR INFORMATION CONCERNING THE FILE AND/OR HEARING, CONTACT THE ZONING REVIEW OFFICE AT 410-887-3391.

RE:	PETITION FOR SPECIAL EXCEPTION 20450 Middletown Road; SW/S Middletown Road, 30' SE Flintstone Road 6th Election & 3rd Councilmanic Districts Legal Owner(s): David William Matthews Contract Purchaser(s): Bluefin Solar LLC Petitioner(s)	*	BEFORE THE OFFICE OF ADMINSTRATIVE HEARINGS FOR BALTIMORE COUNTY 2017-108-X

* * * * * * * * * * * * *

ENTRY OF APPEARANCE

Pursuant to Baltimore County Charter § 524.1, please enter the appearance of People's Counsel for Baltimore County as an interested party in the above-captioned matter. Notice should be sent of any hearing dates or other proceedings in this matter and the passage of any preliminary or final Order. All parties should copy People's Counsel on all correspondence sent and all documentation filed in the case.

Peter Max Zimmerman

PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

RECEIVED
OCT 25 2016

Carole S Demilio

CAROLE S. DEMILIO
Deputy People's Counsel
Jefferson Building, Room 204
105 West Chesapeake Avenue
Towson, MD 21204
(410) 887-2188

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 25th day of October, 2016, a copy of the foregoing Entry of Appearance was mailed to Patricia Malone, Esquire, 210 W. Pennsylvania Avenue, Suite 500, Towson, Maryland 21204, Attorney for Petitioner(s).

Peter Max Zimmerman

PETER MAX ZIMMERMAN
People's Counsel for Baltimore County

KEVIN KAMENETZ
County Executive

ARNOLD JABLON
Deputy Administrative Officer
Director,Department of Permits,
Approvals & Inspections

January 3, 2018

David William Matthews
1410 Wiseberg Road
White Hall MD 21161

RE: Case Number: 2018-0108 X, Address: 20450 Middletown Road

Dear Mr. Matthews:

The above referenced petition was accepted for processing **ONLY** by the Bureau of Zoning Review, Department of Permits, Approvals, and Inspection (PAI) on October 17, 2017. This letter is not an approval, but only a **NOTIFICATION.**

The Zoning Advisory Committee (ZAC), which consists of representatives from several approval agencies, has reviewed the plans that were submitted with your petition. All comments submitted thus far from the members of the ZAC are attached. These comments are not intended to indicate the appropriateness of the zoning action requested, but to ensure that all parties (zoning commissioner, attorney, petitioner, etc.) are made aware of plans or problems with regard to the proposed improvements that may have a bearing on this case. All comments will be placed in the permanent case file.

If you need further information or have any questions, please do not hesitate to contact the commenting agency.

Very truly yours,

W. Carl Richards, Jr.
Supervisor, Zoning Review

WCR: jaw

Enclosures

c: People's Counsel
Bluefin Origination 2, LLC, Geoff Fallon, 3250 Ocean Park Boulevard, Suite 355, Santa Monica California 90405
Patricia A Malone, Esquire, 210 W Pennsylvania Avenue, suite 500, Towson MD 21204

Larry Hogan, *Governor*
Boyd K. Rutherford, *Lt. Governor*

State Highway Administration
Maryland Department of Transportation

Pete K. Rahn, *Secretary*
Gregory C. Johnson, P.E., *Administrator*

Date: 10/24/16

Ms. Kristen Lewis
Baltimore County Office of
Permits and Development Management
County Office Building, Room 109
Towson, Maryland 21204

Dear Ms. Lewis:

Thank you for the opportunity to review your referral request on the subject of the Case number referenced below. We have determined that the subject property does not access a State roadway and is not affected by any State Highway Administration projects. Therefore, based upon available information this office has no objection to Baltimore County Zoning Advisory Committee approval of Case No. 2017-0108-X
Special Exception
David William Matthews
20450 Middletown Road.

Should you have any questions regarding this matter, please contact Mr. Richard Zeller at 410-229-2332 or 1-866-998-0367 (in Maryland only) extension 2332, or by email at (rzeller@sha.state.md.us).

Sincerely,

for Wendy Wolcott, PLA
Acting Metropolitan District Engineer – District 4
Baltimore & Harford Counties

WW/RAZ

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Larry Hogan
Governor
Boyd K. Rutherford
Lt. Governor
Pete K. Rahn
Secretary
Gregory Slater
Administrator

Date: 10/16/17

Ms. Kristen Lewis
Baltimore County Office of
Permits and Development Management
County Office Building, Room 109
Towson, Maryland 21204

Dear Ms. Lewis:

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Should you have any questions regarding this matter, please contact Mr. Richard Zeller at 410-229-2332 or 1-866-998-0367 (in Maryland only) extension 2332, or by email at (rzeller@sha.state.md.us).

Sincerely,

Wendy Wolcott, P.L.A.
Metropolitan District Engineer
Maryland Department of Transportation
State Highway Administration
District 4 - Baltimore and Harford Counties

WW/RAZ

1-9-18

BALTIMORE COUNTY, MARYLAND
INTER-OFFICE MEMORANDUM

TO: Arnold Jablon
Deputy Administrative Officer and
Director of Permits, Approvals and Inspections

DATE: 11/28/2017

FROM: Andrea Van Arsdale
Director, Department of Planning

RECEIVED
DEC 04 2017
OFFICE OF
ADMINISTRATIVE HEARINGS

SUBJECT: **ZONING ADVISORY COMMITTEE COMMENTS**
Case Number: 17-108 (amended)

INFORMATION:

Property Address:	20450 Middletown Road
Petitioner:	David William Matthews
Zoning:	RC 2, RC 4, RC 8
Requested Action:	Special Exception

The Department of Planning has reviewed the amended petition for a special exception to use the property for a solar facility.

A site visit was conducted on October 26, 2017.

The Department has no objection to granting the petitioned zoning relief conditioned upon the following:

The property is visible from Middletown Road which is a Baltimore County Scenic Route. When developing on a scenic route, the Comprehensive Manual of Development Policies (CMDP) development guidelines instructs one to *"maintain a buffer between the road and the new development"* (CMDP pg. 180).

- The proposal shall minimize grading, tree and vegetation removal along Middletown Rd.
- Any landscape plan submitted to Baltimore County for review and approval shall supplement the existing vegetative screening along Middletown Road. The Department will not support a suburban like, regimented single species planting. The plantings will have a naturalistic arrangement approaching an "enclosed view" as defined in the CMDP with a count and proximity that will not allow an observer from the scenic route to have a sustained view of the solar facility.
- A minimum 50' wide vegetative screen shall be installed along the perimeter of the special exception area adjacent to the properties at 20416, 20450 Middletown Road and 2603 Flintstone Road. Said screening shall be a mix of native deciduous, evergreen and flowering trees with understory shrubs arranged in a natural fashion.
- The Department supports the Baltimore County Landscape Architect in any additional planting requirements.

Additional conditions are as follows:

- Pursuant to BCZR §502.1.A, petitioners shall demonstrate to the satisfaction of the Administrative Law Judge that the facility will not be detrimental to the adjacent residential properties as a result of glare emanating from the facility.

- The plan submitted in support of the petition does not indicate the finished height of the solar panels. Pursuant to BCZR 4E-104.5, the photovoltaic arrays may not exceed 20 feet in height without variance relief. Petitioners shall amend the plan to show a typical array structure detail at no more than 20 feet above the natural finished grade.
- Petitioners shall note on the plan that the proposed solar facility will produce not more than 2 megawatts of alternating current.
- Petitioners shall note on the plan that the proposed solar facility will be subject to BCZR §4E-107.
- Petitioners shall certify by note on the plan that the proposed solar facility will not exceed the maximum permitted number of facilities allowed in its respective councilmanic district. If approved, Petitioners shall submit to this Department at the time of building permit application the final fixed location and area of the facility by coordinate data so that an inventory may be kept.
- Lighting shall be limited to what is required for security purposes only and will be sited in such a way as to have minimal spillage onto neighboring properties.
- Signage shall be limited to that which is necessary for safety and security purposes.
- No deliveries or outdoor maintenance which may generate excessive noise may occur on-site between the hours of 6 P.M. through 6 A.M.

Be advised that the site is within an Agricultural Priority Preservation Area as designated in the Baltimore County Master Plan 2020 (MP2020). Said plan warns that *"incremental development continues to threaten the protection of resources and the viability of the agricultural industry."* (MP2020 pg.92). The Department recommends that the future viability of commercial agricultural in Baltimore County be weighed when considering this special exception proposal within the context of 502.1.G.

For further information concerning the matters stated herein, please contact Joseph Wiley at 410-887-3480.

Prepared by:

Lloyd T. Moxley

Deputy Director:

Jeff Mayhew

AVA/KS/LTM/ka

c: Joseph Wiley
James Hermann, R.L.A., Department of Permits, Approvals and Inspections
Patricia A. Malone, Esquire
Office of the Administrative Hearings
People's Counsel for Baltimore County

BALTIMORE COUNTY, MARYLAND
INTER-OFFICE MEMORANDUM

TO: Arnold Jablon
Deputy Administrative Officer and
Director of Permits, Approvals and Inspections

DATE: 11/28/2017

FROM: Andrea Van Arsdale
Director, Department of Planning

SUBJECT: **ZONING ADVISORY COMMITTEE COMMENTS**
Case Number: 17-108 (amended)

INFORMATION:

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Petitioner:	David William Matthews
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- Signage shall be limited to that which is necessary for safety and security purposes.
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Be advised that the site is within an Agricultural Priority Preservation Area as designated in the Baltimore County Master Plan 2020 (MP2020). Said plan warns that *"incremental development continues to threaten the protection of resources and the viability of the agricultural industry."* (MP2020 pg.92). The Department recommends that the future viability of commercial agricultural in Baltimore County be weighed when considering this special exception proposal within the context of 502.1.G.

For further information concerning the matters stated herein, please contact Joseph Wiley at 410-887-3480.

Prepared by:

Lloyd T. Moxley

Deputy Director:

Jeff Mayhew

AVA/KS/LTM/ka

c: Joseph Wiley
James Hermann, R.L.A., Department of Permits, Approvals and Inspections
Patricia A. Malone, Esquire
Office of the Administrative Hearings
People's Counsel for Baltimore County

BALTIMORE COUNTY, MARYLAND

INTEROFFICE CORRESPONDENCE

TO: Arnold Jablon, Director
Department of Permits, Approvals
And Inspections

DATE: November 9, 2016

FROM: Dennis A. Kennedy, Supervisor
Bureau of Development Plans Review

SUBJECT: Zoning Advisory Committee Meeting
For October 31, 2016
Item No. 2017-0108

The Bureau of Development Plans Review has reviewed the subject zoning Items and we have the following comments.

If granted, a Landscape Plan will be required per requirements of the Landscape Manual and the CMDP.

Specific:

1. Middletown Road is a Baltimore County Scenic Route.
2. Perimeter landscape buffers are required.
3. Additional strip landscape buffers are required to address existing topography changes (56+/- feet of vertical change over approximately 1,200 feet).
4. Must minimize tree and vegetation removal.
5. Additional landscape buffers may be required depending on the subject property's topography, Scenic Views, Scenic Routes, etc.
6. Solar panels are considered a utility and should be designed and located to harmonize with the surroundings and to create the least visual impact.
7. More comments may be rendered during review of the Landscape Plan.

* * * * *

DAK:CEN
Cc:file
ZAC-ITEM NO 17-0108-10312016.doc

BALTIMORE COUNTY, MARYLAND

INTEROFFICE CORRESPONDENCE

TO: Arnold Jablon, Director
Department of Permits, Approvals
And Inspections

DATE: October 23, 2017

FROM: Vishnu Desai, Supervisor
Bureau of Development Plans Review

SUBJECT: Zoning Advisory Committee Meeting
For October 26, 2017
Item No. 2017-0108-X

The Bureau of Development Plans Review has reviewed the subject zoning Items and we have the following comments.

A Flood Plain Study of the property must be submitted with verification of the flood plain boundary. Once the flood plain boundary has been established, the Building Code requirements for riverine flood plain and the Department of Public Works Design Manual Plate DF-1 requirements should be observed.

The access to the site shall be built according to Baltimore County Std. Detail R-32A, Rural Commercial Entry.

If Special Exception is granted, a landscape plan is required per the requirements of the Landscape Manual, Bill No. 37-17 and the CMDP. Specific landscape comments:

1. Middletown Road is a Baltimore County Scenic Route,
2. Perimeter landscape buffers required along Middletown Road may need to be set back from the existing overhead power lines to allow the diversity of screen plant materials to mature and not be effected by standard vegetation maintenance typically associated with existing overhead power line,
3. Perimeter landscape buffers are required,
4. Must minimize tree and vegetation removal,
5. Additional landscape buffers may be required depending on the subject properties topography, Scenic Views, Scenic Routes, etc.,
6. Solar panels are considered a utility and should be designed and located to harmonize with the surroundings and to create the least visual impact,
7. Additional strip landscape buffers may be required to address existing topography changes. The plan that was circulated and dated 9-28-17 were insufficient with respect to showing a number of the existing site conditions including existing adjacent property information i.e. topo, contour labels, existing vegetation, overhead powerlines, driveways etc.,
8. More comments may be rendered during review of the landscape plan,

9. Proposed perimeter fence shall be black vinyl-coated chain-link fence,
10. No landscape plan was submitted for review,
11. Additional site plan information is needed.

* * * * *

VKD: efc
cc: file

BALTIMORE COUNTY, MARYLAND

Inter-Office Correspondence

TO: Hon. Lawrence M. Stahl; Managing Administrative Law Judge
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and Sustainability (EPS) - Development Coordination

DATE: October 26, 2016

SUBJECT: DEPS Comment for Zoning Item # 2017-0108-X
Address 20450 Middletown Road
(Matthews Property)

Zoning Advisory Committee Meeting of **October 31, 2016**

X The Department of Environmental Protection and Sustainability has no comment on the above-referenced zoning item.

Reviewer: Steve Ford Date: 10-26-2016

BALTIMORE COUNTY, MARYLAND

INTER OFFICE CORRESPONDENCE

TO: Arnold Jablon,
Deputy Administrative Officer and
Director, Department of Permits, Approvals and Inspections

ATTN: Kristen Lewis
MS 1105

FROM: Steven A. Walsh, Director
Department of Public Works

DATE: November 18, 2016

SUBJECT: Case No: 2017-0108-X
20450 Middletown Road, Freeland, Maryland 21053-9621

The subject case is to determine whether or not the Administrative Law Judge should approve a Special Exception to use the herein described property for a solar array field as a public utility use.

During the review of this property the Department of Public Works has found that there is a riverine flood plain on the property that may impact the proposed development.

A flood plain study of the property must be submitted for verification of the flood plain boundary. Once the flood plain boundary has been established, the Building Code requirements for riverine flood plain and the Department of Public Works Design Manual Plate DF-1 requirements should be observed.

SAW/TWC/s

CC: Dennis Kennedy, Chief, Development Plans Review and Building Plan Review
Peter M. Zimmerman, People's Council

PLEASE PRINT CLEARLY

CASE NAME _____
CASE NUMBER 2017-0108-X
DATE Jan. 9, 2018

PETITIONER'S SIGN-IN SHEET

NAME	ADDRESS	CITY, STATE, ZIP	E - MAIL
Patricia A. Malone	210 W. Penn. Ave Suite 500	Towson MD 21204	pamalone@venable.com
Christopher D. Madd	"	"	cdmudd@venable.com
Tim Dertsbaugh	4723 16th Street N, ~~Arlington, VA~~	Arlington, VA 22205	tim.dertsbaugh@gmail.com
Jeff Webber	2919 Magnolia St, ~~Oakland, CA~~	Oakland, CA 94608	webber@ccrenew.com
DAVID MARTIN	222 BOSLEY AVE. STE B-1	TOWSON, MD 21204	dmartin@martinandphillips.com
Brian Conlon	1818 Market Street, Suite 3300	Philadelphia, PA 19103	BCONLON@LANGAN.COM
Parker Sloan	130 Roberts Street	Asheville/NC 28801	parker.sloan@gmail.com

PLEASE PRINT CLEARLY

CASE NAME
CASE NUMBER 2017-0108
DATE 1-9-2018

CITIZEN'S SIGN - IN SHEET

NAME	ADDRESS	CITY, STATE, ZIP	E - MAIL
SA SCAVONE	MIDDLETOWN LODGE	FREELAND 21053-3629	
✓ KA. PIEPER	4310 BECKLEYSVILLE RD	HAMPSTEAD 21074	KNOTGARDEN57@COMCAST.NE
M. PETRUCCI	REBH MILL RD	HAMPSTEAD MD 21074	countryart@peoplepc.com
✓ Lois Bowman	2709 Flintstone Rd	Freeland M 21053	LJoannaBowmans
✓ RICHARD RYAN	2602 FLINTSTONE RD.	FREELAND MD 21053	R.RYAN40@VERIZON.NET
✓ JENNIE SCHUBERT	4204 CHURCH RD	MILLERS. MD 21102	minischu72@msn.com
Elana Shearer	3012 Rockdale Rd	Freeland MD 21053	
Jackie Brooks	411 Buedel Court	Sparks MD 21152	jaccortibrooks@aol.com
SOCPE Representative	P.O. BOX 936	Sparks MD 21152	
✓ Teresa Moore	PO Box 5402	Towson 21285	~~tm~~ teresa@theupc.org
✓ Renee Hamidi	PO Box 408	Monkton 21111	reneehamidi@gmail.com
✓ LYNNE JONES	815 STABLERS CHURCH RD	PARKTON 21120	dryad101@hotmail.com
Patrick Kelley	20458 Middletown Rd	Freeland, MD 21053	pckelley@loyola.edu
✓ Frances Fulton	4300 Beckleysville Rd	Hampstead MD 21074	dr.frances.fulton@gmail.com
✓ WANDA LEHMAN	19701 Gunpowder Rd.	Millers MD 21102	WANDA.LEHMAN@gmail.com
REBECCA HARRIS	3135 Cofer Rd	MILLERS MD 21102	rharris1313@mac.com
Jocelyn Kelley	20458 Middletown Rd	Freeland MD 21053	Jzakelley@loyola.edu
Scott (Warren) Dykes	Flintstone Rd	Freeland MD 21053	
PAUL HOECKEL	3521 BAKER SCHOOLHOUSE RD	" " "	pfhoeckel@yahoo.com
Robert Knudsen	18123 School House Rd	Whitehall MD 21161	Knudsen714@gmail.com
BRUCE DOAL	3801 BAKER SCHOOLHOUSE ROAD	FREELAND MD 21053	DOALFARM@GMAIL.COM

John E. Beverungen

From: Lisa Arthur <lisaarthur19500@hotmail.com>
Sent: Tuesday, January 09, 2018 8:43 AM
To: John E. Beverungen
Cc: Lynne Jones; Kathie; Mom
Subject: Case #2017-0108-XX (Middletown Rd Solar Facility)

William C. & Nancy Collins
19205 Middletown Rd
Parkton, MD 21120
410-357-0832

January 9, 2018

The Honorable Judge John E. Beverungen
Administrative Law Judge
The Jefferson Building
105 West Chesapeake Avenue, Suite 103
Towson, MD 212204

Re: Case #2017-0108-XX (Middletown Rd Solar Facility)

Dear Honorable Judge Beverungen:

We are writing in opposition of the special exception for the Solar Facility on Middletown Road.

Although we support renewable energy projects, we just don't think a Solar Facility that is being leased in a rural area and isn't helping to provide energy to the agricultural operation of the farm is a good thing and it is in direct conflict with the County's preservation efforts.

Baltimore County has spent millions of taxpayer dollars to preserve rural land and introducing a large commercial ground mounted Solar Facility produces a new electrical hazard to us all! Local volunteer fire departments have not been involved with any of these plans, so what happens when things go wrong? Truth be told, the electrical hazard is why the facility is required to be enclosed by an unsightly barred wired fence, thus reducing the Solar Company's liability!

This Solar Facility will be visible from the road and it simply is not a good fit for the community! For this reason and for all the other reasons presented to you today from our community, we respectfully request that the zoning variance for Middletown Road be DENIED as the proposed solar facility is not a good fit for the Parkton community.

Sincerely,

Charlie & Nancy Collins

John E. Beverungen

From: Nora Connell <noraconnell1@mac.com>
Sent: Monday, January 08, 2018 2:03 PM
To: John E. Beverungen
Subject: solar farm

Dear Judge Beverungen, due to hearing loss I will not be attending the hearing tomorrow afternoon re the proposed solar farm on Middletown Road in Freeland Maryland. However I do have a few concerns. First I don't agree with the zoning exceptions that have been proposed in this area whether for churches or businesses because they do not benefit the people who live here and defeat the whole purpose of zoning. Secondly, I fear that once the wedge has be created and an exception has been made to change the agricultural zoning, then other uses will be permitted if the solar farm closes for whatever reason. Also, if approved, there should be guaranteed mitigation in the form of plans blocking the view from surrounding homes and the road. And finally, I hope that there is some way to guarantee funds to remove the structures and recover any environmental damage once the "farm" is no longer operating. Thank you, I hope concerns of the people in the community are more influential than those of outside businesses. Nora Connell, Freeland, Maryland

Sparks-Glencoe Community
Planning Council
P.O. Box 937, Sparks, MD 21152

January 8, 2018

The Honorable John E. Beverungen
Administrative Law Judge
The Jefferson Building
105 West Chesapeake Avenue, Suite 103
Towson, Maryland 21204

Re: Case No. 2017-0108-X
20450 Middletown Road
3rd Councilmanic District
Legal Owner: David William Matthews
Contract Purchaser/Lessee: Bluefin Origination 2, LLC
Hearing Date: January 9, 2018

Dear Judge Beverungen:

The Sparks-Glencoe Community Planning Council (SGCPC) is submitting yet one more letter regarding a request for a special exception for a commercial solar facility in the Third Councilmanic District. This is at least the third such special exception hearing in this District in the past two months. It is frustrating because we cautioned the County Council that the solar bill would primarily impact this District, and we specifically raised the possibility of a Third District land rush. We now see it happening in real time.

Our general opposition continues. These facilities remove land from both agriculture and preservation; drive up the cost of leased agricultural land; diminish the property values of for contiguous landholders; and impair the viewshed. We note that even the Department of Planning is beginning to understand the growing problem for agriculture that this development represents. Though not objecting to this project, the final paragraph of its memorandum refers to the Master Plan's warning of "incremental development" as a threat to the agricultural industry. The letter expressly encourages the question of continued viability of commercial agriculture be included in the calculation of any special exception petition. In this regard, and as stated above, there is a dramatically unequal and unfair distribution of these facilities in the Third District which is the District with the vast majority of agricultural land in Baltimore County.

In the event that the special exception is granted, we have several specific concerns. First, we request that the contract lessee purchase an irrevocable bond in an adequate amount to pay for removal of the facility and remediation of the land once the useful life of the facility has expired. This is not presently a requirement, only a condition that can be imposed as part of the special exception. We do not believe the property owners understand that regardless of the contract that is signed, the promise by an LLC to address remediation is only as good as the continued existence and financial wellbeing of the contracting LLC. Once the LLC is gone, the costs fall to the lessor or its successors (though it is doubtful that any rational individual will want to buy land that is encumbered with a solar facility). It is even possible that the cost will be passed on to the taxpayers.

Second, the SGCPC is concerned about the impact on neighboring landowners. The prospect of diminished land values for the surrounding area is real. It is certainly foreseeable that the viewshed of the larger resource conservation area will also be significantly impaired. It is for that reason any special exception must include significant natural buffers which not only protect the view from the adjoining roadways, the adjacent property owners, and also the wider vista. It is our suggestion that the landowner and his lessees be required to install buffers which are designed in accordance with the directives of the Baltimore County landscape architect. It would also be useful and appropriate to provide for input from the immediately impacted property owners whose own land values are at issue.

Third, there is an issue related to this special exception which makes it quite different from the preceding ones. If we read the request correctly, it appears to be for a facility on some 20 acres. This is over twice as large as necessary for the 2 megawatt limitation on such facilities. If the request is for **two** separate facilities with each facility being 10 acres, then it should be divided into two separate applications and then two separate petitions for special exception. Our understanding from BG&E, is that it has a limited number of projects that it is permitted to approve on a statewide and countywide basis. Thus, collapsing two projects into one could be an effort to circumvent limitations created by the Maryland legislature and the Public Service Commission. Further, all of the problems identified above with commercial development are, in effect, doubled: there is more land removed from production or preservation; there is more disruption to the viewshed; there are more impacted neighbors with diminished property values, and so on. Though the Planning Department memorandum refers to the 2 megawatt limitation, it does not seem to address the fact that this is a request for a 20 acre facility. It may be useful to request an updated letter which specifically speaks to the size of this proposed project.

We have many concerns about the rapid advance of commercial solar facilities in conservation areas without studying the consequences. It is primarily for that reason that SGCPC opposes these special exceptions. If, however, the special exception is granted, there must obviously be many limitations designed to protect the public in general, and the citizens of the Third District in particular. We sincerely request that the limitations and concerns outlined in this letter be among those incorporated into any such grant.

Thank you for your patience and consideration in this matter.

Sincerely,

Lynne Jones, President

Cc: Patricia Malone, Esquire
pamalone@venable.com

David W. Matthews
bevanddave05@yahoo.com

PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

Address 20450 Middletown Road, Freeland, MD 21053 **which is presently zoned** RC-2, RC-4, RC-8

Deed References: 33873/119 10 Digit Tax Account # 2 3 0 0 0 1 0 0 5 0

Property Owner(s) Printed Name(s) David William Matthews

(SELECT THE HEARING(S) BY MARKING X AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1. ____ **a Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve

2. __X__ **a Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for A solar panel array field as a public utility use, pursuant to Sections 1A01.2.C.18, 1A03.3.B.13, and 1A09.3.B.2 of the Baltimore County Zoning Regulations.

3. ____ **a Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons: **(Indicate below your hardship or practical difficulty or indicate below "TO BE PRESENTED AT HEARING". If you need additional space, you may add an attachment to this petition)**

TO BE PRESENTED AT HEARING

Property is to be posted and advertised as prescribed by the zoning regulations.
I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.
Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

SEE ATTACHED SHEET

Name- Type or Print

Signature

Mailing Address City State

Zip Code / Telephone # / Email Address

Legal Owners (Petitioners):

David William Matthews /

Name #1 – Type or Print Name #2 – Type or Print

Signature #1 Signature # 2

20450 Middletown Road, Freeland, MD

Mailing Address City State

21053 / / bevanddave05@yahoo.com

Zip Code Telephone # Email Address

Attorney for Petitioner:

Patricia A. Malone, Esq.

Name- Type or Print

Signature

210 W. Pennsylvania Avenue, Suite 500, Towson, MD

Mailing Address City State

21204 / (410) 494-6200 / pamalone@venable.com

Zip Code Telephone # Email Address

Representative to be contacted:

Patricia A. Malone, Esq.

Name- Type or Print

Signature

210 W. Pennsylvania Avenue, Suite 500, Towson, MD

Mailing Address City State

21204 / (410) 494-6200 / pamalone@venable.com

Zip Code Telephone # Email Address

CASE NUMBER 2017-0108-X **Filing Date** 10/17/2016 **Do Not Schedule Dates:** _____ **Reviewer** TW

REV. 10/4/11

ATTACHMENT TO PETITION FOR SPECIAL EXCEPTION

20450 Middletown Road

Contract Lessee:

Bluefin Solar, LLC
5818 Tudor Lane
Bethesda, MD 20852
Telephone: (757) 646-0200

By: _____ 10/13/16
Name: Tim Dertzbaugh
Title: Managing Partner

Z017-0108-X

DEPARTMENT OF PERMITS, APPROVALS AND INSPECTIONS
ZONING REVIEW OFFICE

ADVERTISING REQUIREMENTS AND PROCEDURES FOR ZONING HEARINGS

The Baltimore County Zoning Regulations (BCZR) require that notice be given to the general public/neighboring property owners relative to property which is the subject of an upcoming zoning hearing. For those petitions which require a public hearing, this notice is accomplished by posting a sign on the property (responsibility of the legal owner/petitioner) and placement of a notice in a newspaper of general circulation in the County, both at least twenty (20) days before the hearing.

Zoning Review will ensure that the legal requirements for advertising are satisfied. However, the legal owner/petitioner is responsible for the costs associated with these requirements. The newspaper will bill the person listed below for the advertising. This advertising is due upon receipt and should be remitted directly to the newspaper.

OPINIONS MAY NOT BE ISSUED UNTIL ALL ADVERTISING COSTS ARE PAID.

For Newspaper Advertising:

Case Number: 2017-0108-X

Property Address: 20450 Middletown Road, Freeland, MD 21053

Property Description: (See attached)

Legal Owners (Petitioners): David William Matthews

Contract Purchaser/Lessee: BlueFin Solar, LLC

PLEASE FORWARD ADVERTISING BILL TO:

Name: Barbara Lukaswich

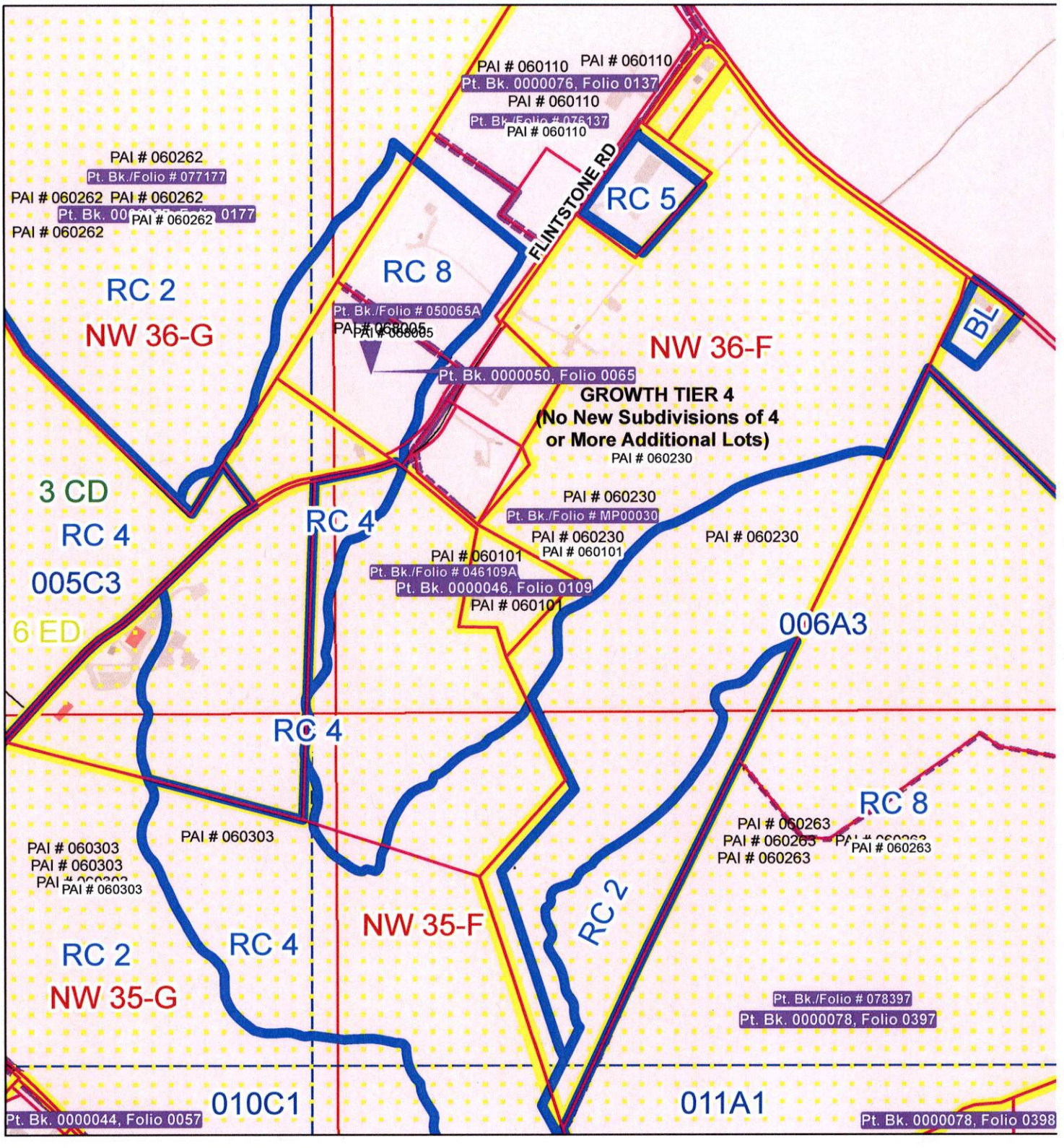
Company/Firm (if applicable): Venable LLP

Address: 210 W. Pennsylvania Ave.
Suite 500
Towson, MD 21204

Telephone Number: (410) 494-6200

Revised 7/9/2015

20450 Middletown Road 2017-0108-X



Publication Date: 10/17/2016

Publication Agency: Permits, Approvals & Inspections
Projection/Datum: Maryland State Plane,
FIPS 1900, NAD 1983/91 HARN, US Foot

N
W E
S

0 140280 560 840 1,120 Fe

1 inch = 500 feet

Real Property Data Search

Search Result for BALTIMORE COUNTY

View Map	View GroundRent Redemption	View GroundRent Registration

Account Identifier: **District** - 06 **Account Number** - 2300010050

Owner Information

Owner Name:	MATTHEWS DAVID WILLIAM	**Use:**	AGRICULTURAL
		Principal Residence:	NO
Mailing Address:	20450 MIDDLETOWN RD FREELAND MD 21053-9621	**Deed Reference:**	/33873/ 00119

Location & Structure Information

Premises Address:	20450 MIDDLETOWN RD FREELAND 21053-9621	**Legal Description:**	70.979 AC 20450 MIDDLETOWN RD SWS 120 FT SE FLINTSTONE RD

Map:	Grid:	Parcel:	Sub District:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:	MS
0006	0019	0069		0000			1	2017	Plat Ref:	

Special Tax Areas:		**Town:**	NONE
		Ad Valorem:	
		Tax Class:	

Primary Structure Built	Above Grade Living Area	Finished Basement Area	Property Land Area	County Use
1881	1,468 SF		70.9800 AC	05

Stories	Basement	Type	Exterior	Full/Half Bath	Garage	Last Major Renovation
2	YES	STANDARD UNIT	STUCCO	1 full/ 1 half	1 Carport	

Value Information

	Base Value	Value As of 01/01/2017	Phase-in Assessments As of 07/01/2017	As of 07/01/2018
Land:	102,500	102,500		
Improvements	109,900	118,400		
Total:	212,400	220,900	215,233	218,067
Preferential Land:	17,000			17,000

Transfer Information

Seller: MATHEWS DENNIS L	**Date:** 06/28/2013	**Price:** $0
Type: NON-ARMS LENGTH OTHER	**Deed1:** /33873/ 00119	**Deed2:**
Seller: MATHEWS DENNIS L	**Date:** 12/21/2012	**Price:** $0
Type: NON-ARMS LENGTH OTHER	**Deed1:** /32962/ 00456	**Deed2:**
Seller: MATHEWS WILLIAM H	**Date:** 10/22/2012	**Price:** $0
Type: NON-ARMS LENGTH OTHER	**Deed1:** /32702/ 00256	**Deed2:**

Exemption Information

Partial Exempt Assessments:	Class	07/01/2017	07/01/2018
County:	000	0.00	
State:	000	0.00	
Municipal:	000	0.00|0.00	0.00|0.00

Tax Exempt:		**Special Tax Recapture:**	
Exempt Class:		AGRICULTURAL TRANSFER TAX	

Homestead Application Information

Homestead Application Status: No Application

VENABLE® LLP

210 W. PENNSYLVANIA AVENUE SUITE 500 TOWSON, MD 21204
T 410.494.6200 F 410.821.0147 www.Venable.com

Christopher D. Mudd

t 410.494.6365
f 410.821.0147

VIA HAND DELIVERY

February 20, 2018

RECEIVED
FEB 20 2018
OFFICE OF
ADMINISTRATIVE HEARINGS

The Honorable John E. Beverungen
Office of Administrative Hearings
105 W. Chesapeake Avenue
Towson, Maryland 21204

Re: **In re: Petition for Special Exception**
Case No. 2017-108-X
Address: 20450 Middletown Road

Dear Judge Beverungen:

Pursuant to Condition No. 7 in your January 22, 2018 Opinion and Order in the above-captioned case, enclosed for filing and your review is a redlined site plan showing a "special exception area" for the proposed solar facility of no more than 13 acres.

Thank you for your time and continued attention to this matter.

Very truly yours,

Christopher D. Mudd

CDM:ant

Amended

PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

address 20450 Middletown Road **which is presently zoned** RC-2, RC-4, RC-5, RC-8

Deed Reference 33873 / 119 10 Digit Tax Account # 2 3 0 0 0 1 0 0 5 0

Property Owner(s) Printed Name(s) David William Mathews

CASE NUMBER 2017-0108-X **Filing Date** 10/17/2016 **Estimated Posting Date** __/__/____ **Reviewer** LW

(SELECT THE HEARING(S) BY MARKING X AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1.____ **a Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve

2. X **a Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for

See Attachment No. 1

3.____ **a Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons: **(Indicate below your hardship or practical difficulty or indicate below "To Be Presented At Hearing". If you need additional space, you may add an attachment to this petition)**

To be presented at the hearing.

Property is to be posted and advertised as prescribed by the zoning regulations.
I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.
Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

ORDER RECEIVED FOR FILING
Date 1/22/18
By Ken

Contract Purchaser/Lessee:

See Attachment No. 2
Name- Type or Print

Signature

Mailing Address City State

Zip Code Telephone # Email Address

Legal Owners:

See Attachment No. 3
Name #1 – Type or Print Name #2 – Type or Print

Signature #1 Signature # 2

Mailing Address City State

Zip Code Telephone # Email Address

Attorney for Petitioner:

Patricia A. Malone
Name- Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

Representative to be contacted:

Patricia A. Malone
Name – Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

REV. 2/23/11

ATTACHMENT No. 1 TO PETITION FOR SPECIAL EXCEPTION

Petition for Special Exception, pursuant to Section 4E-102 of the Baltimore County Zoning Regulations, for a solar facility.

ATTACHMENT No. 2 TO PETITION FOR SPECIAL EXCEPTION

Contract Lessee:

Bluefin Origination 2, LLC
3250 Ocean Park Boulevard, Suite 355
Santa Monica, California 90405

Signature: Geoff Fallon
Name: Geoff Fallon
Title: Authorized Person
Phone: 828-367-9035
Email: parker.sloan@ccrenew.com

ATTACHMENT No. 3 TO PETITION FOR SPECIAL EXCEPTION

Legal Owner:

David William Mathews
1410 Wiseburg, Road
White Hall, Maryland 21161

Signature: [signature]
Phone: 443-928-7324
Email: bevanddave05@yahoo.com

MARTIN & PHILLIPS

DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
222 BOSLEY AVENUE, SUITE B1, TOWSON, MARYLAND 21204

ZONING DESCRIPTION

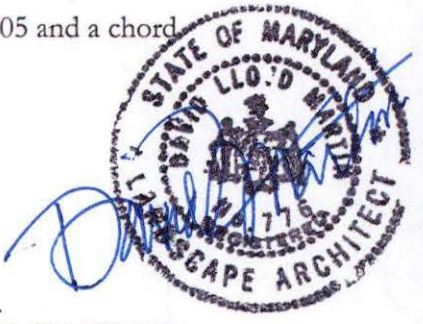
October 14, 2016

20450 Middletown Road
Freeland, MD 21053-9621

Beginning for the description of a 18.64 acre tract being a part of Parcel 0069 Tax Map 06, Baltimore County at a point at the centerline intersections of Middletown Road 24' wide and Flintstone Road 50' wide thence S 30° 38' 19" E 423.63' feet more or less to a point of beginning at the northwestern most corner of the subject Special Exception area and to a point on a curve running parallel to Middletown Road having a:

1) Radius of 1755.60' with a chord bearing of S 47° 29' 37"E, and a length of 316.34' thence
2) S 54° 46' 59"E, 28.95' thence
3) S 32° 49' 43"W, 61.36', to a point on a curve having a radius of 99.82' and a chord bearing of S 37° 28' 07"W, and a length of 80.83' thence to a line bearing
4) S 13° 35' 13"W, and a length of 91.82', thence
5) S 03° 07' 02"W, 215.51', thence
6) S 20° 22' 19" E 46.65', thence
7) S 10° 55' 43"W, 26.17', thence
8) S 05° 56' 55"E, 112.93', thence
9) S 25° 45' 24"W, 81.26', thence
10) S 74° 07' 58"W, 200.14', thence
11) N 63° 42' 20"W, 89.55', thence
12) S 39° 42' 30"W, 177.52', thence
13) S 76° 08' 24"W, 104.52', thence
14) S 61° 36' 19"W, 81.53', thence
15) S 80 59' 07"W, 41.40', thence
16) N 55° 36' 49"W, 155.96', to a point on curve having a radius of 126.32' and a chord bearing of N 04° 54' 16"E, 163.58', thence
17) N 03° 36' 33"E, 305.92', to a point on curve having a radius of 151.05 and a chord bearing of N28° 13' 11"W thence
18) N11° 16' 41"E, 46.16' thence
19) N 32° 59' 36"W, 113.05', thence
20) N 41° 42' 37"E, 669.63', back to the point of beginning

Containing 811,958.4Square Feet or 18.64 Acres of Land more or less.



The above bearings are based on the Maryland State Coordinate System (NAD83/91).
NOTE: THE ABOVE DESCRIPTION IS FOR ZONING PURPOSES ONLY AND IS NOT TO BE USED FOR CONTRACTS, CONVEYANCES OR AGREEMENTS.

TELEPHONE: 410.321.8444, TOLL FREE: 866.395.8595
FAX: 410.321.1175

MARTIN & PHILLIPS

DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
222 BOSLEY AVENUE, SUITE B1, TOWSON, MARYLAND 21204

ZONING DESCRIPTION

Revised February 14, 2018

Bluefin Origination 2, LLC
20450 Middletown Road
Freeland, MD 21053-9621

Beginning for the description of a 12.99 acre tract identified as the "Special Exception" area, being a part of Parcel 0069 Tax Map 06, Baltimore County at a point at the centerline intersections of Middletown Road 24' wide and Flintstone Road 50' wide thence S 29° 24' 47" E 485.75' feet more or less to a point of beginning at the northwestern most corner of the subject Special Exception area thence

1) S 49° 00' 33" E, 229.70' thence
2) S 54° 29' 42" E, 288.46' thence
3) N 35° 15' 55" E, 69.66' thence
4) S 54° 44' 05" E, 80.00' thence
5) S 35° 15' 55" W, 80.68' thence
6) S 54° 46' 59" E, 23.83' thence
7) S 35° 30' 18" W, 45.55' thence
8) N 54° 29' 42" W, 24.48' thence
9) S 35° 30' 18" W, 58.82' thence
10) S 14° 03' 32" W, 67.09', thence
11) S 32° 57' 33" W, 584.33' thence
12) S 90° 00' 00" W, 169.64', thence
13) N 66° 20' 20" W, 247.79', thence
14) N 00° 00' 00" E, 306.75', thence
15) N 25° 25' 44"W, 75.34', thence
16) N 00° 00' 00" E, 160.32', thence
17) N 40° 54' 04" E, 558.73', thence

back to the point of beginning

Containing 565,689.83 Square Feet or 12.9864 Acres of Land more or less.

The above bearings are based on the Maryland State Coordinate System (NAD83/91).
NOTE: THE ABOVE DESCRIPTION IS FOR ZONING PURPOSES ONLY AND IS NOT TO BE USED FOR CONTRACTS, CONVEYANCES OR AGREEMENTS.

TELEPHONE: 410.321.8444, TOLL FREE: 866.395.8595
FAX: 410.321.1175

MARTIN & PHILLIPS

DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
222 BOSLEY AVENUE, SUITE B1, TOWSON, MARYLAND 21204

ZONING DESCRIPTION

October 14, 2016

20450 Middletown Road
Freeland, MD 21053-9621

Beginning for the description of a 70.98 acre tract identified as Parcel 0069 Tax Map 06, at a point at the centerline intersections of Middletown Road and Flintstone Road thence S 36° 30' 43" E 134.00' feet more or less to a point of beginning at the northeastern most corner of the subject property thence the following courses:

1) S36° 49'05"E, 142.52' , thence to a curve on Middletown Road having a
2) Radius of 1512.50' with a chord bearing of S45° 07' 40"E, and a length of 471.04' thence
3) S54° 44' 05"E, 549.00 thence
4) S15° 29' 55"W, 86.40', thence
5) S25° 45' 24"W, 820.33', thence
6) S25° 45' 25"W, 1750.00', thence
7) S25° 03' 55" W, 740.28', thence
8) N18° 10' 05"W, 712.51, thence
9) N 41° 38' 55"E, 466.25', thence
10) N 25° 36' 05"W, 493.50', thence
11) N 42° 38' 41"E, 380.00', thence
12) N 61° 09' 20"W, 290.00', thence
13) N 61° 09' 20"W, 120.00', thence
14) N 40° 55' 18"E, 285.00', thence
15) N 22° 16' 46"W, 70.00', thence
16) N 30° 33' 28"E, 282.84', thence
17) N 46° 09' 02"W, 274.70', thence
18) N 35° 04' 56"E, 465.06', thence
19) S 53° 41' 05"E, 263.04', thence
20) N 41° 42' 37"E, 406.71', thence
21) N 53° 41' 05"W, 190.81', thence
22) N 36° 18' 55"E, 347.40', thence
23) back to the point of beginning

OLD

STATE OF MARYLAND · DAVID LLOYD MARTIN · 776 · REGISTERED LANDSCAPE ARCHITECT

Containing 3,091,845.24 Square Feet or 70.979 Acres of Land more or less.

The above bearings are based on the Maryland State Coordinate System (NAD83/91).
NOTE: THE ABOVE DESCRIPTION IS FOR ZONING PURPOSES ONLY AND IS NOT TO BE USED FOR CONTRACTS, CONVEYANCES OR AGREEMENTS.

TELEPHONE: 410.321.8444, TOLL FREE: 866.395.8595
FAX: 410.321.1175

2017-0108-X

BALTIMORE COUNTY, MARYLAND
OFFICE OF BUDGET AND FINANCE
MISCELLANEOUS CASH RECEIPT

No 159222

Date: 10/12/17

Fund	Dept	Unit	Sub Unit	Rev Source/ Obj	Sub Rev/ Sub Obj	Dept Obj	BS Acct	Amount
001	806	8000		6150				250.00

Total: 250.00

Rec From: Variable

For: 10450 Middletown Rd
21053

Variance
Fee

2017-0108-X

DISTRIBUTION
WHITE - CASHIER PINK - AGENCY YELLOW - CUSTOMER GOLD - ACCOUNTING
PLEASE PRESS HARD!!!!

PAID RECEIPT
BUSINESS ACTUAL TIME
10/16/2017 10/12/2017 16:01:30
PCS 3501 WALKER LJR
RECEIPT # 155670 10/12/2017
Dept: 5 SCB 2GN180 VERIFICATION
CR NO. 159222
Receipt Tot 4250.00
4250.00 CK 1.00 CA
Baltimore County, Maryland

CASHIER'S VALIDATION

Amended PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

address 20450 Middletown Road which is presently zoned RC-2, RC-4, RC-5, RC-8

Deed Reference 33873 / 119 10 Digit Tax Account # 2 3 0 0 0 1 0 0 5 0

Property Owner(s) Printed Name(s) David William Mathews

CASE NUMBER 2017-0108-X Filing Date 10/17/2016 Estimated Posting Date ___/___/_____ Reviewer LW

(SELECT THE HEARING(S) BY MARKING X AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1. ____ **a Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve

2. X **a Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for

See Attachment No. 1

3. ____ **a Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons: **(Indicate below your hardship or practical difficulty or indicate below "To Be Presented At Hearing". If you need additional space, you may add an attachment to this petition)**

To be presented at the hearing.

Property is to be posted and advertised as prescribed by the zoning regulations.
I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.
Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

See Attachment No. 2
Name- Type or Print

Signature

Mailing Address City State

Zip Code Telephone # Email Address

Legal Owners:

See Attachment No. 3
Name #1 – Type or Print / Name #2 – Type or Print

Signature #1 / Signature # 2

Mailing Address City State

Zip Code Telephone # Email Address

Attorney for Petitioner:

Patricia A. Malone
Name- Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

Representative to be contacted:

Patricia A. Malone
Name – Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

REV. 2/23/11

ATTACHMENT No. 1 TO PETITION FOR SPECIAL EXCEPTION

Petition for Special Exception, pursuant to Section 4E-102 of the Baltimore County Zoning Regulations, for a solar facility.

ATTACHMENT No. 2 TO PETITION FOR SPECIAL EXCEPTION

Contract Lessee:

Bluefin Origination 2, LLC
3250 Ocean Park Boulevard, Suite 355
Santa Monica, California 90405

Signature: Geoff Fallon
Name: Geoff Fallon
Title: Authorized Person
Phone: 828-367-9035
Email: parker.sloan@ccrenew.com

ATTACHMENT No. 3 TO PETITION FOR SPECIAL EXCEPTION

Legal Owner:

David William Mathews
1410 Wiseburg, Road
White Hall, Maryland 21161

Signature: [signature]
Phone: 443-928-7374
Email: bevanddave05@yahoo.com

CASE NO. 2018-0108-X

CHECKLIST

Comment Received	Department	Support/Oppose/ Conditions/ Comments/ No Comment
11/9 & 11/18	DEVELOPMENT PLANS REVIEW (if not received, date e-mail sent _____)	Comment
10/26	DEPS (if not received, date e-mail sent _____)	No Comment
_____	FIRE DEPARTMENT	
12/4	PLANNING (if not received, date e-mail sent _____)	no objection w/ conditions
10/24	STATE HIGHWAY ADMINISTRATION	no objection
_____	TRAFFIC ENGINEERING	_____
_____	COMMUNITY ASSOCIATION	_____
_____	ADJACENT PROPERTY OWNERS	_____

ZONING VIOLATION (Case No. _____)

PRIOR ZONING (Case No. _____)

NEWSPAPER ADVERTISEMENT Date: 12/19/17

SIGN POSTING Date: _____ by _____

PEOPLE'S COUNSEL APPEARANCE Yes ☒ No ☐

PEOPLE'S COUNSEL COMMENT LETTER Yes ☐ No ☐

Comments, if any: _____

BALTIMORE COUNTY, MARYLAND
OFFICE OF BUDGET AND FINANCE
MISCELLANEOUS CASH RECEIPT

No 145717

Date: 10/17/16

Fund	Dept	Unit	Sub Unit	Rev Source/ Obj	Sub Rev/ Sub Obj	Dept Obj	BS Acct	Amount
001	806	0000		4150				500.00

Total: 500.00

Rec From: ~~Don~~ Timothy Deutzbaugh

For: 20450 Middletown Rd

2017-0108-X

DISTRIBUTION
WHITE - CASHIER PINK - AGENCY YELLOW - CUSTOMER GOLD - ACCOUNTING
PLEASE PRESS HARD!!!!

CASHIER'S VALIDATION

PAID RECEIPT

BUSINESS	ACTUAL	TIME	DRW
10/17/2016	10/17/2016	09:41:33	3

REG WS03 WALKIN CAM
>>RECEIPT # 701077 10/17/2016 OPER
Dept 5 528 ZONING VERIFICATION
CR NO. 145717
Recpt Tot $500.00
$500.00 CK $.00 CA
Baltimore County, Maryland

Petitioner
CBA Exhibit
1

Parker Sloan

PETITIONER'S EXHIBIT 1

eville, NC 28801 • Phone: 828-367-9035 • E-Mail: parker.sloan@gmail.com

Experience

Zoning and Outreach Manager, Cypress Creek Renewables (Formerly FLS Energy) August 2015 - Present

- Represent Cypress Creek Renewables at Planning Board, Board of Commissioners, Town Board, Board of Adjustment, and City Council meetings, in conjunction with attorneys and relevant experts. Testified as an expert in land use issues in Iredell, Washington, and Richmond Counties NC.
- Prepare for hearings and meetings by researching local zoning ordinances, future land use plans, and comprehensive land use plans, and by managing development of appropriate materials in collaboration with internal and external team members
- Manage all external zoning related contractors/legal counsel/consultants and internal engineering/finance/other support related to the zoning process
- Develop community outreach strategy, which may include developing and deploying mailers, organizing and facilitating community meetings, and going door to door to engage local community
- Manage development of zoning site plans to ensure projects comply with all relevant ordinances
- Prepare and submit rezone, variance, Special Use Permit, and Conditional Use Permit applications
- Interface with landowners and host jurisdiction stakeholders and others on site visits to proposed development locations

Medical Legal Partnership Liaison, Pisgah Legal Services (Grant Funded) December 2014 – August 2015

- Promoted Pisgah Legal Service's healthcare assistance program with media and partner organizations
- Facilitated relationships between Pisgah Legal Services, Mission Hospital, and other healthcare assisters
- Collaborated internally with programs and partner organizations to identify persons needing healthcare related legal assistance
- Provided impartial and objective information assisting people with health insurance issues and questions

Campaign Manager, Terry Van Duyn for NC Senate May 2014 – November 2014

- Developed and managed a $200,000 budget and marketing plan
- Supervised and trained entire campaign operation which included staff
- Represented Senator at events and public speaking engagements and created and coordinated distribution of campaign promotional materials
- Managed contractual relationships with graphic designers, printing vendors, web masters, communications consultants, and pollsters

County Planner, Henderson County Planning Department May 2007 – May 2014

- Provided exemplary customer service to County residents, answered citizen inquiries and concerns
- Administered Community Development Block Grant projects and prepared federal affordable housing grant applications, including recent $300,000 Community Revitalization CDBG project.
- Conducted site location suitability analysis for potential key economic development projects
- Prepared policy research and analysis on issues, including environmental regulations, land use, zoning, infrastructure, housing, and economic incentives
- Drafted plans and ordinances including zoning code amendments, subdivision ordinance changes, and County comprehensive plan updates
- Prepared reports, agendas, public presentations, and recommendations for various community stakeholders including elected and appointed officials, Board of Commissioners, Planning Board, and community groups

Community Service

Buncombe County Planning Board, Member — Appointed March 2015

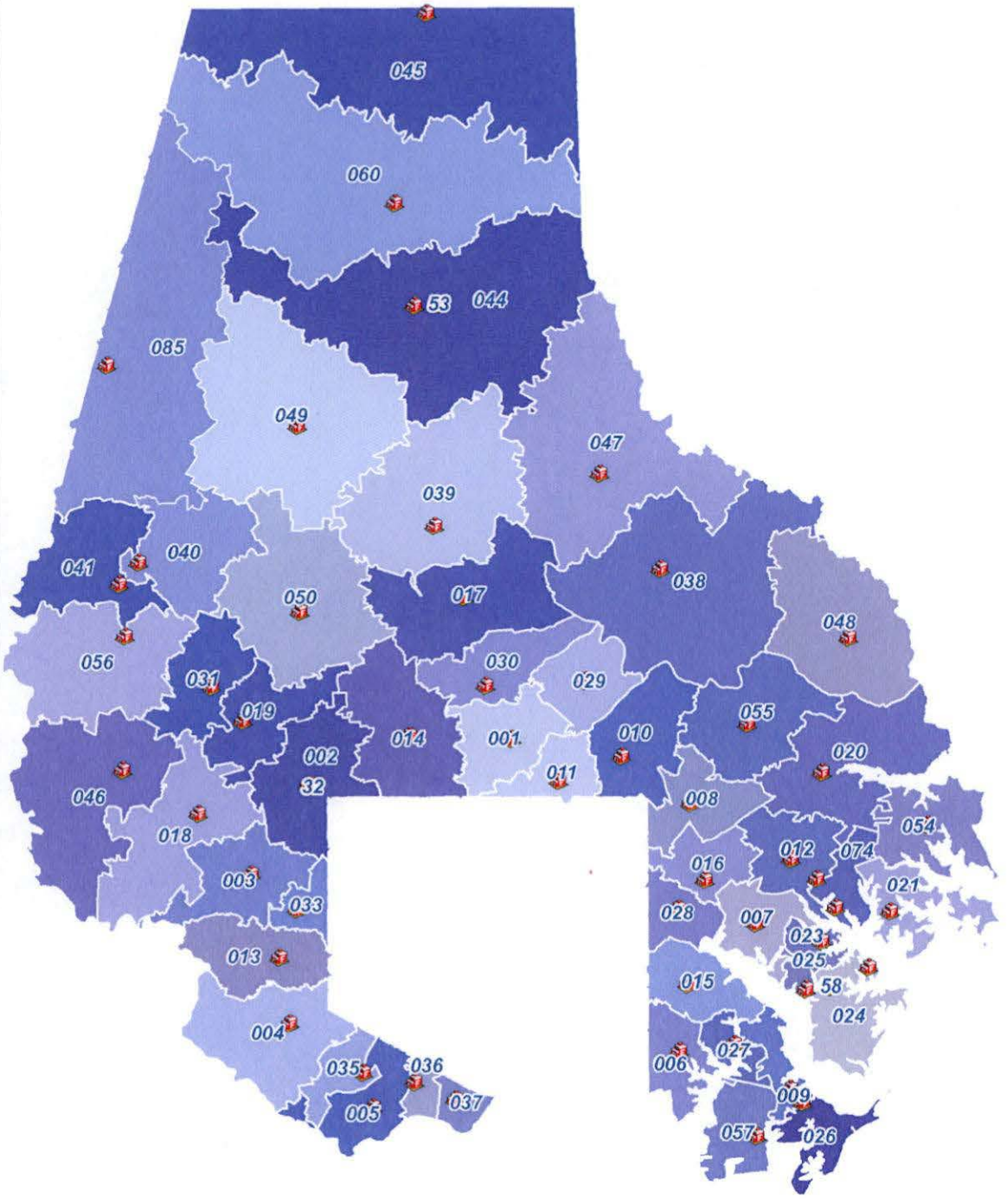
Education

Masters in Public Administration, Western Carolina University — May 2014

B.S. Community & Regional Planning, and B.S. Geography, Appalachian State University — May 2007

Baltimore County Fire Department

Career & Volunteer Fire Station Locations

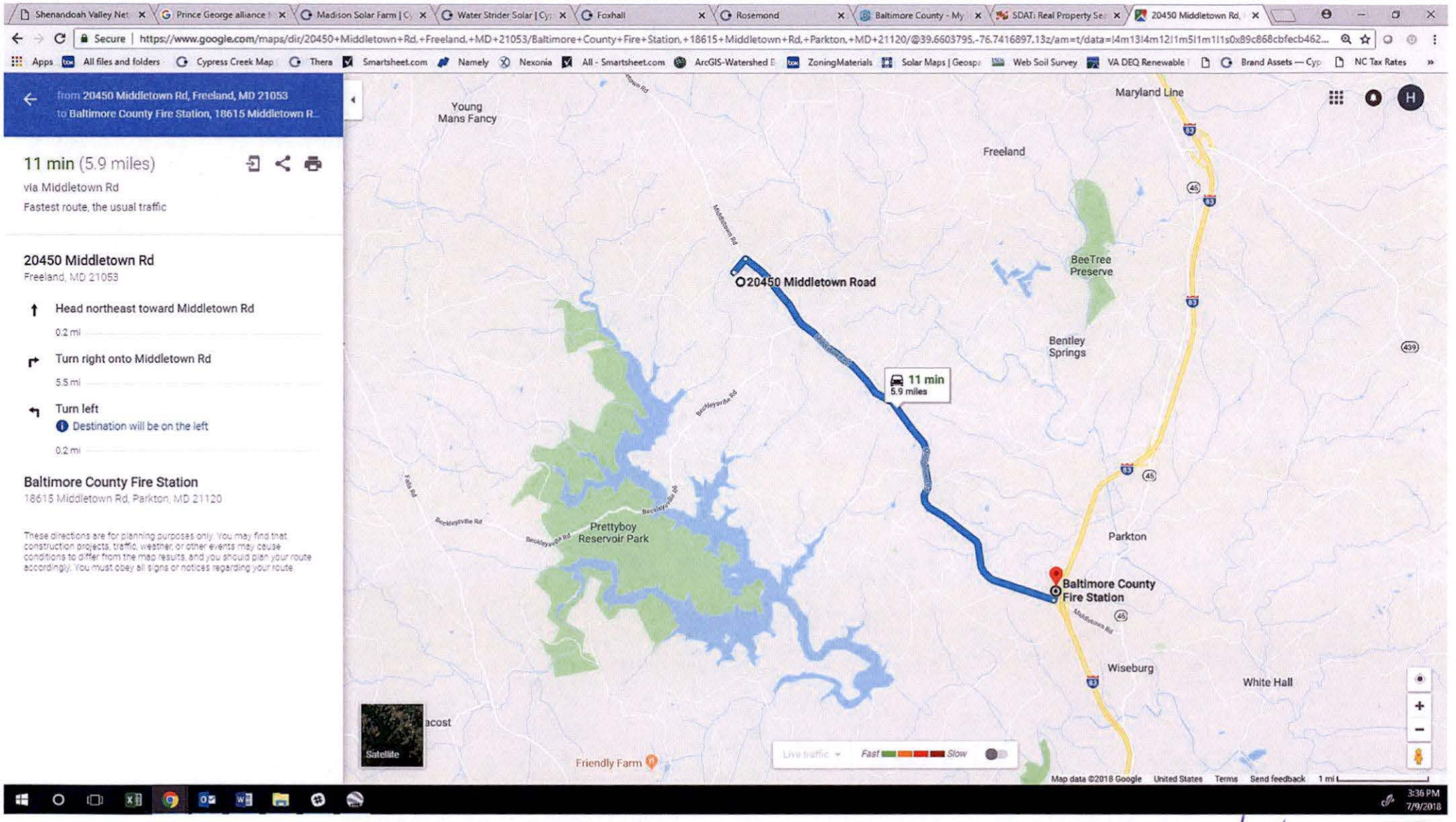


STA	NAME
35	Arbutus VFD
43	Arcadia VFC
58	Back River Neck
42	Boring VFC
21	Bowleys Quarters VFC
14	Brookville
49	Butler VFC
4	Catonsville
54	Chase
50	Chestnut Ridge VFC
39	Cockeysville VFC
6	Dundalk
15	Eastview
9	Edgemere
37	English Consul VFD
7	Essex
56	Franklin
8	Fullerton
19	Garrison
40	Glyndon VFD
16	Golden Ring
5	Halethorpe
53	Hereford VFC AMBO
44	Hereford VFC
11	Hillendale
25	Hyde Park VFD
47	Jacksonville VFC
48	Kingsville VFC
36	Lansdowne VFD
46	Liberty Road VFC
38	Long Green VFC
30	Lutherville VFC
45	Maryland Line VFC
12	Middle River
74	Middle River VFC
23	Middleborough VFD
26	North Point/Edgemere VFD
31	Owings Mills VFC
60	Parkton
10	Parkville
55	Perry Hall
2	Pikesville
32	Pikesville VFC
29	Providence VFC
18	Randallstown
41	Reisterstown VFC
24	Rockaway Beach VFC
28	Rosedale VFC
57	Sparrows Point
17	Texas
1	Towson
34	Violetville VFD
13	Westview
20	Whitemarsh VFC
27	Wise Avenue VFC
3	Woodlawn
33	Woodlawn VFC

Last Revised: 09/01/2017

PETITIONER'S EXHIBIT 3a

17-108x 7/12/18



17-108x 7/12/18

PETITIONER'S EXHIBIT 3B

17-108-X David Martin
7/12/18

DMW

DAVID L. MARTIN, RLA
VICE PRESIDENT

LICENSURE AND ACCREDITATION
Landscape Architect, Maryland, No. 776
Landscape Architect, Pennsylvania, No. 573-E

EDUCATION
The Pennsylvania State University, BS, Landscape Architecture, 1971

PROFESSIONAL SUMMARY
Professional practice includes 47 years of land planning, landscape architecture, comprehensive zoning, PUD master planning, site planning, and expert witness testimony regarding land use and zoning issues. Mr. Martin has been practicing in the Greater Baltimore Metropolitan region since 1987 and has been qualified as an expert in land planning, site planning, and zoning cases in Anne Arundel County, Baltimore County, Howard County, Harford County, Cecil County, Bel Air, Aberdeen, Havre de Grace, Perryville, Port Deposit and Federal District Court of Baltimore.

Prior to his relocation to Maryland, Mr. Martin practiced landscape architecture and land planning in Pennsylvania, Florida, Massachusetts, Alabama, The Commonwealth of the Bahamas and Jamaica. As Vice President of DMW and formerly President of Martin & Phillips Design Associates, Inc. Mr. Martin supervises community planning, site development, subdivision development plans, and master planning efforts, He also offers zoning testimony and interpretation on land planning issues before zoning commissioners, boards of appeals, planning commissions, and elected bodies. Mr. Martin facilitates community input meetings and presents Development Plans in Baltimore County and oversees the preparation of special exception and variance plan requests. He also directs the design of parks, amenity features, lighting plans and landscape plans associated with residential, commercial and institutional projects.

Significant projects include Developments of Regional Impact (DRI) in the State of Florida including; Palm Coast, Florida - 10,000 acre master plan, Beverly Hills, Florida - 6,500 acre master plan, and Doral Park, Florida - 2000 acre master plan. Representative local projects include: Hollywoods, Monmouth Meadows, Greenbriar, Bainbridge Development, Forge Landing, Owings Mills Commerce Center, The Avenue at Whitemarsh, Cedar Lane Farms P.U.D., Westwicke, Beaverbrook, Biddison Property, Bridle Ridge, Green Spring Station, Home Depot of Owings Mills, Bel Air and Timonium, Ashland Market Place, Powell Property, and Baker Property, Highlands Corporate Park, Preston Gateway North Industrial Park, Catholic Charities Senior Housing at the Village Crossroads (HUD). Baltimore County planned Unit developments include: Brandywine PUD, Chapel Springs PUD (HUD), The Residences at Soldier's Delight PUD and Loch Raven Commons PUD.

Mr. Martin has prepared numerous comprehensive-zoning petitions in Baltimore County during the quadrennial CZMP processes and has a thorough understanding of the principles of Euclidean zoning and their application throughout the Baltimore Metro region. He also served on an ad-hoc committee that authored the Service Employment (SE) Zone of Baltimore County and the Public Affairs Committee for NAIOP. He has extensive experience dealing with all the Baltimore Regional Area County's development regulations.

MEMBERSHIPS AND ASSOCIATIONS
American Society of Landscape Architects, Member
Chairman Baltimore County Design Review Panel – Executive Appointment

PETITIONER'S EXHIBIT 4

PROFESSIONAL EXPERIENCE
Daft-McCune-Walker, Inc., Towson, MD - Martin & Phillips Design Associates, Inc.
Bradshaw, Gill, & Fuster, PA – Greenhorne & O'Mara, Inc. – M. Robert Fenton & Assoc.

DAFT McCUNE WALKER

ZONING DESCRIPTION
Revised July 5, 2018

Bluefin Origination 2, LLC
20450 Middletown Road
Freeland, MD 21053-9621

Beginning for the description of a portion of a 70.979 acre tract identified as the "Special Exception" area, being a part of Parcel 0069 Tax Map 06, Baltimore County at a point at the centerline intersections of Middletown Road 24' wide and Flintstone Road 50' wide, thence S 28° 53' 08" E 448.77' feet, more or less, to a point of beginning at the northwestern most corner of the subject Special Exception area, thence

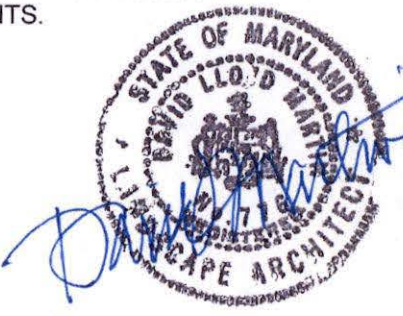
1) S 46° 21' 09" E, 243.04', thence
2) S 54° 44' 05" E, 235.09', thence
3) N 35° 15' 55" E, 70.00', thence
4) S 54° 44' 05" E, 80.00', thence
5) S 35° 15' 55" W, 70.00', thence
6) S 54° 44' 05" E, 30.60', thence
7) S 35° 15' 55" W, 19.15', thence to a curve bearing to the left, having a Radius of 112.00', Length of 150.20', Chord Bearing of S 35° 07' 19" W, Chord Length of 139.20', thence
8) S 03° 17' 49 ' E, 113.23', thence
9) S 03° 17' 49 ' E, 113.23', thence
10) S 32° 40' 30 ' W, 227.36', thence
11) S 76° 27' 47 ' W, 152.19', thence
12) S 89° 32' 48 ' W, 567.05', thence
13) N 12° 31' 35" E, 224.56', thence
14) N 42° 45' 30" E, 48.42', thence
15) N 19° 12' 03" E, 105.62', thence
16) N 00° 00' 00" W, 101.41', thence
17) N 31° 38' 54" W, 47.52', thence
18) N 01° 55' 06" W, 264.17', thence
19) N 41° 38' 24" E, 511.87', thence

back to the point of beginning

PETITIONER'S EXHIBIT 5

Containing 727,926.68 Square Feet or 16.71 Acres of Land, more or less.

The above bearings are based on the Maryland State Coordinate System (NAD83/91).
NOTE: THE ABOVE DESCRIPTION IS FOR ZONING PURPOSES ONLY AND IS NOT TO BE USED FOR CONTRACTS, CONVEYANCES OR AGREEMENTS.

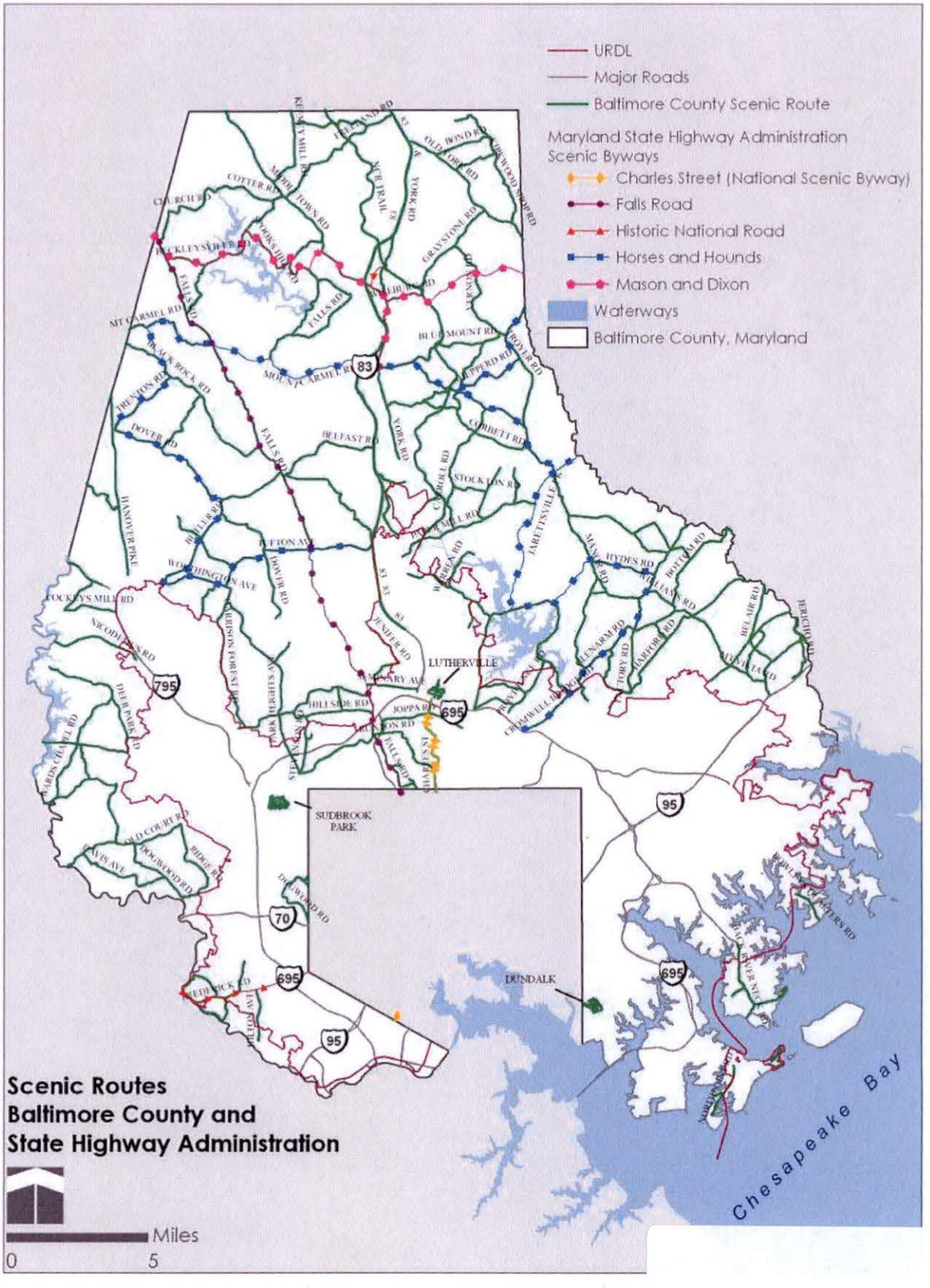


501 Fairmount Avenue, Suite 300, Towson, MD 21286 p: 410 296 3333 f: 410 296 4705 www.dmw.com

17-108X 7/12/18 Mathews

17-108X 7/12 Mathews

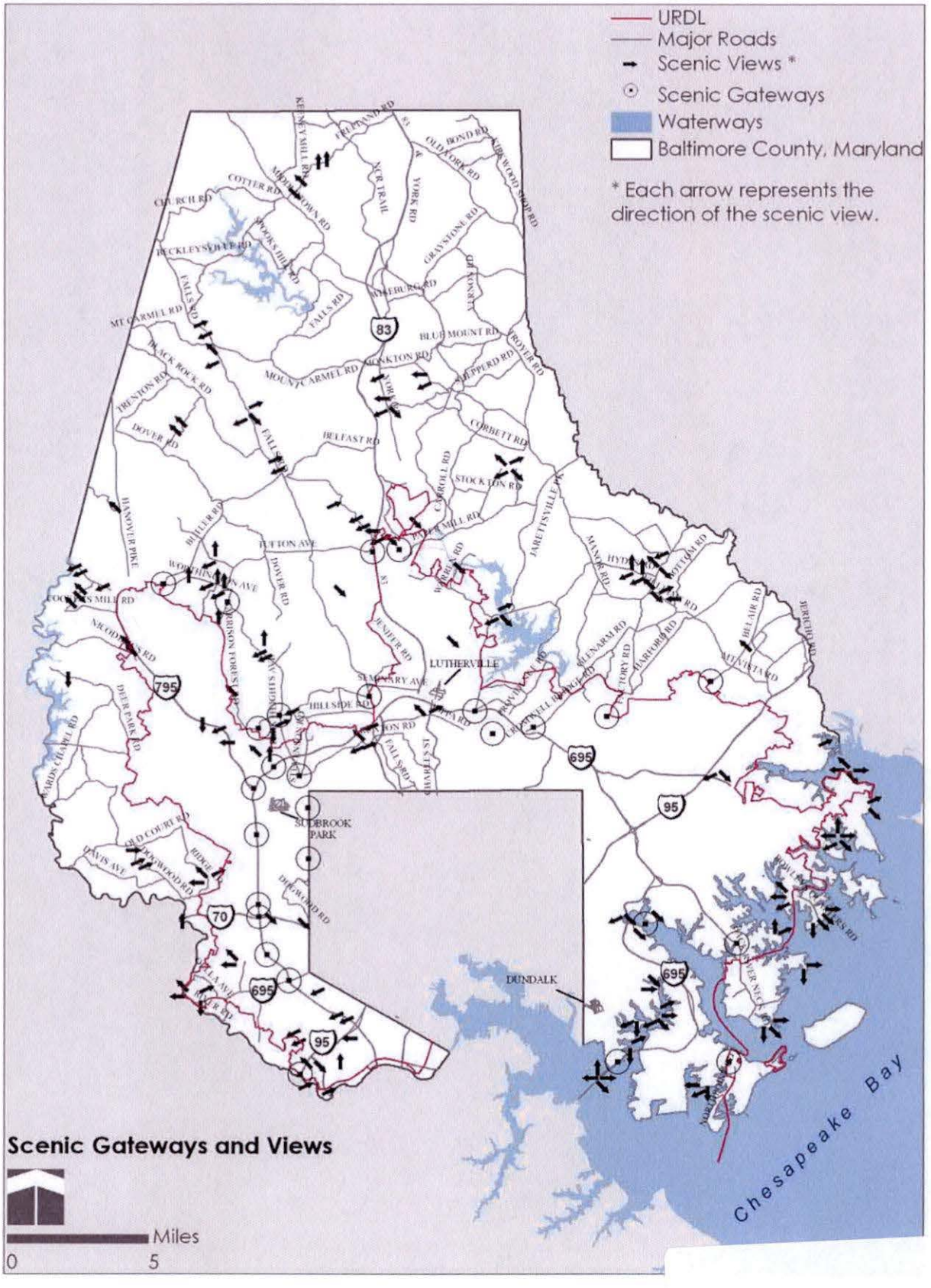
Map 26: Scenic Routes



PETITIONER'S EXHIBIT 8

17-108-X 7/12 Matthews

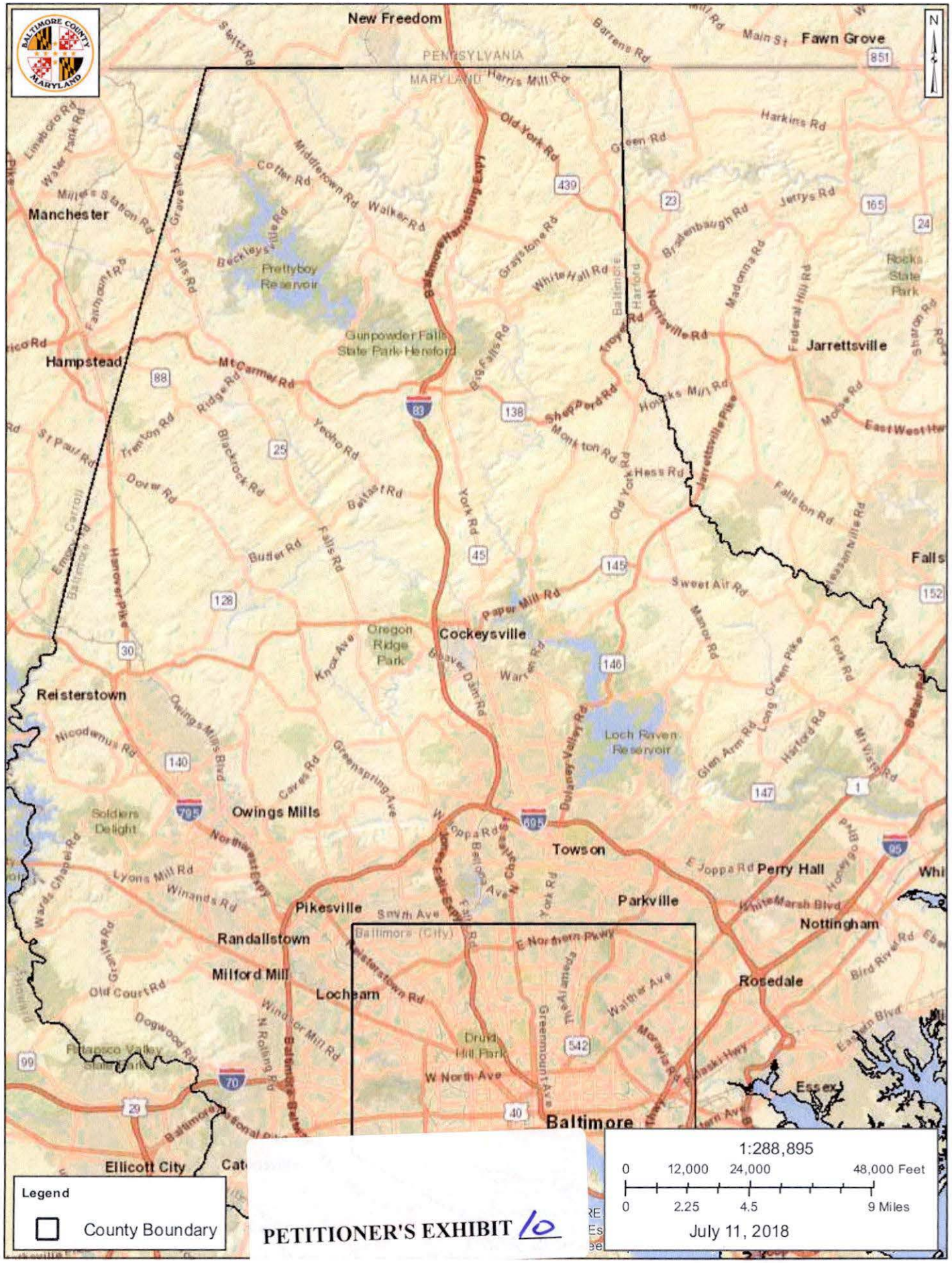
Map 27: Scenic Gateways and Views



PETITIONER'S EXHIBIT 9

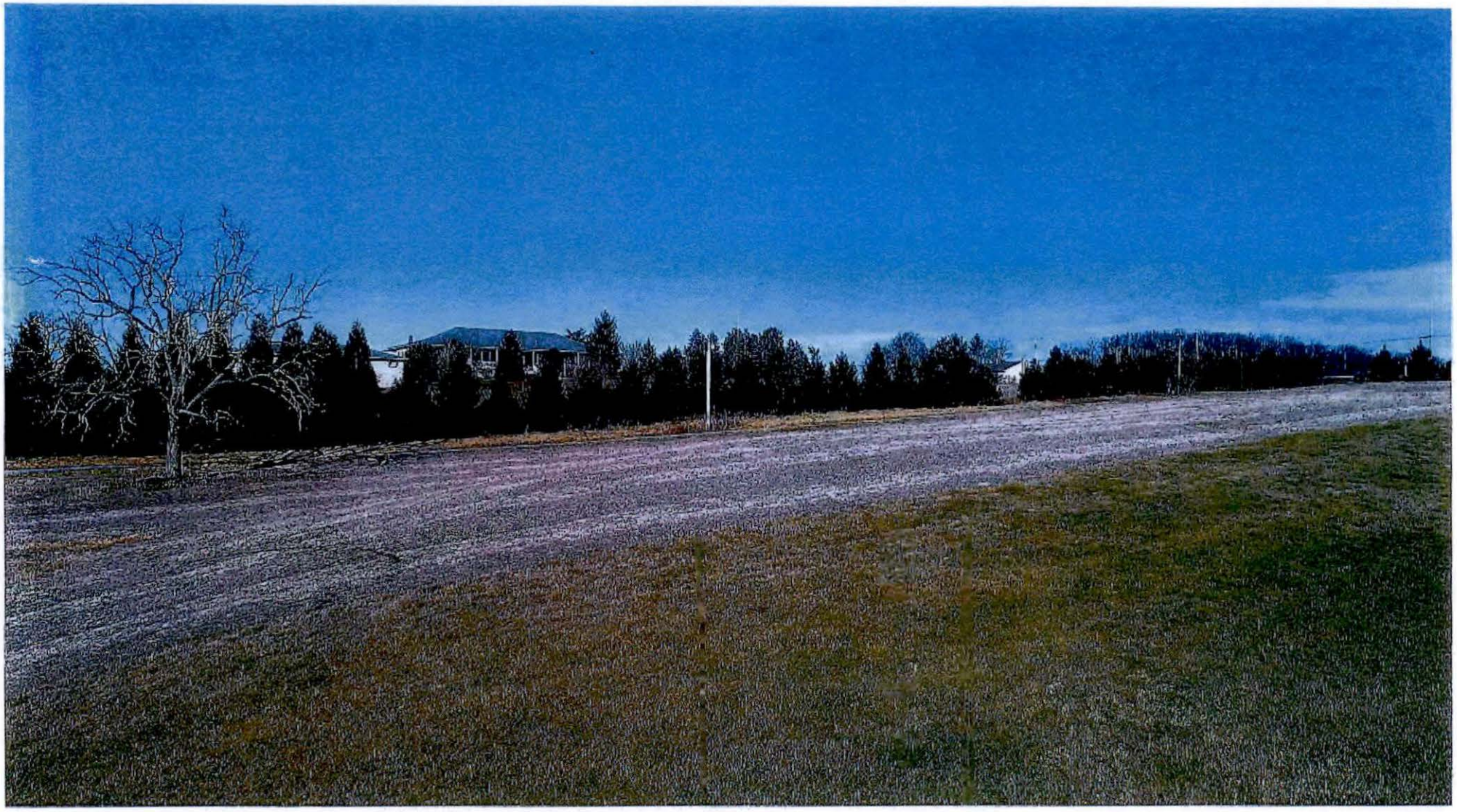
17-108-X 7/12/18 MatthewJ

Baltimore County - My Neighborhood

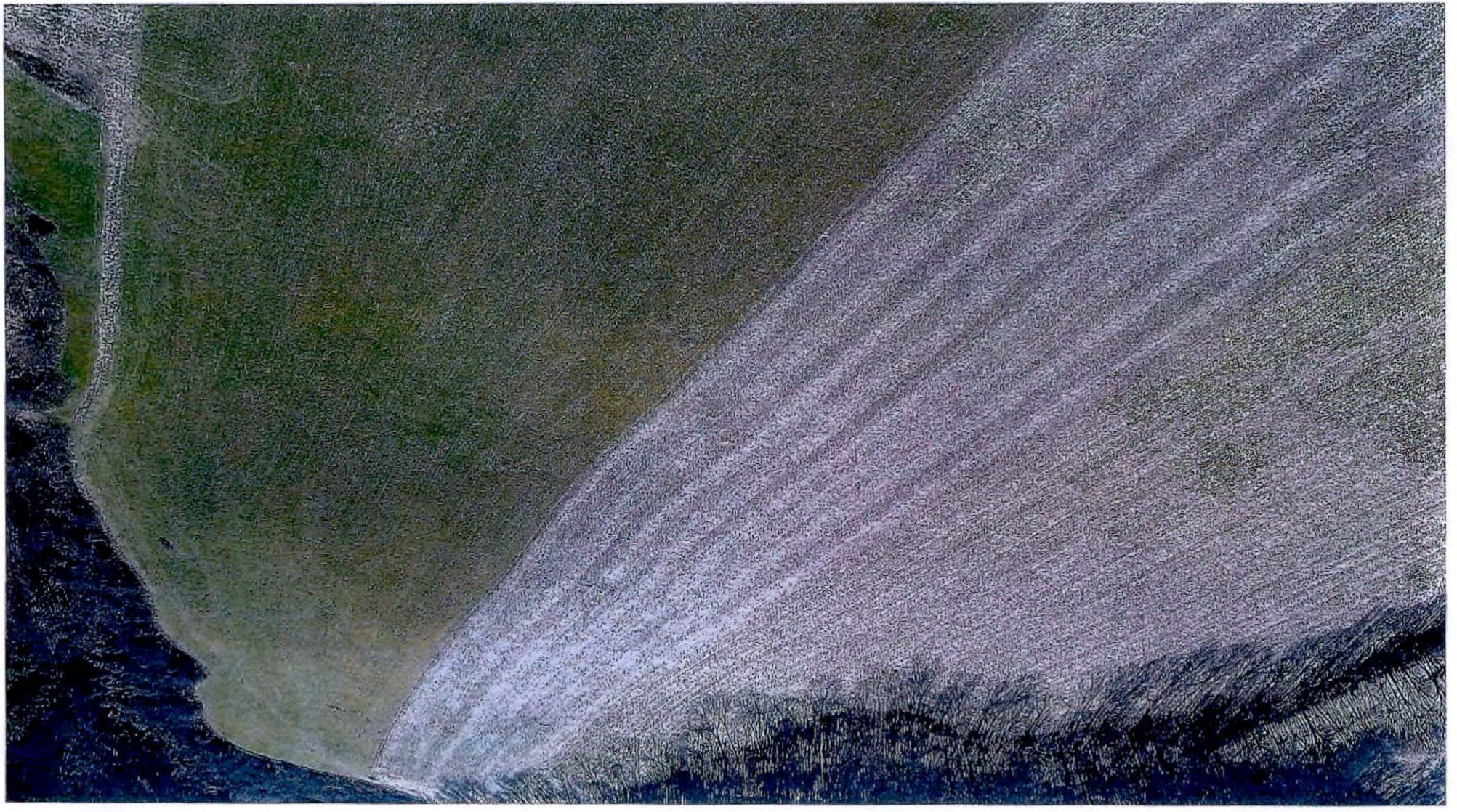


PETITIONER'S EXHIBIT 10

17-108x 7/12/18
Mathews



PETITIONER'S EXHIBIT 11



C

17-108x 7/12/18 Matthews

BALTIMORE COUNTY, MARYLAND
INTER-OFFICE MEMORANDUM

TO: Arnold Jablon
Deputy Administrative Officer and
Director of Permits, Approvals and Inspections

DATE: 11/28/2017

FROM: Andrea Van Arsdale
Director, Department of Planning

SUBJECT: **ZONING ADVISORY COMMITTEE COMMENTS**
Case Number: 17-108 (amended)

INFORMATION:

Property Address:	20450 Middletown Road
Petitioner:	David William Matthews
Zoning:	RC 2, RC 4, RC 8
Requested Action:	Special Exception

The Department of Planning has reviewed the amended petition for a special exception to use the property for a solar facility.

A site visit was conducted on October 26, 2017.

The Department has no objection to granting the petitioned zoning relief conditioned upon the following:

The property is visible from Middletown Road which is a Baltimore County Scenic Route. When developing on a scenic route, the Comprehensive Manual of Development Policies (CMDP) development guidelines instructs one to *"maintain a buffer between the road and the new development"* (CMDP pg. 180).

- The proposal shall minimize grading, tree and vegetation removal along Middletown Rd.
- Any landscape plan submitted to Baltimore County for review and approval shall supplement the existing vegetative screening along Middletown Road. The Department will not support a suburban like, regimented single species planting. The plantings will have a naturalistic arrangement approaching an "enclosed view" as defined in the CMDP with a count and proximity that will not allow an observer from the scenic route to have a sustained view of the solar facility.
- A minimum 50' wide vegetative screen shall be installed along the perimeter of the special exception area adjacent to the properties at 20416, 20450 Middletown Road and 2603 Flintstone Road. Said screening shall be a mix of native deciduous, evergreen and flowering trees with understory shrubs arranged in a natural fashion.
- The Department supports the Baltimore County Landscape Architect in any additional planting requirements.

Additional conditions are as follows:

- Pursuant to BCZR §502.1.A, petitioners shall demonstrate to the satisfaction of the Administrative Law Judge that the facility will not be detrimental to the adjacent residential properties as a result of glare emanating from the facility.

PETITIONER'S EXHIBIT 12

- The plan submitted in support of the petition does not indicate the finished height of the solar panels. Pursuant to BCZR 4E-104.5, the photovoltaic arrays may not exceed 20 feet in height without variance relief. Petitioners shall amend the plan to show a typical array structure detail at no more than 20 feet above the natural finished grade.
- Petitioners shall note on the plan that the proposed solar facility will produce not more than 2 megawatts of alternating current.
- Petitioners shall note on the plan that the proposed solar facility will be subject to BCZR §4E-107.
- Petitioners shall certify by note on the plan that the proposed solar facility will not exceed the maximum permitted number of facilities allowed in its respective councilmanic district. If approved, Petitioners shall submit to this Department at the time of building permit application the final fixed location and area of the facility by coordinate data so that an inventory may be kept.
- Lighting shall be limited to what is required for security purposes only and will be sited in such a way as to have minimal spillage onto neighboring properties.
- Signage shall be limited to that which is necessary for safety and security purposes.
- No deliveries or outdoor maintenance which may generate excessive noise may occur on-site between the hours of 6 P.M. through 6 A.M.

Be advised that the site is within an Agricultural Priority Preservation Area as designated in the Baltimore County Master Plan 2020 (MP2020). Said plan warns that *"incremental development continues to threaten the protection of resources and the viability of the agricultural industry."* (MP2020 pg.92). The Department recommends that the future viability of commercial agricultural in Baltimore County be weighed when considering this special exception proposal within the context of 502.1.G.

For further information concerning the matters stated herein, please contact Joseph Wiley at 410-887-3480.

Prepared by:

Lloyd T. Moxley

Deputy Director:

Jeff Mayhew

AVA/KS/LTM/ka

c: Joseph Wiley
James Hermann, R.L.A., Department of Permits, Approvals and Inspections
Patricia A. Malone, Esquire
Office of the Administrative Hearings
People's Counsel for Baltimore County

Thomas (Tommy) H. Cleveland, P.E.

4141 Laurel Hills Rd. Raleigh, NC thcleveland@gmail.com 919-923-5490

Education & Training

North Carolina State University, Mechanical Engineering M.S. 2004
North Carolina State University, Mechanical Engineering B.S., Business Mgmt. minor 2001 - Summa Cum Laude
Lumberton Sr. High School, Lumberton, NC, 1997 – Valedictorian

Professional Engineer, licensed in North Carolina (#033711), 2008 - Present

Professional Experience

Solar PV Engineer, Advanced Energy, Raleigh, NC, April 2017–Present

- Evaluation of utility scale solar PV facilities to assess the quality of design, construction, and operation
- Engineering analysis and concise presentation of results to customers
- Failure investigation of commercial PV facility

Solar Energy Engineer (various progressive titles), North Carolina Solar Center/NC Clean Energy Technology Center, North Carolina State University, 2005–April, 2017

- Lead solar engineer at the Center (2008-2017)
- Conducted detailed PV + storage feasibility study for community solar project for a NC municipal utility that included development of battery control model to optimize storage size and validate value production
- Provided quality assurance and technical support to development of in-house training program of solar farm construction for a leading regional utility-scale photovoltaic EPC firm
- Guided design of prototype residential Plug and Play PV system and collected AHJ feedback (Department of Energy SunShot project)
- Co-led stakeholder process to develop Template Solar Development Ordinance for North Carolina
- Led design and development of ISO-17025 accredited solar thermal collector testing lab, only the 5th in U.S.
- Designed and installed PV field performance monitoring system, conducted performance analysis
- Conducted renewable energy site assessments for commercial, industrial, and institutional clients
- Presented to local government officials, community leaders, and general public on solar energy
- Provided technical support to a wide variety of energy consumers and stakeholders across North Carolina

Expert Witness, Private consultant for over 15 solar developer clients, 2012-Present

- Provides expert witness testimony at special/conditional use and re-zoning public hearings regarding the health, safety, and environmental impact of utility-scale solar photovoltaic systems. Experience in NC, SC, VA, and FL (over 60 projects to date)
- Provides respectful clear answers to sometimes ill-informed and/or hostile questions
- Conducted site-specific studies of EMF, sound, and solar glare hazard

Petitioner
CBA Exhibit
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Instructor of 1-Day Continuing Education Course on Solar Energy for Professional Engineers, UNC-Ch... 2015, 2016, 2017

- Developed all course content for this 8-hour in-person course
- Course provides introduction to solar energy in North Carolina today for working engineering professionals. The course covers solar energy resource, photovoltaic technology, photovoltaic products, system design, state and federal policy, grid interconnection, project economics, and more
- Based on great attendance and student feedback, twice invited back to teach course for additional year

Instructor of ET 220 Solar Photovoltaic Assessment, Department of Forestry and Environmental Resources, North Carolina State University, 2014-Present

- Developed all course content for this new three credit hour online course
- Course covers all aspects of photovoltaic site assessment including energy use, solar resource, system design, utility tariffs, estimating, economics, and more
- Course is optional course for an Environmental Technology and Management degree
- Course is required for a Renewable Energy Assessment minor

Instructor of MAE 421 Design of Solar Energy Systems, Mechanical and Aerospace Engineering Department of North Carolina State University, 2009-2014

- Instructor of the solar energy engineering course, MAE 421, in the NC State University Mechanical and Aerospace Engineering department
- The course was offered during the spring semester and typically had 30 to 50 undergraduate and up to twelve graduate engineering students
- Previously co-instructor of the course for two years (2007, 2009)

Research Assistant, North Carolina Solar Center, North Carolina State University, 2003–2005

- Developed and validated a TRNSYS simulation model of a unique solar thermal concentrating collector
- Assisted with the installation of photovoltaic systems ranging in capacity from 1 kW to 5 kW

Selected Publications

"Balancing Agricultural Productivity with Ground-Based Photovoltaic Development", NCCETC/NCSU white paper, August 2017, https://nccleantech.ncsu.edu/wp-content/uploads/Balancing-Ag-and-Solar-final-version-update.pdf

"Health and Safety Impacts of Photovoltaics", NCCETC/NCSU white paper, May 2017, https://nccleantech.ncsu.edu/wp-content/uploads/Health-and-Safety-Impacts-of-Solar-Photovoltaics-2017_white-paper-1.pdf

"Community Solar (+ Storage) Program Design for Fayetteville Public Works Commission", NCSU/NCCETC report, March 2017, (Public version) https://nccleantech.ncsu.edu/wp-content/uploads/FPWC_CommunitySolar_Public_Version.pdf

T. Cleveland, "What is Solar?", NCSU Cooperative Extension & NCCETC factsheet, October 2016, https://content.ces.ncsu.edu/what-is-solar

T. Cleveland, H. Tsai, "Charlotte-Mecklenburg Schools Roadmap to 100% Renewable Electricity" & "Durham Public Schools Roadmap to 100% Renewable Electricity", NCCETC, February 2016

T. Cleveland, et al, "Template Solar Energy Development Ordinance for North Carolina", NCCETC & NCSEA, December 2013, www. go.ncsu.edu/template-solar-ordinance

M. Sheehan, T. Cleveland, *"Updated Recommendations for Federal Energy Regulatory Commission Small Generator Interconnection Procedures Screens"*, Solar America Board for Codes and Standards Study Report, 64 p., July 2010, www.solarabcs.org/about/publications/reports/ferc-screens/pdfs/ABCS-FERC_studyreport.pdf

T. Cleveland, et al, *"Optimizing Solar Thermal Resource Use at Commercial Buildings"*, Solar 2010 – ASES National Solar Energy Conference 2010, 6 p., May 2010, www.ases.org/papers/101.pdf

T. Cleveland, *"Description and Performance of a TRNSYS Model of the Solargenix Tracking Power Roof$_{TM}$"*, Solar 2005 – ASES National Solar Energy Conference, 6 p.

T. Cleveland, K. Creamer, & Dr. R. Johnson, *"Energy Metering of Solar Domestic Hot Water Systems for Inclusion in Green Power and Renewable Portfolio Standards Programs"*, Solar 2004 – ASES National Solar Energy Conference 2004, 6 p.

T. Cleveland, "*Effective Energy Metering of Solar Domestic Hot Water Systems for Inclusion in Green Power and Renewable Portfolio Standards*", Master's Thesis, North Carolina State University, Raleigh, 191 p., April 2004, http://repository.lib.ncsu.edu/ir/handle/1840.16/1152

Selected Recent Presentations

T. Cleveland, A. Huang, "Plug and Play Residential PV System Innovation and Demonstration", Solar Power International Conference 2015

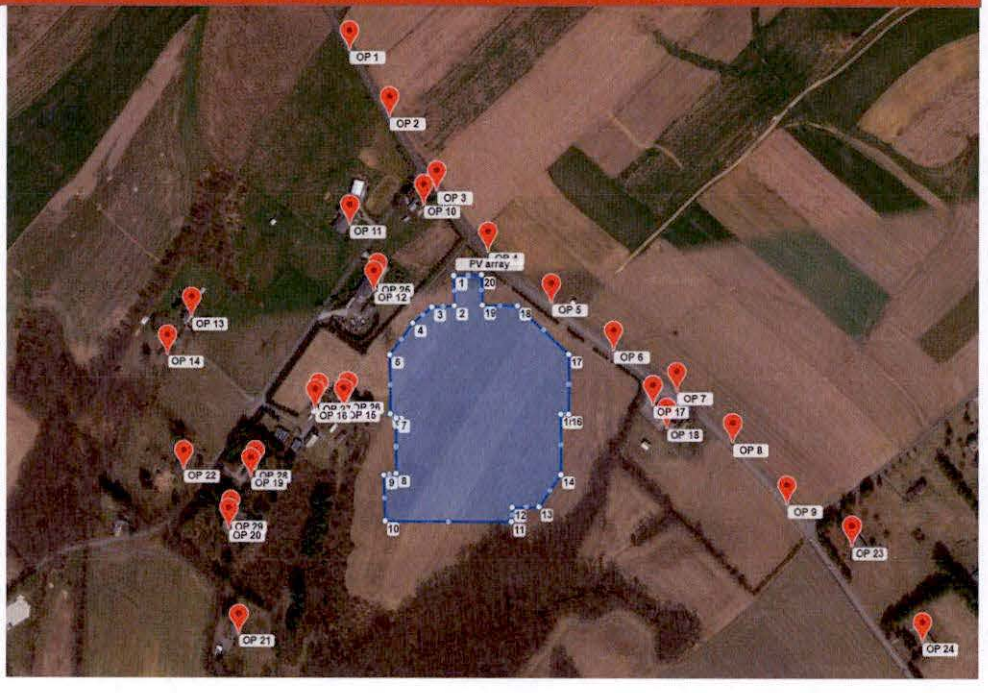
T. Cleveland, "*Make Solar Energy Economical*", recorded video lecture for E102: Grand Challenges of Engineering course at NC State University, January 2015

T. Cleveland, M. Clark, "*Template Solar Ordinance for North Carolina*", Solar Power International Conference 2014

Synergistic Activities

- Member of International Code Council (ICC) Renewable Energy Membership Advisory Council (REMAC) (2015-present)
- Member of the Board of Directors of the Solar Rating and Certification Corporation (SRCC) (2009-2015)
- Solar America Board for Codes and Standards (Solar ABCs) steering committee (2009-2013)
- Member of North Carolina Sustainable Energy Association

Glare Impact Study of Foxhall Solar Facility



Thomas Cleveland, P.E.
Raleigh, NC
July 11, 2018
thcleveland@gmail.com

Petitioner
CBA Exhibit
15

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Glare Impact Analysis....3
Modeling the Foxhall Solar Facility....3
Analysis of Potential Glare Impacts to Nearby Motorists....5
Analysis of Residential and Commercial Neighbors....6
Analysis of Nearby Airports....8
SGHAT Results....9
Conclusion....9
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Executive Summary

Photovoltaic (PV) modules (aka solar panels) are designed to absorb, and thus not reflect, close to 100% of the solar energy that strikes them. However, when sunlight strikes the glass front of a solar panel at a glancing angle a significant portion of the solar radiation is reflected, which can potentially lead to solar glare impacting a person, including pilots of landing aircraft. Thankfully, the conditions required for a PV project to create hazardous glare rarely occur.

In order to avoid construction of solar PV projects that could create a solar glare hazard for aircraft, the Federal Aviation Administration (FAA) and Sandia National Laboratories partnered to develop a software to calculate the potential for a PV project to create glare intense enough to be a hazard to nearby airports. The software, called Solar Glare Hazard Analysis Tool (SGHAT), may also be used to assess the potential for a PV project to cause solar glare for other viewers, such as vehicle drivers on nearby roads and neighbors looking out of their windows.

The analysis presented in this report used a privately licensed version of the SGHAT software, called ForgeSolar, to conduct a detailed site-specific PV solar glare analysis of the Foxhall Solar project. The software from ForgeSolar has been validated as effective for this type of solar glare analysis. The software analysis checks for the potential for low or high intensity solar glare at every minute of the year, at many user-defined observation points. Specifically, the analysis of the Foxhall Solar project included 9 observation points along Middletown Road and 15 observation points at nearby homes. No flight paths were analyzed because there are no airports close enough to have a potential for glare impacts during final approach to land.

Observation Points near Foxhall Solar Analyzed in ForgeSolar

The software analysis found no glare of any intensity at any time during the year at any of the analyzed locations. Furthermore, the software does not take into account obstructions between the solar array and the observation location that block the line of sight between the PV array and the observation location. At this site, existing vegetation, vegetative screening to be planted at certain locations along the perimeter of the solar array, and some hills will at least partially obstruct the view of the proposed solar array for many of the analyzed locations. The analysis's result of no glare is to be expected because the project will use a single-axis tracking system to support the solar panels, which will keep the panels facing generally toward the sun, which dramatically minimizes any solar reflection and directs what little reflection there is upward.

Background

At the request of Cypress Creek Renewables, I conducted an analysis of the potential for solar glare impacts by the proposed Foxhall Solar photovoltaic (PV) facility. The study analyzed the potential for glare impacts to nearby drivers and neighbors.

Glare Impact Analysis

Intense glare can create a visual hazard. Every driver is familiar with the type of glare shown in the photo to the right of the view of an auto driver heading directly into the rising or setting sun. Pilots often fly in the direction of the sun and thus experience very intense glare from the sun itself. Pilots also experience distracting glare from a variety of objects on the ground such as metal structures, bodies of water, and bright lights. Consequently, pilots fly with sunglasses and tinted visors to minimize this hazard. The reflected glare produced by these objects is not nearly as intense as direct sunlight.

Figure 1: Glare coming directly from the Sun

PV panels are designed to absorb, and thus not reflect, close to 100% of the solar energy that strikes them. However, when sunlight strikes the glass front of a solar panel at a glancing angle a significant portion of the solar radiation is reflected, which can potentially lead to solar glare impacting a person, including pilots. Due to the potential for this hazard, the Federal Aviation Administration (FAA) and Sandia National Laboratories collaborated to create an online software tool, known as the Solar Glare Hazard Analysis Tool, or SGHAT, to analyze solar photovoltaic projects for their potential to create hazardous solar glare. After multiple years of free public availability access to the SGHAT tool was ended and the SGHAT technology was licensed to a private company, ForgeSolar. ForgeSolar improved upon the original SGHAT technology and offers a private solar glare hazard analysis tool. The analysis presented in this report used the current professional ForgeSolar software.

Modeling the Foxhall Solar Facility

The models presented in this report used the default values for model variables that are not site specific. Two examples of default values are PV modules with smooth glass without an exterior anti-reflective coating (ARC) and dimensions such as eye focal length associated with calculation of glare intensity. These default values are generally conservative, such as assuming the modules will not have an ARC. This conservative approach means the results produced by the SGHAT presents a worst-case scenario. All of the model variables are visible in the ForgeSolar results report included in Appendix A.

Below are overlaid images of the Foxhall Solar site plan and the Foxhall Solar PV array as modeled in the SGHAT, showing the alignment of the aerial imagery and array area across both the site plan and the SGHAT model. The whole PV array consists of single axis trackers that tilt the solar panels toward the east early in the morning and then slowly rotate the long north-south rows of solar panels to follow the sun's path across the sky. The panels are totally horizontal (facing directly upwards) when the sun reaches its highest point around the middle of the day and rotate as far as 60 degrees from horizontal at the start and end of the day. This tracking feature not only boosts electricity production

compared to a fixed-tilt system, but it also dramatically reduces the potential for solar glare impacts. Because the tracker keeps the panels facing in the general direction of the sun there is very little reflection from the panels and any reflection is directed upward, away for potential viewers of the reflected sunlight.

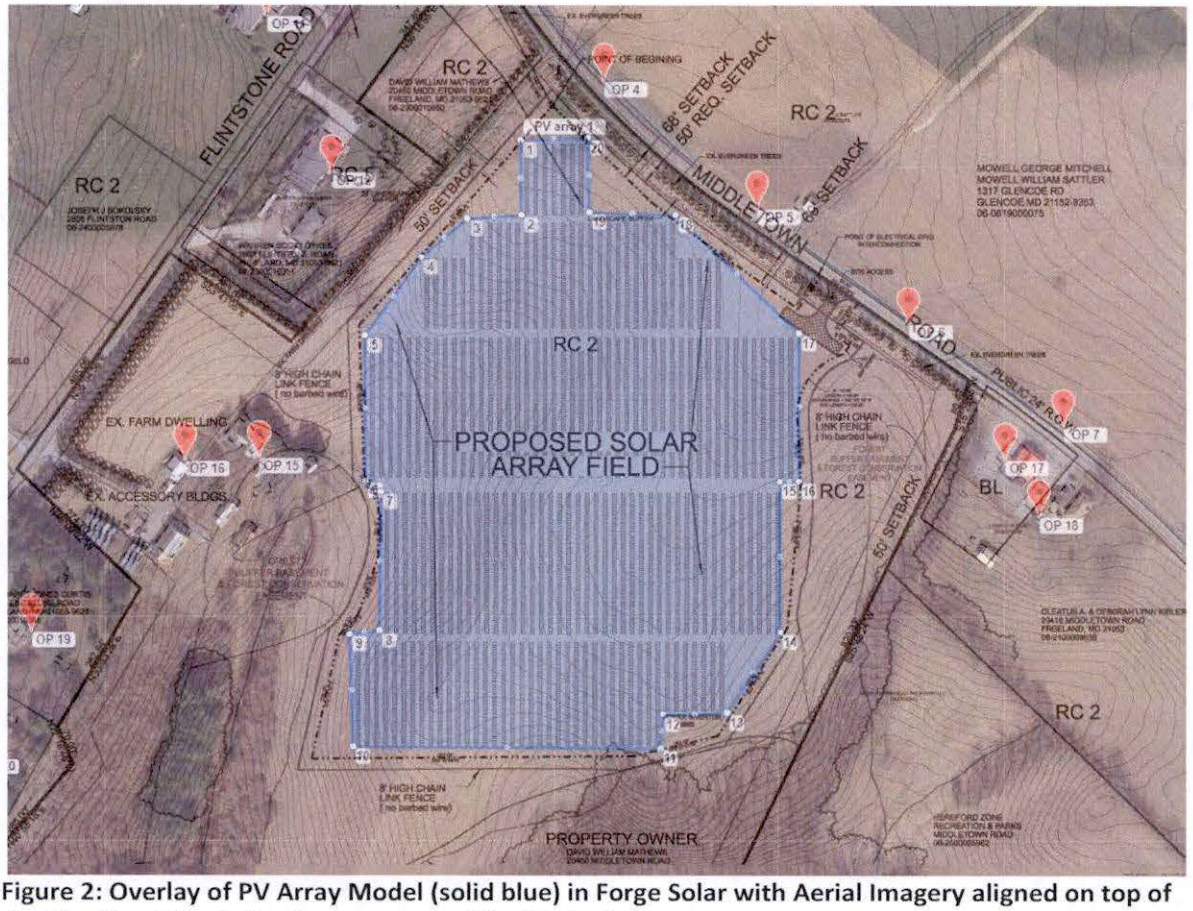

Figure 2: Overlay of PV Array Model (solid blue) in Forge Solar with Aerial Imagery aligned on top of the Site Plan (North-South rows of panels) with Aerial Imagery

For all SGHAT models in this report, the solar array is modeled at a height of 6 feet, representing a typical central height for the surface of PV modules. Models were also run with array heights of 2 feet and 12 feet, representing potential extreme heights for the bottom and top of the array when tilted, as recommended in the SGHAT user manual. The results of the 2-ft and 12-ft height models were exactly the same as the model with a 5-foot array height, so for simplicity only the 6-foot array data is presented in this report.

It is vital to realize that while the software takes into account the topography of the site and the actual land elevation of each observation point analyzed, the software does *not* take into account visual obstructions between the solar array and the observer. This includes both topographical barriers, such as a hill, and living or man-made barriers such as a forest or building. Analysis of the visibility of the solar array from each observation point is not included in this report, although a quick examination of the aerial surface models available in Google Earth reveals that many of the observation points analyzed have their view of the solar array, and thus any glare it may produce, at least partially blocked by existing vegetation.

Figure 3. Satellite View of Several Buildings to the West of the Array Showing Significant Vegetation Between the PV Array and Many Potential Observation Points

Analysis of Potential Glare Impacts to Nearby Motorists

There is one roadway adjacent to this proposed project, Middletown Road to the north of the project. Middletown Road is at an elevation slightly higher than the closest edge of the solar array and has some vegetation along its southern side that limits motorists' views of the site

Nine observation points along Middletown Road (Figure 4) were analyzed for glare from the proposed solar array. Each observation point was modeled as 3.5 feet from the ground, to represent the height of a driver's eyes. The software checks for glare from 360 degrees around each observation point, regardless of the direction of travel. Studies of aircraft pilots have shown that intense glare coming from beyond 45 degrees from their direction of travel does not present any glare hazard, and it is reasonable to assume that the same holds true for motor vehicle drivers as well.

The SGHAT results found no glare of any intensity during any minute of the year for any of the observation points located on the roadway.

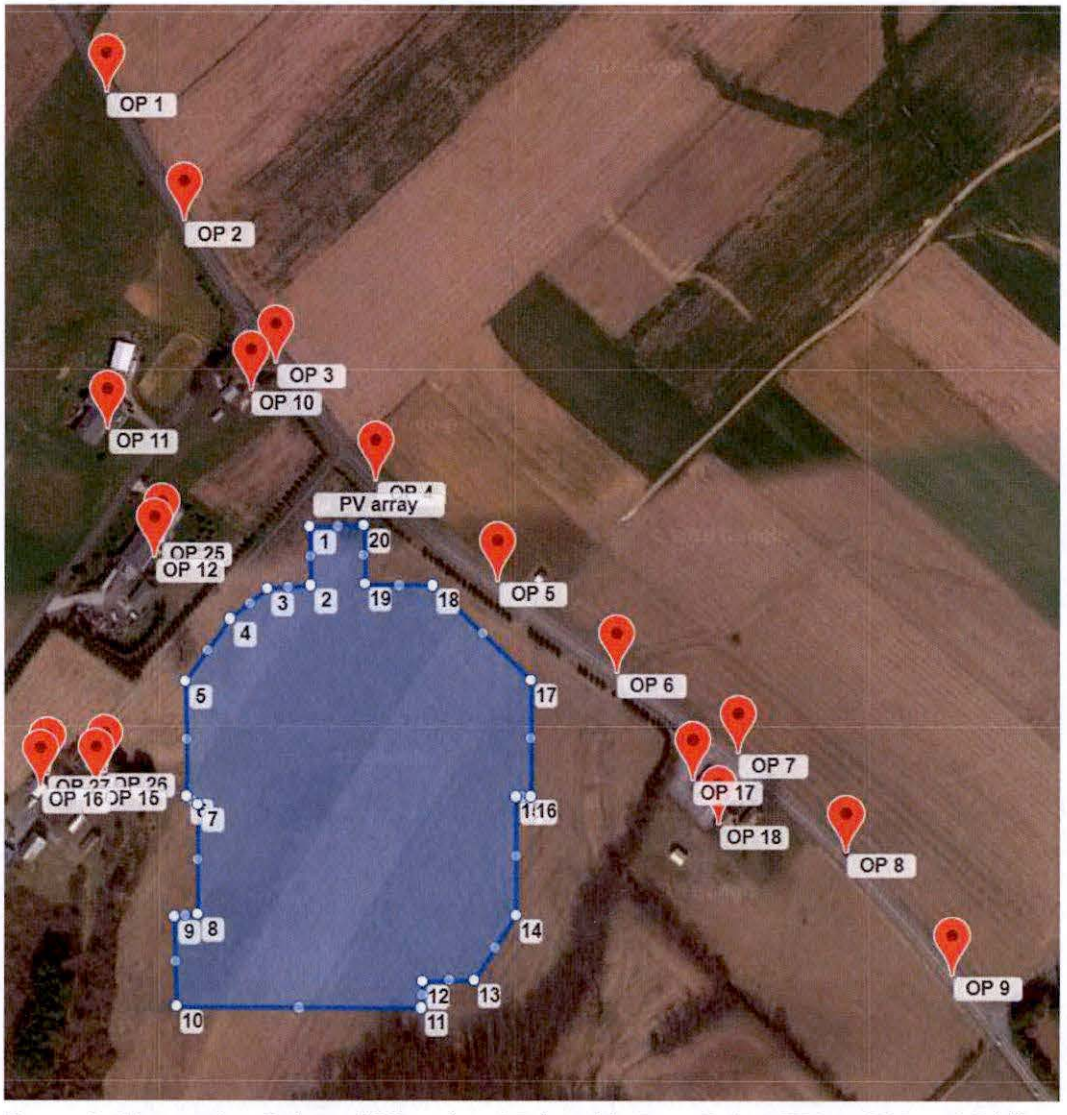

Figure 4. Observation Points of Motorists Analyzed in ForgeSolar; OP1 to OP9 on Middletown Rd.

Analysis of Residential and Commercial Neighbors

There are numerous buildings around the proposed solar array, nearly all are homes. All of the nearby buildings were included in the SGHAT analysis. All of the locations are shown in the figure in the executive summary, and close-ups of the modeled locations are shown in Figure 5, Figure 6, and Figure 7. Each location is modeled with an observation point at 6 feet from grade to represent the height of a person on the ground and several 2-story buildings (all to the west of the array) also include a second observation point (OP25, OP26, OP27, OP28, OP29, as seen in Figure 5 and Figure 6) at a height of 17 feet to represent someone looking out of a second story window. The home/building observation points were selected to represent a view from the yard outside of the building or a view out of a window or door.

The SGHAT results found no glare of any intensity during any minute of the year for any of the observation points located at buildings.

Figure 5. Observation Points to the West of the Array (OP3 in upper right is a road OP)

Figure 6. Observation Points to the Southwest of the Array

Figure 7. Building Observation Points (OP17 and OP18) to the East of the Array

Analysis of Nearby Airports

While FAA generally does not have jurisdiction to limit development outside of airport property and airspace, they have provided guidance that they recommend solar projects within 5 nautical miles of an airport conduct a SGHAT analysis[1].

The closest airport to the Foxhall Solar site is the Reservoir Airport, located in Finksburg, MD, about 15 miles (13 nautical miles) southwest of the proposed solar site. Due to this distance being farther than 5 nautical miles and the use of single axis trackers, the airport was not included in the SGHAT analysis.

[1] FAA proposed this 5 nautical mile threshold in the stakeholder development process for the Template Solar Development Ordinance for North Carolina in 2013. The 5 nautical mile threshold was included in the consensus template ordinance and has been adopted by jurisdictions across North Carolina (http://go.ncsu.edu/template-solar-ordinance)

SGHAT Results

A glare analysis was performed for all of the observation points described above. A summary of results is presented in this section of the report and the full ForgeSolar-generated report in provided in Appendix A.

The SGHAT defines two intensities of glare, "green" and "yellow". Green glare represents a "Low Potential for Temporary After-Image" and is about 1/1000th the intensity of looking directly into the sun (based on Hazards Plot in the SGHAT User's Manual[2]). According to the FAA Interim solar policy[3], which defines the requirements for solar projects constructed on airport property, glare classified in this green range that is visible to pilots on their final approach is acceptable. In other words, any amount of green glare is considered non-hazardous. Yellow glare has a "Potential for Temporary After-Image"; such glare could affect the viewer's ability so see clearly even after looking away from the glare. The FAA Interim solar policy (only has authority for solar built on airports) does not allow solar arrays that produce yellow glare visible to pilots on final approach to be built on airport property.

The SGHAT results found no glare of any intensity during any minute of the year for any of the 53 observation points analyzed.

Conclusion

The proposed Foxhall Solar facility will not produce any glare impacts. ForgeSolar, a detailed, proven solar glare hazard analysis software, was used to model the potential for the proposed solar array to cause glare to approaching motorists and people at nearby buildings. The software analysis found no glare of any intensity at any time during the year at any of the analyzed locations. The proposed project will use a single-axis tracking system to support the solar panels, which will keep the panels facing generally toward the sun which dramatically minimizes any solar reflection and directs what little reflection there is upward. Furthermore, the software does not take into account obstructions between the solar array and each observation location analyzed. At this site existing vegetation will at least partially obstruct the view of the proposed solar array for many of the analyzed locations.

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[2] https://share.sandia.gov/phlux/static/references/glint-glare/SGHAT_Users_Manual_v2-0_final.pdf

[3] "Interim Policy for the FAA Review of Solar Energy System Projects on Federally Obligated Airports.", http://www.gpo.gov/fdsys/pkg/FR-2013-10-23/pdf/2013-24729.pdf

Appendix A: SGHAT/ForgeSolar Results Report

ForgeSolar Glare Analysis Report – Page 1 of 9

FORGESOLAR GLARE ANALYSIS

Project: **Foxhall**
proposed Foxhall site

Site configuration: **updated layout - 6-ft array height-temp-1**
Analysis conducted by Tommy Cleveland (thcleveland@gmail.com) at 03:56 on 12 Jul, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	N/A	No flight paths analyzed
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- 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

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

ForgeSolar Glare Analysis Report – Page 2 of 9

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 19679.3219

ForgeSolar Glare Analysis Report – Page 3 of 9

PV Array(s)

Name: PV array
Axis tracking: Single-axis rotation
Tracking axis orientation: 180.0°
Tracking axis tilt: 0.0°
Tracking axis panel offset: 0.0°
Max tracking angle: 60.0°
Resting angle: 60.0°
Rated power: -
Panel material: Smooth glass without 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	39.687232	-76.738338	779.98	6.00	785.98
2	39.686885	-76.738333	776.39	6.00	782.39
3	39.686868	-76.738665	770.35	6.00	776.35
4	39.686687	-76.738949	762.29	6.00	768.29
5	39.686315	-76.739293	749.23	6.00	755.23
6	39.685634	-76.739287	733.76	6.00	739.76
7	39.685580	-76.739196	734.35	6.00	740.35
8	39.684932	-76.739202	741.46	6.00	747.46
9	39.684916	-76.739384	733.56	6.00	739.56
10	39.684383	-76.739362	742.42	6.00	748.42
11	39.684375	-76.737474	764.80	6.00	770.80
12	39.684536	-76.737458	769.01	6.00	775.01
13	39.684544	-76.737067	764.44	6.00	770.44
14	39.684924	-76.736739	764.33	6.00	770.33
15	39.685630	-76.736745	780.59	6.00	786.59
16	39.685630	-76.736627	779.90	6.00	785.90
17	39.686328	-76.736627	790.69	6.00	796.69
18	39.686885	-76.737383	784.62	6.00	790.62
19	39.686897	-76.737914	777.85	6.00	783.85
20	39.687244	-76.737925	784.68	6.00	790.69

ForgeSolar Glare Analysis Report – Page 4 of 9

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.689801	-76.739912	804.01	3.50
OP 2	2	39.689041	-76.739311	804.09	3.50
OP 3	3	39.688199	-76.738603	796.25	3.50
OP 4	4	39.687505	-76.737830	794.20	3.50
OP 5	5	39.686911	-76.736886	792.33	3.50
OP 6	6	39.686366	-76.735963	790.73	3.50
OP 7	7	39.685887	-76.735019	789.40	3.50
OP 8	8	39.685293	-76.734182	786.13	3.50
OP 9	9	39.684566	-76.733367	780.55	3.50
OP 10	10	39.688040	-76.738797	797.05	5.00
OP 11	11	39.687809	-76.739894	785.79	5.00
OP 12	12	39.687057	-76.739534	788.73	5.00
OP 13	13	39.686744	-76.742265	734.26	5.00
OP 14	14	39.686311	-76.742630	728.57	5.00
OP 15	15	39.685691	-76.739982	739.17	5.00
OP 16	16	39.685679	-76.740414	747.02	5.00
OP 17	17	39.685732	-76.735375	791.89	5.00
OP 18	18	39.685463	-76.735166	789.71	5.00
OP 19	19	39.684890	-76.741375	757.38	5.00
OP 20	20	39.684297	-76.741708	754.10	5.00
OP 21	21	39.683078	-76.741558	730.05	5.00
OP 22	22	39.684968	-76.742393	752.55	5.00
OP 23	23	39.684101	-76.732388	771.27	5.00
OP 24	24	39.682993	-76.731320	759.66	5.00
OP 25	25	39.687143	-76.739480	790.06	19.00
OP 26	26	39.685775	-76.739919	740.89	17.00
OP 27	27	39.685759	-76.740364	746.94	17.00
OP 28	28	39.684969	-76.741315	755.83	17.00
OP 29	29	39.684386	-76.741675	754.69	17.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array	SA tracking	SA tracking	0	0	-

Total annual glare received by each receptor

OP 1	0	0

ForgeSolar Glare Analysis Report – Page 5 of 9

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0

Results for: PV array

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	0	0

ForgeSolar Glare Analysis Report – Page 6 of 9

Receptor	Green Glare (min)	Yellow Glare (min)
OP 9	0	0
OP 10	0	0
OP 11	0	0
OP 12	0	0
OP 13	0	0
OP 14	0	0
OP 15	0	0
OP 16	0	0
OP 17	0	0
OP 18	0	0
OP 19	0	0
OP 20	0	0
OP 21	0	0
OP 22	0	0
OP 23	0	0
OP 24	0	0
OP 25	0	0
OP 26	0	0
OP 27	0	0
OP 28	0	0
OP 29	0	0

Point Receptor: OP 1

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 2

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 3

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 4

0 minutes of yellow glare
0 minutes of green glare

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Point Receptor: OP 5

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 6

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 7

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 8

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 9

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 10

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 11

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 12

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 13

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 14

0 minutes of yellow glare

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0 minutes of green glare

Point Receptor: OP 15

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 16

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 17

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 18

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 19

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 20

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 21

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 22

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 23

0 minutes of yellow glare
0 minutes of green glare

ForgeSolar Glare Analysis Report – Page 9 of 9

Point Receptor: OP 24

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 25

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 26

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 27

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 28

0 minutes of yellow glare
0 minutes of green glare

Point Receptor: OP 29

0 minutes of yellow glare
0 minutes of green glare

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.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.
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.

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Appendix B: Thomas Cleveland's CV

Thomas (Tommy) H. Cleveland, P.E.

4141 Laurel Hills Rd. Raleigh, NC thcleveland@gmail.com 919-923-5490

Education & Training

North Carolina State University, Mechanical Engineering M.S. 2004
North Carolina State University, Mechanical Engineering B.S., Business Mgmt. minor 2001 - Summa Cum Laude
Lumberton Sr. High School, Lumberton, NC, 1997 – Valedictorian

Professional Engineer, licensed in North Carolina (#033711), 2008 - Present

Professional Experience

Solar PV Engineer, Advanced Energy, Raleigh, NC, April 2017–Present

- Evaluation of commercial and utility scale solar PV facilities to assess the quality of design, construction, and operation
- Engineering analysis and concise presentation of results to customers

Solar Energy Engineer (various progressive titles), North Carolina Solar Center/NC Clean Energy Technology Center, North Carolina State University, 2005–April, 2017

- Lead solar engineer at the Center (2008-2017)
- Conducted detailed PV + storage feasibility study for community solar project for a NC municipal utility
- Provided quality assurance and technical support to development of in-house training program of every stage of solar farm construction for a leading regional utility-scale photovoltaic EPC firm
- Guided design of prototype residential Plug and Play PV system and collected AHJ feedback (Department of Energy SunShot project)
- Co-led stakeholder process to develop Template Solar Development Ordinance for North Carolina
- Led design and development of ISO-17025 accredited solar thermal collector testing lab
- Designed and installed PV field performance monitoring system, conducted performance analysis
- Conducted renewable energy site assessments for commercial, industrial, and institutional clients
- Presented to local government officials, community leaders, and general public on solar energy
- Provided technical support to a wide variety of energy consumers and stakeholders across North Carolina

Consultant/Expert Witness, Private consultant for over 15 solar developer clients, 2012-Present

- Provides expert witness testimony at special/conditional use and re-zoning public hearings regarding the health, safety, and environmental impact of utility-scale solar photovoltaic systems. Experience in NC, SC, VA, and FL (over 60 projects to date)
- Provides respectful clear answers to sometimes ill-informed and/or hostile questions
- Conduct site-specific studies of EMF, sound, and solar glare hazard for several projects

Instructor of ET 220 Solar Photovoltaic Assessment, Department of Forestry and Environmental Resources, North Carolina State University, 2014-Present

- Developed all course content for this new three credit hour online course
- Course covers all aspects of photovoltaic site assessment including energy use, solar resource, system design, utility tariffs, estimating, economics, and more
- Course is optional course for an Environmental Technology and Management degree
- Course is required for a Renewable Energy Assessment minor

Instructor of MAE 421 Design of Solar Energy Systems, Mechanical and Aerospace Engineering Department of North Carolina State University, 2009-2014

- Instructor of the solar energy engineering course, MAE 421, in the NC State University Mechanical and Aerospace Engineering department
- The course was offered during the spring semester and typically had 30 to 50 undergraduate and up to twelve graduate engineering students
- Previously co-instructor of the course for two years (2007, 2009)

Research Assistant, North Carolina Solar Center, North Carolina State University, 2003–2005

- Developed and validated a TRNSYS simulation model of a unique solar thermal concentrating collector
- Assisted with the installation of photovoltaic systems ranging in capacity from 1 kW to 5 kW

Selected Publications

"Balancing Agricultural Productivity with Ground-Based Photovoltaic Development", NCCETC/NCSU white paper, August 2017, https://nccleantech.ncsu.edu/wp-content/uploads/Balancing-Ag-and-Solar-final-version-update.pdf

"Health and Safety Impacts of Photovoltaics", NCCETC/NCSU white paper, May 2017, https://nccleantech.ncsu.edu/wp-content/uploads/Health-and-Safety-Impacts-of-Solar-Photovoltaics-2017_white-paper-1.pdf

"Community Solar (+ Storage) Program Design for Fayetteville Public Works Commission", NCSU/NCCETC report, March 2017, (Public version) https://nccleantech.ncsu.edu/wp-content/uploads/FPWC_CommunitySolar_Public_Version.pdf

T. Cleveland, H. Tsai, "Charlotte-Mecklenburg Schools Roadmap to 100% Renewable Electricity" & "Durham Public Schools Roadmap to 100% Renewable Electricity", NCCETC, February 2016

T. Cleveland, et al, "Template Solar Energy Development Ordinance for North Carolina", NCCETC & NCSEA, December 2013, www. go.ncsu.edu/template-solar-ordinance

M. Sheehan, T. Cleveland, *"Updated Recommendations for Federal Energy Regulatory Commission Small Generator Interconnection Procedures Screens"*, Solar America Board for Codes and Standards Study Report, 64 p., July 2010, www.solarabcs.org/about/publications/reports/ferc-screens/pdfs/ABCS-FERC_studyreport.pdf

T. Cleveland, et al, *"Optimizing Solar Thermal Resource Use at Commercial Buildings"*, Solar 2010 – ASES National Solar Energy Conference 2010, 6 p., May 2010, www.ases.org/papers/101.pdf

T. Cleveland, *"Description and Performance of a TRNSYS Model of the Solargenix Tracking Power Roof$_{TM}$"*, Solar 2005 – ASES National Solar Energy Conference, 6 p.

T. Cleveland, K. Creamer, & Dr. R. Johnson, *"Energy Metering of Solar Domestic Hot Water Systems for Inclusion in Green Power and Renewable Portfolio Standards Programs"*, Solar 2004 – ASES National Solar Energy Conference 2004, 6 p.

T. Cleveland, *"Effective Energy Metering of Solar Domestic Hot Water Systems for Inclusion in Green Power and Renewable Portfolio Standards"*, Master's Thesis, North Carolina State University, Raleigh, 191 p., April 2004, http://repository.lib.ncsu.edu/ir/handle/1840.16/1152

Selected Recent Presentations

T. Cleveland, A. Huang, "Plug and Play Residential PV System Innovation and Demonstration", Solar Power International Conference 2015

T. Cleveland, *"Make Solar Energy Economical"*, recorded video lecture for E102: Grand Challenges of Engineering course at NC State University, January 2015

T. Cleveland, M. Clark, *"Template Solar Ordinance for North Carolina"*, Solar Power International Conference 2014

Sparks Glencoe Community Planning Council Boundaries

17-108X

10/25

Petitioner
CBA Exhibit
16

IN RE: PETITION FOR SPECIAL EXCEPTION (10790 Raphel Road) 11th Election District 5th Council District Baltimore Gas & Electric Company *Legal Owner* P52ES Under Armour Community Solar 1, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0127-X

* * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of a Petition for Special Exception filed on behalf of Baltimore Gas and Electric Company, legal owner and P52ES Un der Armour Community Solar I, LLC, lessee ("Petitioners"). The petition was filed pursuant to the Baltimore County Zoning Regulations ("BCZR") to approve a Solar Facility.

Robert Wallace appeared on behalf of the lessee in support of the petition. Patsy Malone, Esq. represented the Lessee. Two citizens attended the hearing to obtain additional information about the project. Substantive Zoning Advisory Committee (ZAC) comments were received from the Department of Environmental Protection and Sustainability (DEPS), the Bureau of Development Plans Review (DPR) and the Department of Planning (DOP). None of the reviewing agencies opposed the request.

The subject property is approximately 138 acres in size and is zoned RC-5. The Lessee proposes to lease from BGE a portion of the site to operate a solar facility which will produce 2MW of electricity. The special exception area shown on the plan is approximately 16.64 acres although the solar panels themselves would occupy only about eight (8) acres of land.

17-108X

10/25

Petitioner
CBA Exhibit
17

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Edward Tom, a registered landscape architect accepted as an expert, described the proposed landscaping for the project, and noted that only one portion of the large site facing Raphel Road is visible to motorists or others travelling past the property. As such landscaping will be provided in that area and Petitioners propose to install a variety of vegetation to create a naturalistic border. Mitch Kellman, a land use planner accepted as an expert, confirmed the project complies with all restrictions and requirements of Article 4E of the BCZR governing solar facilities. He also opined Petitioners have satisfied the requirements for special exception relief as set forth at BCZR §502.1.

Doug Behr, on behalf of the Greater Kingsville Civic Association, Inc., (GKCAI) indicated the community would prefer Petitioners to remove some of the existing macadam and provide additional landscaping near the intersection of Raphel and Philadelphia Roads. He explained for many years a farm stand was operated at this portion of the site, which is now a vacant parking lot with broken asphalt and gravel. Counsel indicated Petitioners were willing to work with the community to address this issue, which would greatly improve the appearance of this portion of the site which is immediately adjacent to two roadways.

THEREFORE, IT IS ORDERED this 11th day of **May, 2018,** by this Administrative Law Judge, that the Petition for Special Exception to use the property for a Solar Facility be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must comply with the ZAC comment submitted by the Bureau of DPR, a copy of which is attached hereto and incorporated herein.

3. Petitioners, in consultation with the County's landscape architect and the GKCAI, shall use good faith efforts to attempt to honor the community's request for additional landscaping near the intersection of Raphel and Philadelphia Roads.

4. No signage (other than temporary construction signs) or lighting shall be permitted on the property in connection with the solar facility.

5. The solar panels themselves shall occupy no more than eight (8) acres of the special exception area shown on the site plan.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

BALTIMORE COUNTY, MARYLAND

Inter-Office Correspondence

TO: Hon. Lawrence M. Stahl; Managing Administrative Law Judge
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and Sustainability (EPS) - Development Coordination

DATE: November 30, 2017

SUBJECT: DEPS Comment for Zoning Item # 2018-0127-X
Address 10790 Raphel Road
(P52ES Under Armour Community Solar 1, LLC Property)

Zoning Advisory Committee Meeting of **November 20, 2017.**

__X__ The Department of Environmental Protection and Sustainability offers the following comments on the above-referenced zoning item:

1. Forest Buffer Easements and Forest Conservation Easements and the associated Declarations of Protective Covenants have been recorded for this property. All of these easements must be shown on all future plans along with the appropriate non-disturbance and protective covenants notes.

2. The Forest Buffer Easement protecting a wetland area along Raphel Road has not been shown on the plan. This area is recorded in Baltimore County Land Records at 39185/75. Add this Forest Buffer Easement and the associated wetlands to all future plans. Also, show the extension of the buffer in to the Raphel Road right-of-way.

Reviewer: Paul Dennis

IN RE: PETITION FOR SPECIAL EXCEPTION (1139 Monkton Road) 7th Election District 3rd Council District HHK Farms, LLC *Legal Owner* OneEnergy Development, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0030-X

* * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of a Petition for Special Exception filed on behalf of HHK Farms, LLC, legal owner and OneEnergy Development, LLC, lessee ("Petitioners"). The petition was filed pursuant to the Baltimore County Zoning Regulations ("BCZR") to approve a Solar Facility.

Marni Carroll, landscape architect Edward Tom, professional engineer Matt Durette and planner Mitch Kellman appeared in support of the petition. Adam M. Rosenblatt, Esq. represented the Petitioners. Several citizens attended the hearing and opposed the request. Substantive Zoning Advisory Committee (ZAC) comments were received from the Department of Environmental Protection and Sustainability (DEPS), the Bureau of Development Plans Review (DPR) and the Department of Planning (DOP).

The subject property is approximately 98.49 acres in size and is split-zoned RC-2, RC-4 and RC-7. The proposed solar facility would be situated entirely within the RC-2 zoned portion of the site; a solar facility is permitted in an RC-2 zone by special exception. Representatives of the lessee testified the solar panels would occupy approximately 13 acres of the site, and in response to comments by the DOP the panels were shifted further away from Monkton Road. When originally submitted the plan indicated that at the closest point the panels would be 79 ft.

17-108X

10/25

Petitioner
CBA Exhibit
18

from Monkton Road, and the revised plan reflects that distance has increased to 125 ft. As Mr. Kellman testified, the law requires only a 50 ft. setback from a road, including a scenic route like Monkton Road. BCZR §4E-104.

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Mr. Kellman, who was accepted as an expert, opined the plan satisfied all requirements set forth in BCZR §502.1 governing special exceptions. He also opined that any detrimental impacts upon the community at this location would be no worse than at other RC-2 zoned parcels in northern Baltimore County. Having satisfied their burden of proof under Maryland law I believe Petitioners are entitled to the special exception.

I am sympathetic to the concerns expressed by the community, which (as in several previous cases involving solar facilities in RC zones) focused upon the potential environmental impact from the solar panels as well as the detrimental impact the panels will have upon the bucolic country setting. While these are legitimate concerns, they are also inherent in the operation of a solar facility in the RC-2 zone generating two megawatts of electricity. A special exception petition cannot be denied based upon an inherent adverse impact upon the community. *Id.* Petitioners will be required to comply with all County environmental regulations, and a condition to that effect

will be included below. In addition, Petitioners will need to submit for County approval a landscape plan that will mitigate the visual impact of the solar facility upon the scenic route and adjacent homes.

THEREFORE, IT IS ORDERED this 7th day of **May, 2018,** by this Administrative Law Judge, that the Petition for Special Exception to use the property for a Solar Facility be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must comply with the ZAC comments submitted by the DEPS and Bureau of DPR, copies of which are attached hereto and incorporated herein.

3. No trees may be removed from the site in connection with the construction of the solar facility.

4. No barbed wire fencing shall be permitted in conjunction with the solar facility.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

BALTIMORE COUNTY, MARYLAND

INTEROFFICE CORRESPONDENCE

TO: Arnold Jablon, Director
Department of Permits, Approvals
And Inspections

DATE: March 1, 2018

FROM: Vishnu Desai, Supervisor
Bureau of Development Plans Review

SUBJECT: Zoning Advisory Committee Meeting
For February 12, 2018
Item No. 2018-0030-X (Revised Plan)

The Bureau of Development Plans Review has reviewed the subject zoning items and we have the following comments.

If Special Exception is granted, a landscape plan is required per the requirements of the Landscape Manual, Bill No. 37-17 and the CMDP. Specific landscape comments:

1. Monkton Road is a Baltimore County Scenic Route,
2. Perimeter landscape buffers are required,
3. Perimeter landscape buffers required along Monkton Road might require the solar facility to be set back further from Monkton Road to allow room for adequate and diverse landscape screen plantings,
4. Must minimize tree and vegetation removal,
5. Solar panels are considered a utility and should be designed and located to harmonize with the surroundings and to create the least visual impact. (See Comment # 9, 10, 11 & 12 below),
6. Additional landscape buffers (including contour strip buffers) may be required to address existing topography changes, Scenic Views, Scenic Routes, etc. depending on a number of items including the subject properties topography,
7. More comments may be rendered during review of the landscape plan,
8. Proposed perimeter fence shall be black vinyl-coated chain-link fence,
9. Proposed landscape screening should begin at or near the Special Exception "Point Of Beginning" label on the south side of Monkton Road and extend eastward approximately 1,500 feet or approximately 100 feet to the east of the existing shed to assure screening of the solar array field from Monkton Road views.
10. Both 1111 and 1123 Monkton Road (Scenic Route) are adjacent properties that need to be reviewed for possible landscape screening to be designed and installed between their property and the proposed solar facility.
11. Landscape screening appears to be needed to address adjacent properties views when it relates to the proposed solar facility. Including, but not limited to 1132 thru 1238 Monkton Road (Scenic Route).
12. Proposed 16 foot access road may need to have a chicane or bends to assure screening of the solar array field from Monkton Road views if landscape screening does not.

* * * * *

VKD: cen
Cc: file

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BALTIMORE COUNTY, MARYLAND

Inter-Office Correspondence

RECEIVED
MAR 14 2018
OFFICE OF
ADMINISTRATIVE HEARINGS

TO: Hon. Lawrence M. Stahl; Managing Administrative Law Judge
Office of Administrative Hearings

FROM: Jeff Livingston, Department of Environmental Protection and Sustainability (EPS) - Development Coordination

DATE: March 13, 2018

SUBJECT: DEPS Comment for Zoning Item # 2018-0030-X- *revised*
Address 1139 Monkton Road
(HHK Farms, LLC Property)

Zoning Advisory Committee Meeting of **February 16, 2018.**

X The Department of Environmental Protection and Sustainability offers the following comments on the above-referenced zoning item:

X Development of the property must comply with the Regulations for the Protection of Water Quality, Streams, Wetlands and Floodplains (Sections 33-3-101 through 33-3-120 of the Baltimore County Code).

X Development of this property must comply with the Forest Conservation Regulations (Sections 33-6-101 through 33-6-122 of the Baltimore County Code).

Additional Comments: Resource delineations, which have not been submitted for review, are required to make a final determination regarding compliance with the above-referenced regulations. This may result in, but not be limited to, the recordation of Forest Buffer Easement(s) and/or Forest Conservation Easement(s), along with Declarations of Protective Covenants, in the Land Records of Baltimore County.

Reviewer: *Thomas Panzarella, Environmental Impact Review*

1. In order to meet State – mandated stormwater management requirements and minimize water quality impacts, the project must be designed and constructed in accordance with the attached Maryland Department of the Environment solar panel installation guidance document as part of the permit approval process.

MDE Maryland Department of the Environment

Stormwater Design Guidance – Solar Panel Installations

Revisions to Maryland's Stormwater Management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to mimic natural hydrology, reduce runoff to reflect forested wooded conditions, and minimize the impact of land development on water resources. This applies to any residential, commercial, industrial or institutional development where more than 5,000 square feet of land is disturbed. Consequently, stormwater management must be addressed even when permeable features like solar panel installations exceed 5,000 square feet of land disturbance.

Depending on local soil conditions and proposed imperviousness, the amount of rainfall that stormwater requirements are based on varies from 1.0 to 2.6 inches. However, addressing stormwater management does not mean that structural or micro-scale practices must be constructed to capture and treat large volumes of runoff. Using nonstructural techniques like disconnecting impervious cover reduces runoff by promoting overland filtering and infiltration. Commonly used with smaller or narrower impervious areas like driveways or open roofs, the disconnection of non-rooftop runoff technique (see PP. 5.61 to 5.65 of the 2000 Maryland Stormwater Design Manual) is a low cost alternative for treating runoff in situations like rows of solar panels.

When non-rooftop disconnection is used to treat runoff, the following factors should be considered:

- The vegetated area receiving runoff must be equal to or greater in length than the disconnected surface (e.g., width of the row of solar panels).
- Runoff must sheet flow onto and across vegetated areas to maintain the disconnection.
- Disconnections should be located on gradual slopes (≤ 5%) to maintain sheet flow. Level spreaders, terraces, or berms may be used to maintain sheet flow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment, and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice.
- Disconnecting impervious surfaces works best in undisturbed soils. To minimize disturbance and compaction, construction vehicles and equipment should avoid areas used for disconnection during installation of the solar panels.
- Groundcover vegetation must be maintained in good condition in those areas receiving disconnected runoff. Typically this maintenance is no different than other lawn or landscaped areas. However, areas receiving runoff should be protected (e.g., planting shrubs or trees along the perimeter) from future compaction.

Depending on the layout and number of panels installed, the disconnection of non-rooftop runoff technique may address some or all of the stormwater management requirements for an individual project. Where the imperviousness is high or there is other infrastructure (e.g., access roads, transformers), additional runoff may need to be treated. In these situations, other ESD techniques or micro-scale practices may be needed to provide stormwater management for these features.

Example 1 – Using Non-Rooftop Disconnection Where the Average Slope ≤5%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope does not exceed 5%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed according to Figure 1 below. In this scenario, the disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). Therefore, each row of panels is adequately disconnected and the runoff from 1.0 inch of rainfall is treated.

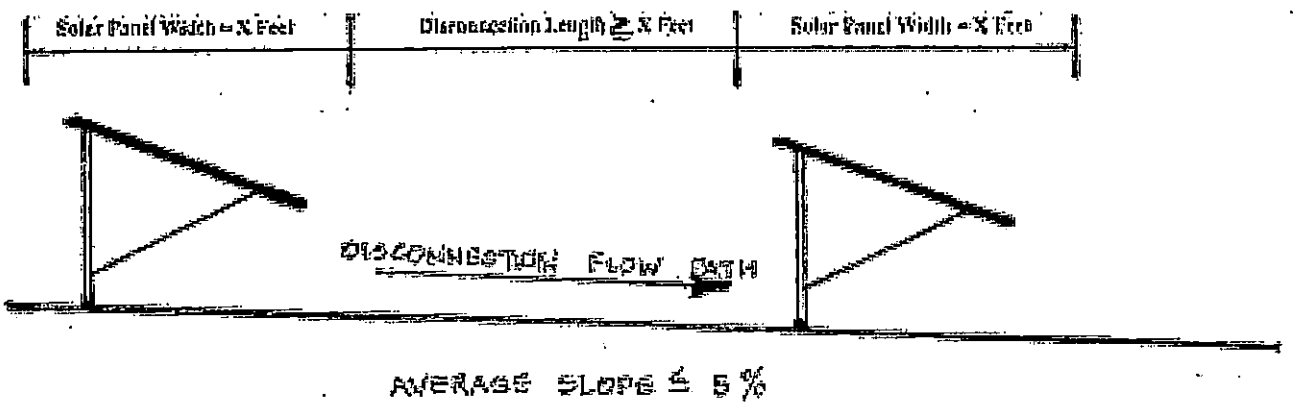

Figure 1. Typical Installation – Slope ≤5%

Example 2 – Using Non-Rooftop Disconnection Where the Average Slope ≥5% but ≤10%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope is greater than 5% but less than 10%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed as shown in figure 2 below. The disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). However, in this example, a level spreader (typically 1 to 2 feet wide and 1 foot deep) has been located at the drip edge of each row of panels to dissipate energy and maintain sheet flow.

Discussion

To meet State and local stormwater management requirements, ESD must be used to the MEP to reduce runoff to reflect forested conditions. While all reasonable options for implementing ESD must be investigated, minimally, the runoff from 1 inch of rainfall must be treated. In each of the examples above, there may be additional opportunities to implement ESD techniques or practices and reduce runoff that should be explored. However, simply disconnecting the runoff from the solar panel arrays captures and treats the runoff from 1.0 inch of rainfall. Where imperviousness is low and soil conditions less optimal (e.g., HSG C or D), this may be sufficient to completely address stormwater management requirements. In more dense applications or in sandy soils, additional stormwater management may be required.

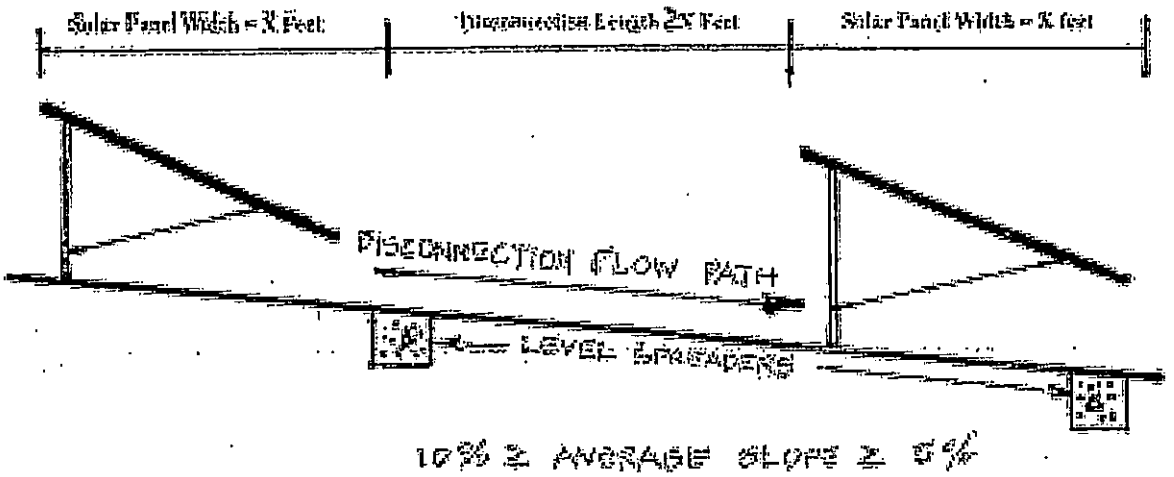

Figure 2 Typical Installation – Slope ≥5% but ≤10%

Conclusion

The primary purpose of Maryland's stormwater management program is to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Any land development project that exceeds 5,000 square feet of disturbance, including solar panel projects, must address stormwater management. However, for solar panels, stormwater management may be provided in a cost effective manner by disconnecting each row of panels and directing runoff over the vegetated areas between the individual rows.

Resources

1 2000 Maryland Stormwater Design Manual, Volumes I and II, MDE, October 2000 (http://www.mde.state.md.us/programs/Water/StormwaterManagement/Programs/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx)

Board of Appeals

Case No: 17-108X Case Name: David Williams Mathews

Exhibit List

Party: People's Counsel Date: 7/12/18

Exhibit No:	Description:	
✓ 1	Balto. Co. 37-17	
~~29~~	~~Color or Model~~	
~~25~~	~~Privacy Plan~~	
~~#~~	Whole File Put into evidence	
✓ 2.	Land Use Request / Article	I.D. only
✓ 3.	Solar Panel Fact Sheet	I.D. only
10/14/18 ✓ 4.	A.D.C. Balto. City + County Street Atlas	I.D. only
✓ 5.	ALJ's Opinion + Order 1/22/18	~~I.D. only~~
10/17/18 KC ✓ 6.	A. G.I.S Map of Area - In	
✓ 6.	B. GIS - smaller w/ Contours	~~I.D. only~~
✓ 7	SDAT - Print Out	
10/25 ✓ 8	Zoning GIT Map 2018	
✓ 9	- G.I.T. Topo Map.	
	VERIFIED BY KC DATE: 7/13/18	

Board of Appeals

Case No: 17-108X Case Name: Matthews

Exhibit List

Party: People's Counsel Date: 10/25

Exhibit No:	Description:
✓10.	USDA 10/2 - Letter from Brewer + Report - ~~showing size of pool footprint~~
✓11	ALT Opinion on Solar - showing size of special Exception other
	VERIFIED BY KC DATE: 10/26/18

COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND
Legislative Session 2017, Legislative Day No. 11

Bill No. 37-17

Mrs. Vicki Almond, Councilwoman

By the County Council, June 5, 2017

A BILL
ENTITLED

AN ACT concerning

Solar Facilities

FOR the purpose of permitting a Solar Facility to be located in certain zones of the County by special exception; providing for a statement of purpose and defining terms; providing exceptions; providing for the requirements for a facility; providing for a required security; providing for the maintenance, abandonment, and removal of a facility; authorizing the Code Official to enforce the provisions of this Act; providing for the application of the Act; and generally relating to Solar Facilities.

BY adding
Article 4E – Solar Facilities
Sections 4E-101 to 4E-107
Baltimore County Zoning Regulations, as amended

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
[Brackets] indicate matter stricken from existing law.
~~Strike-out~~ indicates matter stricken from bill.
Underlining indicates amendments to bill.

BY repealing and re-enacting, with amendments
Article 5 – Administration and Enforcement
Section 502.1.I.
Baltimore County Zoning Regulations, as amended

SECTION 1. BE IT ENACTED BY THE COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND, that the Baltimore County Zoning Regulations read as follows:

ARTICLE 4E

SOLAR FACILITIES

§4E-101. PURPOSE AND DEFINITIONS.

§4E-101.1. PURPOSE.

SOLAR ENERGY IS RECOGNIZED AS AN ABUNDANT, RENEWABLE, AND ENVIRONMENTALLY SUSTAINABLE SOURCE OF ELECTRICITY GENERATION THAT WILL LEAD TO GREATER LOCAL GRID RESILIENCY AND SECURITY, AND PRODUCE CLEAN, RENEWABLE ENERGY AND REDUCE AIR AND WATER POLLUTION CAUSED BY THE BURNING OF TRADITIONAL FOSSIL FUELS. THE PURPOSE AND INTENT OF THIS ARTICLE IS TO PERMIT SOLAR FACILITIES IN PARTS OF THE RURAL AND COMMERCIAL AREAS OF THE COUNTY BY SPECIAL EXCEPTION, AND TO BALANCE THE BENEFITS OF SOLAR ENERGY PRODUCTION WITH ITS POTENTIAL IMPACT UPON THE COUNTY'S LAND USE POLICIES BY ENSURING SUFFICIENT SAFEGUARDS ARE IN PLACE TO PROTECT THE COUNTY'S COMMUNITIES AND ITS AGRICULTURAL LAND, FORESTS, WATERWAYS AND OTHER NATURAL RESOURCES.

People's Counsel
CBA Exhibit

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§4E-101.2. DEFINITIONS.

AS USED IN THIS ARTICLE, THE FOLLOWING TERMS HAVE THE MEANINGS INDICATED:

A. "SOLAR FACILITY" MEANS A FACILITY THAT INCLUDES A SERIES OF ONE OR MORE SOLAR COLLECTOR PANELS OR SOLAR ENERGY SYSTEMS THAT ARE PLACED IN AN AREA ON A TRACT OF LAND FOR THE PURPOSE OF GENERATING PHOTOVOLTAIC POWER FOR COMMERCIAL USE. THE TERM INCLUDES A SOLAR POWER PLANT OR SOLAR PHOTOVOLTAIC FARM.

B. "COMMERCIAL USE" MEANS THE TRANSFER TO THE ELECTRICAL POWER GRID OF ENERGY PRODUCED BY A SOLAR FACILITY FOR SALE BY ENERGY SUPPLIERS TO CONSUMERS.

§4E-102. LOCATION OF SOLAR FACILITIES.

A. SUBJECT TO PARAGRAPH B, A SOLAR FACILITY IS PERMITTED ONLY BY SPECIAL EXCEPTION IN THE R.C.2, R.C.3, R.C.4, R.C.5, R.C.6, R.C.7, R.C.8, B.L., B.M., M.R., M.L.R., AND M.H. ZONES OF THE COUNTY.

B. THE ALLOCATION OF LAND FOR SOLAR FACILITIES IN THE COUNTY IS LIMITED TO THE FOLLOWING:

1. THE MAXIMUM AREA PERMITTED FOR A SINGLE SOLAR FACILITY IS THE AMOUNT OF ACREAGE THAT PRODUCES NO MORE THAN TWO MEGAWATTS ALTERNATING CURRENT (AC) OF ELECTRICITY.

2. NO MORE THAN TEN (10) SOLAR FACILITIES MAY BE LOCATED IN A COUNCILMANIC DISTRICT.

3. THE DIRECTOR OF PERMITS, APPROVALS AND INSPECTIONS SHALL MAINTAIN A RECORD OF ALL PERMITS ISSUED FOR A SOLAR FACILITY IN THE COUNTY, INCLUDING THE LOCATION AND COUNCILMANIC DISTRICT FOR EACH SUCH FACILITY, AND SHALL KEEP A CURRENT ACCOUNTING OF THE NUMBER OF FACILITIES IN EACH COUNCILMANIC DISTRICT UNDER THIS PARAGRAPH.

4. UPON REACHING THE THRESHOLD OF TEN (10) SOLAR FACILITIES IN A COUNCILMANIC DISTRICT, NO ADDITIONAL PERMITS SHALL BE ISSUED FOR A SOLAR FACILITY IN THAT DISTRICT UNLESS AN EXISTING FACILITY PREVIOUSLY APPROVED UNDER THIS ARTICLE HAS BEEN REMOVED PURSUANT TO SECTION 4E-107.

§4E-103. EXCEPTION.

THIS ARTICLE DOES NOT APPLY TO THE FOLLOWING SOLAR FACILITY INSTALLATIONS:

1. A GROUND-MOUNTED SOLAR FACILITY ~~LOCATED IN A YARD AREA, BUILDING, OR STRUCTURE THAT IS ACCESSORY TO A PRINCIPAL RESIDENTIAL, AGRICULTURAL, COMMERCIAL OR INSTITUTIONAL USE~~ THAT IS ACCESSORY TO A PRINCIPAL RESIDENTIAL OR AGRICULTURAL USE (SUBJECT TO SECTIONS 400.1 AND 400.2 OF THESE REGULATIONS APPLICABLE TO ACCESSORY BUILDINGS), OR ACCESSORY TO A PRINCIPAL COMMERCIAL, INDUSTRIAL, OR INSTITUTIONAL USE;

2. A ROOFTOP SOLAR FACILITY;

~~2~~3. A SOLAR FACILITY ON FEDERAL, STATE OR LOCAL GOVERNMENT-OWNED OR LEASED LAND THAT PRODUCES ENERGY FOR GOVERNMENT USE; OR

~~3~~4. A SOLAR FACILITY LOCATED ON THE SAME PROPERTY OR TRACT AS A FARM THAT USES AT LEAST 66% OF THE ENERGY GENERATED BY THE FACILITY FOR AGRICULTURAL USES ON THE FARM.

§4E-104. REQUIREMENTS.

A. A SOLAR FACILITY LOCATED IN AN R.C. ZONE IS SUBJECT TO THE FOLLOWING REQUIREMENTS:

1. THE LAND ON WHICH A SOLAR FACILITY IS PROPOSED MAY NOT BE ENCUMBERED BY AN AGRICULTURAL PRESERVATION EASEMENT, AN ENVIRONMENTAL PRESERVATION EASEMENT, OR A RURAL LEGACY EASEMENT.

2. THE LAND ON WHICH A SOLAR FACILITY IS PROPOSED MAY NOT BE LOCATED IN A BALTIMORE COUNTY HISTORIC DISTRICT OR ON A PROPERTY THAT IS LISTED ON THE BALTIMORE COUNTY FINAL LANDMARKS LIST.

3. THE PORTION OF LAND ON WHICH A SOLAR FACILITY IS PROPOSED MAY NOT BE IN A FOREST CONSERVATION EASEMENT, OR BE IN A DESIGNATED CONSERVANCY AREA IN AN R.C.4 OR R.C.6 ZONE.

4. ABOVEGROUND COMPONENTS OF THE SOLAR FACILITY, INCLUDING SOLAR COLLECTOR PANELS, INVERTERS, AND SIMILAR EQUIPMENT, MUST BE SET BACK A MINIMUM OF 50 FEET FROM THE TRACT BOUNDARY. THIS SETBACK DOES NOT APPLY TO THE INSTALLATION OF THE ASSOCIATED LANDSCAPING, SECURITY FENCING, WIRING, OR POWER LINES.

5. A STRUCTURE MAY NOT EXCEED 20 FEET IN HEIGHT.

6. A LANDSCAPING BUFFER SHALL BE PROVIDED AROUND THE PERIMETER OF ANY PORTION OF A SOLAR FACILITY THAT IS VISABLE FROM AN ADJACENT RESIDENTIALLY USED PROPERTY OR A PUBLIC STREET. SCREENING OF STATE AND LOCAL SCENIC ROUTES AND SCENIC VIEWS IS REQUIRED IN ACCORDANCE WITH THE BALTIMORE COUNTY LANDSCAPE MANUAL.

7. SECURITY FENCING SHALL BE PROVIDED BETWEEN THE LANDSCAPING BUFFER AND THE SOLAR FACILITY.

8. A SOLAR COLLECTOR PANEL OR COMBINATION OF SOLAR COLLECTOR PANELS SHALL BE DESIGNED AND LOCATED IN AN ARRANGEMENT THAT MINIMIZES GLARE OR REFLECTION ONTO ADJACENT PROPERTIES AND ADJACENT ROADWAYS, AND DOES NOT INTERFERE WITH TRAFFIC OR CREATE A SAFETY HAZARD.

9. A PETITIONER SHALL COMPLY WITH THE PLAN REQUIREMENTS OF SECTION 33-3-108 OF THE COUNTY CODE.

10. IN GRANTING A SPECIAL EXCEPTION, THE ADMINISTRATIVE LAW JUDGE, OR BOARD OF APPEALS ON APPEAL, MAY IMPOSE CONDITIONS OR RESTRICTIONS ON THE SOLAR FACILITY USE AS NECESSARY TO PROTECT THE ENVIRONMENT AND SCENIC VIEWS, AND TO LESSEN THE IMPACT OF THE FACILITY ON THE HEALTH, SAFETY, AND GENERAL WELFARE OF SURROUNDING RESIDENTIAL PROPERTIES AND COMMUNITIES, TAKING INTO ACCOUNT SUCH FACTORS AS THE TOPOGRAPHY OF ADJACENT LAND, THE PRESENCE OF NATURAL FOREST BUFFERS, AND PROXIMITY OF STREAMS AND WETLANDS.

B. THE REQUIREMENTS OF SUBPARAGRAPHS A.6, A.7, A.8 AND A.10 SHALL APPLY TO A SOLAR FACILITY LOCATED IN A BUSINESS OR MANUFACTURING ZONE.

§ 4E-105. REQUIRED SECURITY.

A. AN APPLICANT FOR A BUILDING PERMIT FOR A SOLAR FACILITY SHALL PROVIDE A SECURITY BOND OR EQUIVALENT FINANCIAL SECURITY IN THE FORM AND AMOUNT DETERMINED BY THE COUNTY ADMINISTRATIVE OFFICER.

B. THE CODE OFFICIAL MAY USE THE BOND TO PROCURE THE REPAIR OF ANY UNSAFE OR HAZARDOUS CONDITIONS UNDER SECTION 4E-106 OR REMOVAL OF A SOLAR FACILITY UNDER SECTION 4E-107, IN ACCORDANCE WITH SECTION 3-6-402 OF THE COUNTY CODE.

§4E-106. MAINTENANCE.

A. ALL PARTIES HAVING A LEASE OR OWNERSHIP INTEREST IN A SOLAR FACILITY ARE RESPONSIBLE FOR THE MAINTENANCE OF THE FACILITY.

B. MAINTENANCE SHALL INCLUDE PAINTING, STRUCTURAL REPAIRS, LANDSCAPE BUFFERS AND VEGETATION UNDER AND AROUND SOLAR PANEL STRUCTURES, AND INTEGRITY OF SECURITY MEASURES. ACCESS TO THE FACILITY SHALL BE MAINTAINED IN A MANNER ACCEPTABLE TO THE FIRE DEPARTMENT. THE OWNER, OPERATOR, OR LESSEE ARE RESPONSIBLE FOR THE COST OF MAINTAINING THE FACILITY AND ANY ACCESS ROADS.

C. APPROPRIATE VEGETATION IS PERMITTED UNDER AND AROUND THE SOLAR

COLLECTOR PANELS, AND THE TRACT MAY BE USED FOR ACCESSORY AGRICULTURAL PURPOSES, INCLUDING GRAZING OF LIVESTOCK, APICULTURE, AND SIMILAR USES.

D. THE PROVISIONS ON THIS SECTION SHALL BE ENFORCED IN ACCORDANCE WITH ARTICLE 3, TITLE 6 OF THE COUNTY CODE.

§4E-107. ABANDONMENT; REMOVAL.

A. A SOLAR FACILITY THAT HAS REACHED THE END OF ITS USEFUL LIFE OR HAS BEEN ABANDONED SHALL BE REMOVED. THE OWNER OR OPERATOR SHALL PHYSICALLY REMOVE THE INSTALLATION NO MORE THAN 150 DAYS AFTER THE DATE OF DISCONTINUED OPERATIONS. THE OWNER OR OPERATOR SHALL NOTIFY THE COUNTY BY CERTIFIED MAIL OF THE PROPOSED DATE OF DISCONTINUED OPERATIONS AND PLANS FOR REMOVAL.

B. REMOVAL SHALL CONSIST OF THE:

1. PHYSICAL REMOVAL OF ALL SOLAR ENERGY SYSTEMS, STRUCTURES, EQUIPMENT, SECURITY BARRIERS AND TRANSMISSION LINES FROM THE SITE;

2. DISPOSAL OF ALL SOLID AND HAZARDOUS WASTE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL WASTE DISPOSAL REGULATIONS; AND

3. STABILIZATION OR RE-VEGETATION OF THE SITE AS NECESSARY TO MINIMIZE EROSION.

C. IF THE OWNER OR OPERATOR FAIL TO REMOVE THE FACILITY WITHIN 150 DAYS OF ABANDONMENT, THE COUNTY RETAINS THE RIGHT TO ENTER AND REMOVE THE FACILITY. AS A CONDITION OF SPECIAL EXCEPTION APPROVAL,

THE PETITIONER AND LANDOWNER AGREE TO ALLOW ENTRY TO REMOVE AN ABANDONED FACILITY.

D. THE CODE OFFICIAL MAY ISSUE A CITATION TO THE OWNER OR OPERATOR FOR REMOVAL OF A SOLAR FACILITY IF:

1. THE CODE OFFICIAL DETERMINES THAT THE SOLAR FACILTY HAS NOT BEEN IN ACTUAL AND CONTINUOUS USE FOR 12 CONSECUTIVE MONTHS;

2. THE OWNER OR OPERATOR FAILED TO CORRECT AN UNSAFE OR HAZARDOUS CONDITION OR FAILED TO MAINTAIN THE SOLAR FACILITY UNDER SECTION 4E-106 WITHIN THE TIME PRESCRIBED IN A CORRECTION NOTICE ISSUED BY THE CODE OFFICIAL; OR

3. THE OWNER OR OPERATOR HAS FAILED TO REMOVE THE SOLAR FACILITY IN ACCORDANCE WITH PARAGRAPH C.

§502.1. Conditions Determining Granting of Special Exception.

Before any special exception may be granted, it must appear that the use for which the special exception is requested will not:

I. Be detrimental to the environment and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5, or R.C.7 Zone, AND FOR CONSIDERATION OF A SOLAR FACILITY USE UNDER ARTICLE 4E, THE INCLUSION OF THE R.C.3, R.C.6, AND R.C.8 ZONE.

SECTION 2. AND BE IT FURTHER ENACTED, that the Planning Board shall, in consultation with the Departments of Planning and Environmental Protection and Sustainability,

and with participation of the Baltimore County Commission on Environmental Quality, representatives of the Solar Industry, the Sierra Club's Greater Baltimore Group, and the Valleys Planning Council, study and evaluate the impact of Solar Facilities in Baltimore County and the effect of Article 4E of these Regulations, and by July 1, 2018 submit recommendations to the County Council and the County Executive regarding potential changes to current law.

SECTION 3. AND BE IT FURTHER ENACTED, that this Act, having been passed by the affirmative vote of five members of the County Council, shall take effect on July 17, 2017 and shall apply retroactively to any zoning petition filed after October 18, 2016.

READ AND PASSED this 3rd day of JULY, 2017.

BY ORDER

Thomas J. Peddicord, Jr.
Secretary

PRESENTED to the County Executive for his approval this 5th day of JULY, 2017.

Thomas J. Peddicord, Jr.
Secretary

APPROVED AND ENACTED:

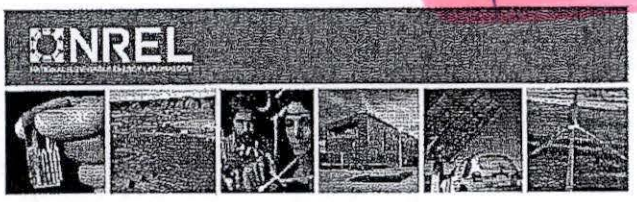
July 12, 2017

Kevin B. Kamenetz
County Executive

I HEREBY CERTIFY THAT BILL NO. 37-17 IS TRUE AND CORRECT AND TOOK EFFECT ON July 17, 2017.

Tom Quirk
Chairman, County Council

(ID only)



Land-Use Requirements for Solar Power Plants in the United States

Sean Ong, Clinton Campbell, Paul Denholm, Robert Margolis, and Garvin Heath

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June 2013

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Prepared under Task Nos. SS12.2230 and SS13.1040

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Executive Summary

By the third quarter of 2012, the United States had deployed more than 2.1 gigawatts (GWac[1]) of utility-scale solar generation capacity, with 4.6 GWac under construction as of August 2012 (SEIA 2012). Continued growth is anticipated owing to state renewable portfolio standards and decreasing system costs (DOE 2012a). One concern regarding large-scale deployment of solar energy is its potentially significant land use. Efforts have been made to understand solar land use estimates from the literature (Horner and Clark 2013); however, we were unable to find a comprehensive evaluation of solar land use requirements from the research literature. This report provides data and analysis of the land use associated with U.S. utility-scale[2] ground-mounted photovoltaic (PV) and concentrating solar power (CSP) facilities.

After discussing solar land-use metrics and our data-collection and analysis methods, we present total and direct land-use results for various solar technologies and system configurations, on both a capacity and an electricity-generation basis. The total area corresponds to all land enclosed by the site boundary. The direct area comprises land directly occupied by solar arrays, access roads, substations, service buildings, and other infrastructure. We quantify and summarize the area impacted, recognizing that the quality and duration of the impact must be evaluated on a case-by-case basis. As of the third quarter of 2012, the solar projects we analyze represent 72% of installed and under-construction utility-scale PV and CSP capacity in the United States. Table ES-1 summarizes our land-use results.

[1] All capacity-based land-use intensity figures in this study are expressed in terms of MWac or GWac. This is to maintain consistency within the paper because CSP power plants are rated in terms of MWac. The conversion factor between de-rating and re-rating is discussed in Section 3.

[2] We define utility-scale as greater than 1 MWdc for PV plants and greater than 1 MWac for CSP plants.

Table ES-1. Summary of Land-Use Requirements for PV and CSP Projects in the United States

Technology	Direct Area		Total Area	
	Capacity-weighted average land use (acres/MWac)	Generation-weighted average land use (acres/GWh/yr)	Capacity-weighted average land use (acres/MWac)	Generation-weighted average land use (acres/GWh/yr)
Small PV (>1 MW, <20 MW)	5.9	3.1	8.3	4.1
Fixed	5.6	3.2	7.6	4.4
1-axis	6.3	2.9	8.7	3.8
2-axis flat panel	8.4	4.1	13	6.5
2-axis CPV	6.9	2.3	9.1	3.1
Large PV (>20 MW)	7.2	3.1	7.9	3.4
Fixed	5.6	2.6	7.5	3.7
1-axis	9.0	3.6	8.3	3.3
2-axis CPV	6.1	2.0	8.1	2.8
CSP	7.7	2.7	10	3.5
Parabolic trough	6.2	2.5	9.5	3.9
Tower	8.0	2.6	10	3.2
Dish Stirling	2.6	1.5	10	5.3
Linear Fresnel	2.0	1.7	4.7	4.0

We found total land-use requirements for solar power plants to have a wide range across technologies. Generation-weighted averages for total area requirements range from about 3 acres/GWh/yr for CSP towers and CPV installations to 5.5 acres/GWh/yr for small 2-axis flat panel PV power plants. Across all solar technologies, the total area generation-weighted average is 3.5 acres/GWh/yr with 40% of power plants within 3 and 4 acres/GWh/yr. For direct-area requirements the generation-weighted average is 2.9 acres/GWh/yr, with 49% of power plants within 2.5 and 3.5 acres/GWh/yr. On a capacity basis, the total-area capacity-weighted average is 8.9 acres/MWac, with 22% of power plants within 8 and 10 acres/MWac. For direct land-use requirements, the capacity-weighted average is 7.3 acres/MWac, with 40% of power plants within 6 and 8 acres/MWac. Other published estimates of solar direct land use generally fall within these ranges.

Both capacity- and generation-based solar land-use requirements have wide and often skewed distributions that are not well captured when reporting average or median values. Some solar categories have relatively small samples sizes, and the highest-quality data are not available for all solar projects; both of these factors must be considered when interpreting the robustness of reported results. Owing to the rapid evolution of solar technologies, as well as land-use practices and regulations, the results reported here reflect past performance and not necessarily future trends. Future analyses could include evaluating the quality and duration of solar land-use impacts and using larger sample sizes and additional data elements to enable a thorough investigation of additional land-use factors.

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1 Introduction

By the third quarter of 2012, the United States had deployed more than 2.1 gigawatts (GWac[1]) of utility-scale solar generation capacity, with 4.6 GWac under construction as of August 2012 (SEIA 2012). Continued growth is anticipated owing to state renewable portfolio standards and decreasing system costs (DOE 2012a). One concern regarding large-scale deployment of solar energy is its potentially significant land use. Estimates of land use in the existing literature are often based on simplified assumptions, including power plant configurations that do not reflect actual development practices to date. Land-use descriptions for many projects are available from various permitting agencies and other public sources, but we were unable to locate a single source that compiles or summarizes these datasets. The existing data and analyses limit the effective quantification of land-use impacts for existing and future solar energy generation, particularly compared with other electricity-generation technologies.

This report provides data and analysis of the land use associated with U.S. utility-scale ground-mounted photovoltaic (PV) and concentrating solar power (CSP) facilities, defined as installations with capacities greater than 1 MW. The next section (Section 2) discusses standard land-use metrics and their applicability to solar power plants. We identify two major classes of solar plant land use—direct impact (disturbed land due to physical infrastructure development) and total area (all land enclosed by the site boundary)—by which we categorize subsequent results. Section 3 describes our solar land-use data collection and analysis methods. We derived datasets from project applications, environmental impact statements, and other sources and used them to analyze land use based on the capacity and generation of solar plants. Section 4 presents our results. In addition to summarizing PV and CSP land use, we examine relationships among land use, plant configuration, location, and technology. Finally, in Section 5, we identify limitations to the existing solar land-use datasets and suggest additional analyses that could aid in evaluating land use and impacts associated with the deployment of solar energy. Appendixes include tables of our solar project data as well as more detailed analyses of specific land-use relationships.

[1] All capacity-based land-use intensity figures in this study are expressed in terms of MWac or GWac. This is to maintain consistency within the paper because CSP power plants are rated in terms of MWac. The conversion factor between de-rating and no-rating is discussed in Section 3.

2 Solar Power Plant Land-Use Metrics

There are many existing and proposed metrics for evaluating land-use impacts. Recent methods for quantifying land use include evaluating the direct and indirect life-cycle use (Fthenakis and Kim 2009) and assessing temporary and permanent land-area requirements (Denholm et al. 2009). While there is no single, generally accepted methodology (Canals et al. 2007), at least three general categories are used to evaluate land-use impacts: (1) the area impacted, (2) the duration of the impact, and (3) the quality of the impact (Koellner and Scholz 2008). The quality of the impact (also called the "damage function") evaluates the initial state of the land impacted and the final state across a variety of factors, including soil quality and overall ecosystem quality (Koellner and Scholz 2008).

This report closely follows the methodology outlined in a National Renewable Energy Laboratory (NREL) U.S. wind power land-use study (Denholm et al. 2009). We quantify and summarize the area impacted, recognizing that the quality and duration of the impact must be evaluated on a case-by-case basis. We consider two land-use metrics. The first is the total area, which corresponds to all land enclosed by the site boundary. The perimeter of this area is usually specified in blueprint drawings and typically fenced or protected. The second metric is the direct-impact area, which comprises land directly occupied by solar arrays, access roads, substations, service buildings, and other infrastructure. The direct-impact area is smaller than the total area and is contained within the total-area boundaries. Figure 1 illustrates the two types of areas, with the total area shaded yellow and the direct-impact area shaded orange.

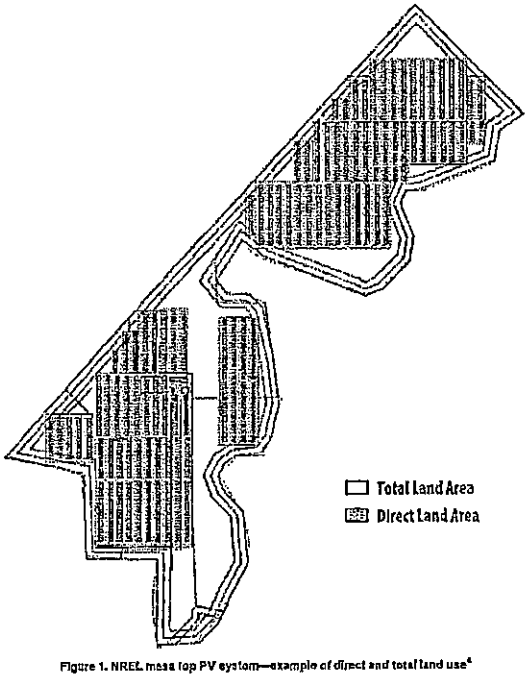


Figure 1. NREL mesa top PV system—example of direct and total land use[2]

[2] Access roads, infrastructure, and other direct impact areas are not shown in Figure 1.

3 Solar Land-Use Data and Methodology

We collected PV and CSP land-use data from four categories of sources, in the following prioritized order. First, where available, we collected official project data from federal, state, or local regulatory agencies, including environmental impact statements, environmental assessments, and project applications to regulatory bodies. These sources typically contain detailed project information, but their availability is highly dependent on federal, state, and local regulations as some states require very detailed environmental assessments, while others require little land-use analysis. Second, we collected project fact sheets, news releases, and other data provided by the project owner or developer. Data from these sources were used when additional information was needed and not found in regulatory documents. When no other source of data could be located, we used news articles, websites unaffiliated with the developer/owner or regulatory bodies, and other secondary sources. Finally, when official project drawings were unavailable or documents did not include information necessary to estimate total and direct land area, we analyzed satellite images to identify plant configuration, direct land use, and project-area boundaries. Table 1 shows the proportion of data source categories used for each technology and also indicates the percentage of sites where satellite imagery was analyzed in addition to the documents collected.

Table 1. Summary of Data Categories Used for PV and CSP Plants[3]

Technology	Official Documents (%)	Developer Documents (%)	Third Party Articles (%)	Percent of Projects That Required Satellite Imagery
PV	15%	36%	45%	40%
CSP	44%	28%	28%	40%

For PV, we used these datasets to analyze the relationship between land-use intensity (defined as land use per unit of capacity or generation) and stated PV module efficiency, array configuration, and tracking type. For CSP, we analyzed the land-use intensity of several different technologies. For PV and CSP, we limited the analysis to systems larger than 1 MW in capacity. We classified systems smaller than 20 MW as "small" and those larger than 20 MW as "large."

We quantified land-use requirements on a capacity (area/MWac) and a generation (area/GWh/yr[4]) basis. Capacity-based results are useful for estimating land area and costs for new projects because power plants are often rated in terms of capacity. The generation basis provides a more consistent comparison between technologies that differ in capacity factor and enables evaluation of land-use impacts that vary by solar resource differences, tracking configurations, and technology and storage options. Most of the data collected for this analysis included the reported capacity of power plants but not annual generation. Because capacity-based land-use requirements are based on reported data, the capacity-based results are expected to have less uncertainty than the generation-based results.

[3] Percentages add up to over 100% because power plants evaluated with satellite imagery also required additional data sources to determine solar plant characteristics.

[4] Generation results are reported in area/(GWh per year) which we display as area/GWh/yr.

We simulated PV and CSP electricity generation using the System Advisor Model (SAM; Gilman and Dobos 2012). When available, we used project-specific inputs, such as location, array configuration, derate factor, and tracking technology. When project-specific inputs were unavailable, we used SAM default assumptions (e.g., if the tilt angle for fixed-tilt PV was unknown, we used SAM's latitude-tilt default assumption). The PV derate factor[7] was determined by dividing the AC reported capacity by the DC reported capacity for each project. The weighted-average derate factor (0.85) was used for projects that did not report both AC and DC capacity. All capacity-based land-use intensity figures in this study are expressed in terms of MWac. For CSP projects, a range of solar multiple[8] values was used to simulate annual generation output (see Appendix A for CSP solar multiple assumptions). Hourly solar resource and weather data for all projects were obtained from the NREL Solar Prospector tool[9] for each project's latitude and longitude. Each power plant was assigned to a cell within the National Solar Radiation Database (Wilcox 2007) equal in area to 0.1 degrees in latitude and longitude (approximately equal to a 10 km x 10 km square) (Perez et al. 2002). PV and CSP projects were simulated with typical direct-radiation-year weather data[10] (NREL 2012).

[7] The derate factor is used to determine the AC power rating at Standard Test Conditions (STC). The overall DC to AC derate factor accounts for losses from the DC nameplate power rating. We do not calculate the derate factor from component losses, but rather estimate the derate factor from the reported AC and DC power rating at each plant. For a discussion on derate factors, see http://mobilenrel.gov/solar/calculator/manuals/version1.4change.html#derate (accessed April 2013).

[8] The solar multiple is the CSP field aperture area expressed as a multiple of the aperture area required to operate the power cycle at its design capacity (NREL 2012).

[9] The Solar Prospector is a mapping and analysis tool designed to provide access to geospatial data relevant to the solar industry. For more information, visit http://maps.nrel.gov/prospector (accessed May 2013).

[10] For consistency, PV and CSP data were both simulated using typical direct-radiation-year (TDY) weather data. Normally, CSP power plants are simulated using TDY data and PV power plants are simulated using typical meteorological year (TMY) data.

4 Results

We obtained land-use data for 166 projects completed or under construction (as of August 2012), representing 4.8 GWac of capacity, and 51 proposed projects, representing approximately 8 GWac of capacity (Table 2).

Table 2. Summary of Collected Solar Power Plant Data (as of August 2012)

	Small PV (<20 MW)		Large PV (>20 MW)		CSP	
	Projects	Capacity (MWac)	Projects	Capacity (MWac)	Projects	Capacity (MWac)
Completed	103	413	10	256	9	608
Under construction	17	165	20	1,846	7	1,610
Proposed	6	70	38	6,376	8	1,570
Total	126	762	68	8,981	23	3,688

We collected data on 4.8 GWac (72%) of the 6.7 GWac of completed or under-construction U.S. utility-scale solar capacity reported by SEIA (SEIA 2012). Figure 2 maps the solar projects evaluated. Appendix B and Appendix C detail all the projects and data sources. There are over 24 GWac of PV and CSP proposed (under development but not under construction) as of August 2012[11] (SEIA 2012), and the results reported in this study must be taken in light of a rapidly growing installed base. The results reported in this study reflect past performance and not necessarily future trends. For example, many of the largest PV systems currently proposed consist primarily of thin-film technology on fixed-tilt arrays, which may have different land use requirements than the results presented in this study.

[11] As of February 2013, there are 26 GWac of PV and CSP proposed (SEIA 2013)

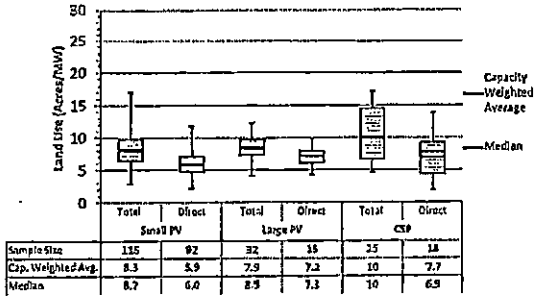
Figure 2. Map of PV and CSP installations evaluated

4.1 Summary Results

Figure 3 summarizes capacity-based total and direct land-use results for small and large utility-scale PV and CSP projects. Direct land-use requirements for small and large PV installations range from 2.2 to 12.2 acres/MWac, with a capacity-weighted average of 6.9 acres/MWac. Direct land-use intensity for CSP installations ranges from 2.0 to 13.9 acres/MWac, with a capacity-weighted average of 7.7 acres/MWac. Figure 4 shows generation-based total and direct land-use results. Direct land-use requirements for PV installations range from 1.6 to 5.8 acres/GWh/yr, with a generation-weighted average of 3.1 acres/GWh/yr. Direct land-use intensity for CSP installations ranges from 1.5 to 5.3 acres/GWh/yr, with a generation-weighted average of 2.7 acres/GWh/yr.

Solar direct land-use estimates in the literature generally fall within these ranges but are often smaller than the PV capacity-weighted averages we report and on par or larger for CSP capacity-weighted averages we report. Hand et al. (2012) estimate 4.9 acres/MWac for PV and 8.0 acres/MWac for CSP. Denholm and Margolis (2008) estimate 3.8 acres/MWac for fixed-tilt PV systems and 5.1 acres/MWac for 1-axis tracking PV systems. Our results indicate 5.3 acres/MWac for fixed-tilt PV and 6.3 acres/MWac for 1-axis tracking PV (capacity-weighted average direct land-use requirements for systems under 20 MW; see Table 4 in Section 4.2). Horner and Clark (2013) report 3.8 acres/GWh/yr for PV and 2.5 acres/GWh/yr for CSP. Fthenakis and Kim (2009) estimate 4.1 acres/GWh/yr for CSP troughs and 2.7 acres/GWh/yr for

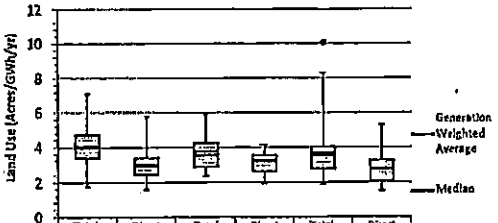
CSP towers. Our results indicate 2.3 acres/GWh/yr for CSP troughs and 2.8 acres/GWh/yr for CSP towers (see Table 7 in Section 4.3).[12]



	Small PV		Large PV		CSP	
Sample Size	115	92	32	16	25	18
Cap. Weighted Avg.	8.3	5.9	7.9	7.2	10	7.7
Median	8.7	6.0	8.5	7.3	10	6.9

Figure 3. Distribution of solar land-use requirements—whiskers indicate maximum and minimum values, box indicates 75th (top of box) and 25th (bottom of box) percentile estimates

[12] Comparisons of generation-based land use results should be taken in light of the fact that annual generation (GWh) varies with solar resource (location). For example, generation-based results determined from solar power plants in a specific location may differ from results presented in this study, which includes solar plants from a variety of locations throughout the United States.



	Total	Direct	Total	Direct	Total	Direct
	Small PV		Large PV		CSP	
Sample Size	115	92	32	15	25	10
Gen. Weighted Avg.	4.1	3.1	3.4	3.1	3.5	2.7
Median	4.0	2.9	3.8	3.2	3.7	2.8

Figure 4. Distribution of generation-based solar land-use requirements—whiskers indicate maximum and minimum values, box indicates 75th (top of box) and 25th (bottom of box) percentile estimates. Blue dot represents eSolar's Sierra Sun Tower (10 acres/GWh/yr), separated for clarity (but not considered an outlier)

4.2 PV Land-Use Results

Table 3 and Table 4 summarize PV land requirements by tracking type for total and direct area, respectively. Total-area data were available for all systems evaluated; however, direct-area data were only available for a subset of these systems. Fixed-tilt and 1-axis PV systems account for a majority (96%) of projects evaluated.

On average, fixed-tilt systems use 13% less land than 1-axis tracking on a capacity basis but use 15% more land on a generation basis. This difference is due to increased generation resulting from tracking technologies. One-axis tracking systems can increase PV generation 12%–25% relative to fixed-tilt systems, and 2-axis tracking systems can increase PV generation by 30%–45% (Drury et al. 2012). We evaluated ten 2-axis PV plants: four flat panel (non-concentrating) projects and six concentrating PV (CPV) projects. Two-axis, flat panel systems appear to use more land than fixed and 1-axis plants on a capacity and generation basis, but general conclusions should not be drawn until the sample size is increased.

Table 3. Total Land-Use Requirements by PV Tracking Type[13]

Tracking Type	Projects	Total Area: Capacity (MWac)	Total Area: Capacity-weighted average area requirements (acres/MWac)	Total Area: Generation-weighted average area requirements (acres/GWh/yr)
Small PV (less than 20 MW)				
Fixed	52	231	7.6	4.4
1-axis	55	306	8.7	3.8
2-axis flat panel	4	5	13	5.5
2-axis CPV	4	7	9.1	3.1
Large PV (greater than 20 MW)				
Fixed	14	1,756	7.6	3.7
1-axis	16	1,837	8.3	3.3
2-axis CPV	2	158	8.1	2.8

Table 4. Direct Land-Use Requirements by PV Tracking Type[14]

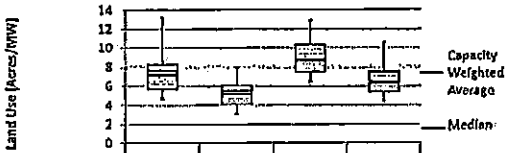
Tracking Type	Projects	Direct Area: Capacity (MWac)	Direct Area: Capacity-weighted average area requirements (acres/MWac)	Direct Area: Generation-weighted average area requirements (acres/GWh/yr)
Small PV (less than 20 MW)				
Fixed	43	194	5.5	3.2
1-axis	41	168	6.3	2.9
2-axis flat panel	4	5	9.4	4.1
2-axis CPV	4	7	6.9	2.3
Large PV (greater than 20 MW)				
Fixed	7	744	5.8	2.8
1-axis	7	630	9.0	3.5
2-axis CPV	1	91	6.1	2.0

Figure 5 shows the capacity-based total and direct land-use requirement distributions for PV plants smaller than 20 MW. Direct land-use requirements for fixed-tilt PV installations range from 2.2 to 8.0 acres/MWac, with a capacity-weighted average of 5.5 acres/MWac. Direct land-use requirements for 1-axis tracking PV installations range from 4.2 to 10.6 acres/MWac, with a capacity-weighted average of 6.3 acres/MWac. Figure 6 shows the capacity-based total and

[13] Forty-two proposed projects representing 5,842 MWac could not be categorized by tracking type owing to insufficient information. These projects are not represented in this table.
[14] Forty-two proposed projects representing 5,842 MWac could not be categorized by tracking type due to insufficient information. These projects are not represented in this table.

direct land-use requirement distributions for PV plants larger than 20 MW. Relatively large deviations between the median and weighted average values are due to a few very large PV installations (over 100 MW) contributing heavily to weighted average results. We found that PV system size appears to have no significant impact on land-use requirements per unit of capacity (see Appendix D).

We also evaluated the impacts of efficiency on land-use intensity. We would expect land-use intensity to decrease with increasing module efficiencies, but we observed no significant trends between land-use intensity and module efficiency for small and large PV systems (see Appendix D). Variations in land-use intensity that remain after isolating for module efficiency and tracking type are not clearly understood. One source of variability could be the large range of packing factors described in the next section.



	Total	Direct	Total	Direct
	Fixed Axis (< 20 MW)		1-Axis (< 20 MW)	
Sample Size	52	43	55	41
Cap. Weighted Avg.	7.6	5.5	8.7	6.9
Median	7.1	5.1	8.7	6.5

Figure 5. Distribution of small PV land-use requirements—whiskers indicate maximum and minimum values, box indicates 75th (top of box) and 25th (bottom of box) percentile estimates

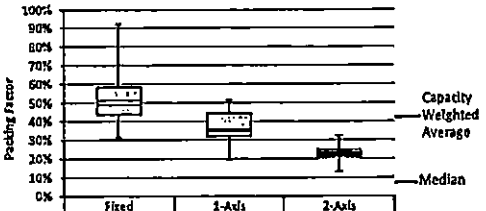
	Total	Direct	Total	Direct
	Fixed Axis (> 20 MW)		1-Axis (> 20 MW)	
Sample Size	14	7	16	7
Cap. Weighted Avg.	7.5	5.8	8.3	9.0
Median	8.4	7.0	8.7	7.7

Figure 6. Distribution of large PV land-use requirements—whiskers indicate maximum and minimum values, box indicates 75th (top of box) and 25th (bottom of box) percentile estimates

4.2.1 Evaluation of PV Packing Factors

We evaluated array spacing for various PV tracking technologies. The area between arrays is quantified using the packing factor metric, which is the ratio of array area to actual land area for a system[15] (DOE 2012b). Figure 7 shows the average packing factor for each tracking technology evaluated. An evaluation of system packing factors shows that there is large variability in array spacing. Packing factors range from 13% (Prescott Airport CPV, Arizona) to 92% (Canton Landfill Solar Project, Massachusetts). Fixed-tilt systems have a capacity-weighted average packing factor of 47%, followed by 1-axis systems with 34% and 2-axis systems with 25%. Packing factor estimates from the research literature range from 20% to 67% (Hoover and Clark 2013). The large variability in packing factor may contribute to the variability in land-use intensity observed, given an expectation that packing factor directly impacts land-use intensity. We did not attempt to isolate the impacts of packing factor, efficiency, capacity, and other factors on land-use intensity due to limited data availability. The availability of more data elements and larger sample sizes will enable a robust evaluation of these factors on land-use intensity.

[15] We display the packing factor ratio as a percentage. A 100% packing factor would represent complete coverage of solar panels with no spacing between arrays.



	Fixed	1-Axis	2-Axis
Sample Size	39	35	9
Cap. Weighted Avg.	47%	34%	25%
Median	51%	36%	22%

Figure 7. Capacity-weighted average packing factor for PV projects evaluated—whiskers indicate maximum and minimum values, box indicates 75th (top of box) and 25th (bottom of box) percentile estimates

4.2.2 Impact of Location and Tracking Configuration on PV Land Use

Given the relatively small amount of data, it is difficult to isolate the impact of any single factor on land-use requirements. This section isolates the theoretical impact of tracking arrays by simulating the performance of PV in multiple locations holding all other factors constant.

Table 5 summarizes the relative impacts of tracking on land-use intensity, simulated for a variety of locations throughout the United States. Although tracking systems generate more energy than fixed-tilt systems, they also require more land per unit of capacity, as shown in Section 4.2. We assume the capacity-weighted average land-use requirements (as reported in Table 4) for PV systems smaller than 20 MW when evaluating the impact of tracking arrays: 5.5 acres/MWac for fixed-tilt systems, 6.3 acres/MWac for 1-axis tracking systems, and 9.4 acres/MWac for 2-axis tracking systems. These results indicate that the expected increase in energy yield from 1-axis tracking systems (12%–22%) is partially countered by increases in land-use requirements per unit of capacity. While the land use per unit of generation generally decreases for 1-axis tracking systems compared with fixed-tilt systems, this metric generally increases for 2-axis tracking systems compared with fixed-tilt systems. This is because the spacing required for 2-axis tracking increases more than the relative increase in energy yield. The land-use advantage of 1-axis tracking is more pronounced in regions with higher direct normal irradiation (DNI) levels. Similarly, the negative land-use impacts of 2-axis tracking are less pronounced in regions with higher DNI levels. Denholm and Margolis (2008) estimated that land use per unit of generation would increase moving from fixed systems to 1-axis tracking systems and moving from fixed systems to 2-axis tracking systems.

Table 5. Impacts of 1-Axis Tracking on Land-Use Intensity Compared With Fixed-Axis Mounting

Region	Direct Normal Irradiation (kWh/m²/yr)	Relative energy yield (fixed-axis = 100%)			Capacity-weighted average land-use requirements (acres/MW)		Land-use intensity (acres/GWh/yr)			1-Axis tracking change in land-use intensity compared with fixed-axis mounting	2-Axis tracking change in land-use intensity compared with fixed-axis mounting
		Fixed	1-Axis	2-Axis	Fixed	1-Axis	Fixed	1-Axis	2-Axis		
San Francisco, CA	1,833	1,814	1,876	1,931	17.9%	22.8%	4.84	4.72	5.14	-4.46%	6.36%
San Diego, CA	1,965	1,907	1,984	1,974	16.0%	22.8%	4.77	4.85	5.39	-2.36%	13.40%
Alamosa, CO	2,530	1,813	2,200	2,606	21.3%	43.7%	6.73	3.82	4.03	-75.01%	-67.85%
Phoenix, AZ	2,508	1,722	2,113	2,418	21.9%	39.5%	6.42	4.1	4.4	-56.05%	-46.05%
Jacksonville, FL	1,607	1,360	1,834	1,504	16.1%	9.0%	8.56	8.28	7.67	-4.06%	11.40%
Nashville, TN	1,563	1,248	1,422	1,231	12.1%	4.1%	8.03	8.04	8.08	0.70%	14.00%
Seattle, WA	1,112	1,100	1,248	1,134	13.5%	3.3%	8.87	8.82	8.37	-0.62%	23.50%

4.3 CSP Land-Use Results

Table 6 and Table 7 summarize total and direct land-use requirements by CSP technology, respectively. Note there are significantly fewer CSP projects in the United States than PV projects, and due to reliance on solar DNI resource, most CSP projects are in the Southwest (Figure 2). We collected data for 25 CSP projects, with only one linear Fresnel project and one dish Stirling project. It is more important to evaluate CSP in terms of land use per unit of generation because of the effect of storage and solar multiple, which can increase the amount of energy produced per unit of capacity (Turchi et al. 2010). Direct land-use requirements for CSP trough technology range from 2.0 to 4.5 acres/GWh/yr, with a generation-weighted average of 2.3 acres/GWh/yr. Direct land-use requirements for CSP tower technology range from 2.1 to 5.3 acres/GWh/yr, with a generation-weighted average of 2.8 acres/GWh/yr. We found that system size appears to have little impact on generation-based CSP land-use requirements (see Appendix E).

Table 6. Total Land-Use Requirements by CSP Technology

Technology	Total Area			
	Projects	Capacity (MWac)	Capacity-weighted average area requirements (acres/MWac)	Generation-weighted average area requirements (acres/GWh/yr)
All	25	8,747	10	3.5
Trough	8	1,360	9.5	3.9
Tower	14	2,358	10	3.2
Dish Stirling	1	2	10	5.3
Linear Fresnel	1	8	4.7	4.0

Table 7. Direct Land-Use Requirements by CSP Technology

Technology	Direct Area			
	Projects	Capacity (MWac)	Capacity-weighted average area requirements (acres/MWac)	Generation-weighted average area requirements (acres/GWh/yr)
All	16	2,218	7.7	2.7
Trough	7	451	6.2	2.3
Tower	8	1,358	8.9	2.8
Dish Stirling	1	2	2.8	1.5
Linear Fresnel	1	8	2.0	1.7

Data for CSP with multi-hour energy storage were also collected. Eight facilities included thermal storage technology, ranging from 3 to 15 hours of storage. One of the eight CSP facilities with storage is a parabolic trough system, while the remaining seven are tower systems. Little correlation is observed between storage and land-use intensity, both on a capacity and generation basis (see Appendix E). We would expect to see a trend of decreasing generation-based land use with increasing storage and increasing capacity-based land use with increasing storage based on modeled results as shown in Figure 8 (Turchi et al. 2010). Given the relatively small amount of data, it is difficult to isolate the impact of any single factor on land-use requirements. Higher sample sizes and additional data elements will enable a more robust evaluation of CSP land use.

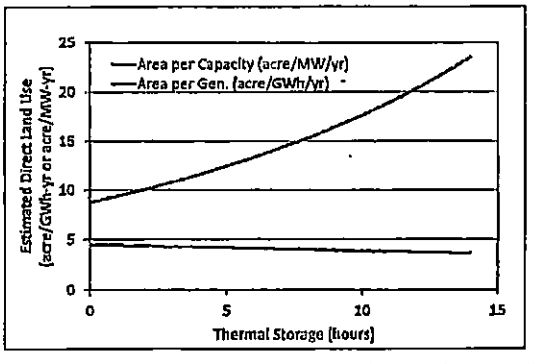


Figure 8. Modeled data showing relationship between CSP thermal storage and land-use intensity
Source: Turchi et al. 2010

5 Conclusions

Table 8 and Table 9 summarize the U.S. utility-scale PV and CSP land-use requirements evaluated in this report. Average total land-use requirements are 3.6 acres/GWh/yr for PV and 3.3 acres/GWh/yr for CSP. Average direct-area requirements are 3.1 acres/GWh/yr for PV and 2.7 acres/GWh/yr for CSP. On a capacity basis, the total-area capacity-weighted average for all solar power plants is 8.9 acres/MWac, with 22% of plants within 8 and 10 acres/MWac. For direct land-use requirements, the capacity-weighted average is 7.3 acre/MWac, with 40% of power plants within 6 and 8 acres/MWac. Solar land-use estimates from the literature generally fall within these ranges. Within the broad technology categories of PV and CSP, land-use metrics are also impacted by specific technology choices, such as cell efficiency, tracking method, and inclusion of thermal energy storage, and are a function of the solar resource available at each site.

Although our results stem from an empirically based effort to estimate solar land use, several caveats are warranted. Some solar-technology categories have relatively small samples sizes, which must be considered when interpreting the robustness of reported results. Over 26 GWac of PV and CSP are under development as of February 2013 (SEIA 2013), and the results reported in this study must be understood in light of a rapidly growing installed base. Additionally, various data sources were used when gathering information about solar projects. Although we tried to obtain the highest-quality sources (project applications and regulatory documents, referred to as "official documents" in this report), we collected official documents for only 20% of all projects evaluated. Other data sources are expected to have higher levels of uncertainty (although how much higher is unclear), which could contribute to the observed variability in results. With the exception of a few CSP projects, we collected reported capacity of power plants but not annual generation. The generation-based land-use results are expected to have higher levels of uncertainty because annual generation is simulated. Although generation-based results provide a more consistent approach when comparing land-use requirements across technologies, capacity-based results are useful for estimating land area and costs for new projects because power plants are often rated in terms of capacity. Finally, owing to the rapid evolution of solar technologies as well as land-use practices and regulations, the results reported here reflect past performance and not necessarily future trends.

We analyze elements that affect the area of solar impact, but we recognize that the duration of use and impact on land quality are also important when considering land use impacts. Future analyses could include evaluating the quality of land impacts, assessing both the initial state of the land impacted and the final states across a variety of factors, including soil quality and overall ecosystem quality. Finally, larger sample sizes and additional data elements would improve the robustness of the conclusions and enable a more thorough investigation of the impacts of additional factors, such as tilt angle, azimuth, PV module technology, CSP solar multiple, and storage technologies.

Table 8. Summary of Direct Land-Use Requirements for PV and CSP Projects in the United States

Technology	Number of projects analyzed	Capacity for analyzed projects (MWac)	Capacity-weighted average land use (acres/MWac)	Capacity-weighted average land use (ac/ac.km²)	Generation-weighted average land use (acres/GWh/yr)	Generation-weighted average land use (GWh/yr/km²)
Small PV (≤1 MW, ≤20 MWp)	92	1,374	6.9	42	3.1	80
Fixed	43	134	8.5	45	3.2	76
1-axis	46	1,168	6.5	39	2.8	94
2-axis (or) panel	4	6	6.4	34	4.1	60
2-axis CPV	1	7	8.9	36	2.3	106
Large PV (>20 MW)	19	1,405	7.3	34	3.1	80
Fixed	12	744	8.1	42	2.8	87
1-axis	7	630	6.0	28	3.5	71
2-axis CPV	1	31	6.3	25	2.0	126
CSP	10	2,219	7.7	32	2.7	93
Parabolic trough	7	1,851	7.3	30	2.5	97
Tower	3	1,359	8.9	38	2.8	87
Dish Stirling	1	2	2.1	84	1.5	164
Linear Fresnel	1	6	2.0	124	1.7	145

Table 9. Summary of Total Land-Use Requirements for PV and CSP Projects in the United States

Technology	Number of projects analyzed	Capacity for analyzed projects (MWac)	Capacity-weighted average land use (acres/MWac)	Capacity-weighted average land use (ac/ac.km²)	Generation-weighted average land use (acres/GWh/yr)	Generation-weighted average land use (GWh/yr/km²)
Small PV (≤1 MW, ≤20 MWp)	119	1,374	8.9	30	4.4	56
Fixed	53	771	7.6	31	4.4	56
1-axis	63	568	8.7	29	4.8	56
2-axis (or) panel	4	6	15	70	8.5	43
2-axis CPV	1	7	9.3	37	2.1	98
Large PV (>20 MW)	33	3,555	7.9	31	3.4	72
Fixed	14	1,794	7.5	33	3.2	77
1-axis	18	1,637	8.3	29	3.5	70
2-axis CPV	1	124	7.1	31	2.8	80
CSP	10	2,707	10	38	3.6	71
Parabolic trough	6	1,350	8.6	28	3.4	63
Tower	14	2,356	10	34	3.2	77
Dish Stirling	1	2	10	39	6.3	49
Linear Fresnel	1	6	4.7	53	4.0	62

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Appendix A. CSP Solar Multiple Ranges

For CSP projects, a range of solar multiple values were used to simulate annual generation output. Assumptions for CSP solar multiple ranges are shown in Table A-1.

Table A-1. CSP Solar Multiple Ranges and Corresponding Estimated Annual Generation Values

Name	State	Thermal Storage (hours)	Solar Multiple Low	Solar Multiple High	Estimated Annual Generation Low (GWh/yr)	Estimated Annual Generation High (GWh/yr)
Crossroad Solar	AZ	10	2.3	2.6	683	822
Quartzsite	AZ	10	2.3	2.6	489	578
Saguaro Power Plant	AZ	0	1.1	1.4	1	2
Solana	AZ	6	1.9	2.4	993	1,155
Abengoa Mojave	CA	0	1.1	1.4	520	645
Cantinge	CA	0	1.1	1.4	9	26
Ford Dry Lake (Genesis)	CA	0	1.1	1.4	480	617
Hidden Hills 1	CA	0	1.1	1.4	545	655
Hidden Hills 2	CA	0	1.1	1.4	545	655
Ivanpah (all)	CA	0	1.1	1.4	849	1,014
Kimberlina	CA	0	1.1	1.4	9	11
Palmdale Hybrid Plant	CA	0	1.1	1.4	107	128
Rice Solar	CA	7	1.8	2.2	541	651
Rio Mesa 1	CA	0	1.1	1.4	529	639
Rio Mesa 2	CA	0	1.1	1.4	529	639
Rio Mesa 3	CA	0	1.1	1.4	529	639
SEGS (all)	CA	0	1.1	1.4	725	866
Solar Two	CA	3	1.3	1.7	20	30
Victorville 2 hybrid	CA	0	1.1	1.4	101	121
Saguache Solar	CO	16	2.6	3.3	1,073	1,219
Martin Next Generation	FL	0	1.1	1.4	21	103

Name	State	Thermal Storage (hours)	Solar Multiple Low	Solar Multiple High	Estimated Annual Generation Low (GWh/yr)	Estimated Annual Generation High (GWh/yr)
Nevada Solar One	NV	0.5	1.1	1.3	174	144
Tonopah (Crescent Dunes)	NV	10	2.2	2.8	525	590
Crossroad Solar	AZ	10	2.3	2.6	683	822
Quartzsite	AZ	10	2.2	2.6	489	578

Appendix B. PV Projects Evaluated

Table B-1. PV Landmine Data

Asterisks represent data calculated from power plants that reported only AC capacity, as described in Section 3.

Name	State	MW-DC	MW-AC	Direct Area (acres)	Tracking	Module Efficiency	Status as of August 2013	Data Level
Prescott Airport (CPV)	AZ	0.2	1.0	1.0	2-axis CPV	23%	Complete	Third party
Paul Gentry Wastewater	AZ	1.1	0.4	0.4	1-axis	14%	Complete	Developer
Johnson Utilities	AZ	1.1	10.8	7.5	1-axis		Complete	Third party
Prescott Airport (1-Axis Phase 1)	AZ	2.0	22.6	37.3	1-axis		Complete	Third party
Springerville	AZ	6.5	65.2	45.3	Fixed	11%	Complete	Developer
Kingman Plant	AZ	10.0	70.9		1-axis	14%	Construction	Third party
Prescott Airport (1-Axis Phase 2)	AZ	11.2	84.0		1-axis		Construction	Third party
Luke Air Force Base	AZ	18.0	107.9		1-axis	16%	Complete	Third party
Hyder Plant	AZ	17.0	102.2		1-axis	14%	Construction	Third party
Palomas Plant	AZ	30.5*	234.9		Fixed	11%	Complete	Third party
Cotton Center Plant	AZ	21.8	168.3		1-axis		Complete	Third party
Copper Crossing Solar Ranch	AZ	23.8*	189.1	129.1	1-axis	18%	Complete	Developer
Chino Plant	AZ	23.5*	187.8	164.4	1-axis	14%	Construction	Official documents
Tucson Solar	AZ	25.0	233.7		1-axis		Construction	Developer
Avra Valley	AZ	30.5*	252.4		1-axis	11%	Construction	Developer
Mesquite Solar 1	AZ	170.0	1,020.0		Unknown	15%	Construction	Official documents
Agua Caliente	AZ	340.0*	2,011.0		Fixed	11%	Construction	Developer
Sonoran Solar Energy Project	AZ	252.4*	2,364.3		1-axis		Proposed	Official documents
Mesquite Solar Total	AZ	700.0	4,684.3		Unknown		Proposed	Third party
Western Riverside County Regional Wastewater Authority	CA	1.0	11.2	10.0	1-axis	20%	Complete	Developer
The Home Place PV Plant	CA	1.0	5.9	8.5	1-axis		Complete	Third party

Name	State	Max DC	Total Area (acres)	Direct Area (acres)	Tracking	Module Efficiency (%)	Status as of August 2012	Data Source
Inland Empire Utility Solar Farm	CA	1.0	12.0	8.0	Fixed	20%	Complete	Developer
West County Waste Water PV Plant	CA	1.0	11.7	8.0	2 axis Est	14%	Complete	Developer
Nichols Farms PV Plant	CA	1.0	8.0	8.0	2 axis CPV	25%	Complete	Third party
Budweiser PV Plant	CA	1.1	9.4	7.2	Fixed	15%	Complete	Official documents
Wal-Mart Apple Valley PV Plant	CA	1.1	10.7	7.8	Fixed	16%	Complete	Official documents
Rancho Cucamonga PV Plant	CA	1.1	13.8	8.0	Fixed	15%	Complete	Developer
Hayward Weatmatic PV Plant	CA	1.2	13.2	8.6	Fixed	14%	Complete	Third party
Chuckawalla State Prison PV Plant	CA	1.2	8.4	4.6	Fixed	14%	Complete	Official documents
Ironwood State Prison PV Plant	CA	1.3	14.4	8.0	Fixed	13%	Complete	Official documents
Sacramento Solar	CA	1.3	12.0	8.7	Fixed	11%	Complete	Developer
USMC 29 Palms	CA	1.3	12.6	7.0	Fixed		Complete	Developer
San Clemente Camp Pendleton	CA	1.4	8.6	8.6	Fixed	14%	Complete	Third party
Vaca Dixon Solar Station	CA	2.8	17.8	11.5	Fixed	14%	Complete	Developer
Newberry Springs PV Plant	CA	3.0	25.6		Fixed		Proposed	Third party
Sweetwater Reservoir	CA	8.0	17.3	13.3	Fixed		Complete	Third party
Auburn Solar Project	CA	8.0	47.0	37.3	Fixed		Complete	Developer
CALRENEW-1	CA	8.3	80.4	48.8	Fixed	9%	Complete	Third party
Petrovalle Solar Plant	CA	8.8	37.9	31.4	Fixed	14%	Complete	Third party
Palm Springs project 1	CA	9.0	43.9		Fixed	14%	Construction	Third party
Olivet Solar Farm	CA	12.0	94.3	70.4	Fixed	15%	Complete	Developer
Chino Lake PV Plant	CA	13.1	134.8		Fixed	20%	Construction	Third party
Boonville Solar Farm	CA	16.4	131.1	92.8	Fixed	18%	Complete	Official documents
Kenwood Solar Farm	CA	14.6	128.1	111.1	Fixed	15%	Complete	Official documents
Antelope Solar Farm	CA	20.0	234.8		Unknown		Proposed	Developer
Mojave Solar	CA	20.0	264.4		Unknown		Proposed	Developer

Name	State	Max DC	Total Area (acres)	Direct Area (acres)	Tracking	Module Efficiency	Status as of August 2012	Data Source
Touisso Energy Antelope Plant	CA	20.0	211.4		Unknown		Proposed	Third party
Grandview Valley Solar Farm	CA	21.1*	183.5	117.3	Fixed	11%	Complete	Official documents
Adobe Solar	CA	23.5*	167.8		Unknown		Proposed	Developer
Orion Solar	CA	23.5*	211.3		Unknown		Proposed	Developer
Atwell Island Solar Project	CA	23.6	184.0		Unknown		Construction	Third party
PGE Elyria	CA	25.2	272.2	194.2	Fixed	10%	Complete	Developer
Imperial Valley Solar Company	CA	26.7	153.8		Unknown	15%	Proposed	Third party
McHenry Solar Farm	CA	29.4*	188.8		1 axis	18%	Construction	Developer
Dell Star Solar Project	CA	30.0	210.0		Unknown		Construction	Third party
Lucerne Valley Solar	CA	48.5	493.8	493.8	Fixed	10%	Construction	Official documents
Chocolate Mountain PV Plant	CA	49.9	373.8		Unknown		Construction	Developer
Calipatria Solar Farm 2	CA	50.0	352.4		Unknown		Proposed	Third party
Eaton Ave 1	CA	50.0	375.8		Unknown		Proposed	Developer
Avenal Amtrky Wind/Drng Avenal Park	CA	87.7	641.3	442.8	Fixed	8%	Complete	Developer
Copper Mountain PV Plant	CA	98.0	459.2	283.8	Fixed	16%	Proposed	Third party
Midway Solar Farm 1	CA	98.7*	357.4	328.2	Unknown		Proposed	Developer
Regulus Solar	CA	75.0	473.7		Unknown		Proposed	Developer
Calipatria Solar Farm 1	CA	82.5*	583.4	258.9	Unknown		Proposed	Developer
Baton Sun 2	CA	100.0	730.8		Unknown		Proposed	Third party
Calicia Plant	CA	110.0	1,191.0		1 axis	20%	Proposed	Official documents
Imperial Mist Energy Center South	CA	130.0	1,111.1		1 axis	15%	Proposed	Developer
Imperial Solar Energy Center West	CA	150.0	1,241.8		2 axis CPV	23%	Proposed	Developer
Midway Solar Farm 2	CA	162.1*	1,027.8		Unknown		Proposed	Third party
Calexico Solar Farm 1	CA	234.3*	1,448.2		Unknown		Proposed	Developer
Calexico Solar Farm 2	CA	234.3*	1,448.2		Unknown		Proposed	Developer

Name	State	Max DC	Total Area (acres)	Direct Area (acres)	Tracking	Module Efficiency	Status as of August 2012	Data Source
Mount Signal PV Plant	CA	234.9*	1,644.3		Unknown		Proposed	Developer
AV Solar Ranch One	CA	254.0	2,933.0	2,414.0	1 axis	11%	Proposed	Developer
California Valley Solar Ranch	CA	263.8*	3,037.6		1 axis		Construction	Developer
Centinela Solar	CA	333.0*	2,427.7		Unknown		Proposed	Developer
Superstition Solar 1	CA	500.0	6,561.1		Unknown		Proposed	Official documents
Edwards Air Force Base	CA	500.0	3,734.4		Unknown		Proposed	Developer
Desert Sunlight	CA	548.0*	4,965.9	3,329.4	Fixed	15%	Proposed	Official documents
Topaz Solar Farm	CA	548.0*	4,110.8		Fixed	15%	Construction	Developer
Abeyona Water Treatment Facility PV Plant	CO	0.6	6.5	5.6	1 axis	18%	Complete	Official documents
Rifle Pump Station	CO	0.8	8.3	4.3	1 axis	12%	Complete	Official documents
SunEdison Alamosa PV Plant (Phase 1b)	CO	0.8	7.0	3.8	Fixed	14%	Complete	Official documents
Arvada Ralston Water Treatment Plant	CO	0.8	7.1	4.5	1 axis	18%	Complete	Official documents
NREL Mines Top PV Project	CO	0.7	8.9	3.3	1 axis	14%	Complete	Official documents
SunEdison Alamosa PV Plant (2 Axis)	CO	1.0	14.0	7.3	2 axis Est	14%	Complete	Official documents
NREL National Wind Technology Center	CO	1.1	11.5	7.1	1 axis	13%	Complete	Official documents
Buckley Air Force Base	CO	1.1	4.5	3.8	Fixed	14%	Complete	Official documents
Denver Federal Center Solar Park Phase 1	CO	1.3	7.8	6.5	Fixed	13%	Complete	Official documents
Colorado State University Foothills Plant	CO	1.5	8.1	4.1	Fixed		Complete	Third party
Denver International Airport Phase 2 (Fed Farm)	CO	1.6	10.8	6.3	Fixed		Complete	Developer
Rifle Water Water Reclamation Facility	CO	1.7	14.0	8.6	1 axis	14%	Complete	Official documents
Colorado State University Ft. Collins Phase 1	CO	2.0	17.8	13.0	1 axis		Complete	Third party

Name	State	Max DC	Total Area (acres)	Direct Area (acres)	Tracking	Module Efficiency	Status as of August 2012	Data Source
Denver International Airport 1 Fed Plant	CO	2.0	11.7	11.7	1 axis		Complete	Developer
Ft. Carson PV Plant	CO	2.0	14.1	12.8	Fixed	11%	Complete	Developer
Colorado State University Ft. Collins Phase 3	CO	2.3	18.4	14.0	Fixed		Complete	Third party
Denver International Airport Phase 3	CO	4.4	30.3	20.3	Fixed		Complete	Developer
Air Force Academy CO Springs	CO	6.0	60.8	31.4	1 axis		Complete	Third party
Bull Base Alamosa PV Plant (1 Axis)	CO	6.6	74.1	38.5	1 axis	14%	Complete	Official documents
Greater Sand Hill Solar Plant	CO	20.0	205.6	132.6	1 axis	10%	Complete	Third party
San Luis Valley Solar Ranch	CO	35.2	258.1		1 axis	10%	Complete	Developer
Cogentrix Alamosa Solar Generating Project	CO	37.8	271.0	224.0	2 axis CPV	31%	Construction	Developer
East County Waste Water	DE	1.3	7.0	0.8	Fixed		Construction	Third party
Dover Sun Park	DE	11.7*	111.0	23.1	1 axis	20%	Complete	Third party
NASA PV	FL	1.0	6.1	2.8	Fixed		Complete	Developer
Stanton Energy Center	FL	5.8	41.1	29.1	1 axis		Complete	Developer
Hendrick Solar Farm	FL	8.0	38.2		Unknown	16%	Construction	Third party
Space Coast	FL	11.7*	82.8	35.2	Fixed		Complete	Developer
Jacksonville Solar	FL	15.0	164.4	83.9	Fixed	11%	Construction	Third party
DeSoto Plant	FL	25.0	263.3	201.8	1 axis	19%	Complete	Developer
Sarasota Eagle Dunes phase 1	FL	46.0	184.6		Fixed	14%	Construction	Developer
Sarasota Eagle Dunes phase 2	FL	50.0	423.8		Fixed	14%	Proposed	Third party
Babcock Ranch Solar	FL	73.5	469.6		Unknown		Proposed	Developer
Liberty County Solar Farm	FL	100.0	1174.8		Unknown		Proposed	Third party
Nassau County Solar Farm	FL	200.0	2,349.1		Unknown		Proposed	Third party
Calexico Solar Farm	FL	400.0	4,698.1		Unknown		Proposed	Third party
Sidereo Plant	GA	1.0	8.7		Fixed		Complete	Third party

Name	State	MW-DC	Total Area (acres)	Direct Area (acres)	Tracking	Module efficiency	Status as of August 2012	Data source
Kapolei Sustainable Energy Park	HI	1.2	4.7	2.2	Fixed	14%	Complete	Third party
Kalaeloa Oahu	HI	5.0	47.0		1 axis	19%	Construction	Official documents
Everbe City Solar	IL	10.0	48.2	37.6	1 axis		Complete	Developer
Grand Ridge Solar Plant	IL	23.0	187.9		Unknown	12%	Construction	Third party
Indianapolis Airport Solar Farm	IN	10.0	70.5		Fixed		Construction	Third party
Bowling Green Solar Farm	KY	2.0	13.3	10.8	1 axis		Complete	Third party
William Stanley Business Park	MA	1.8	10.9	7.5	Fixed	14%	Complete	Official documents
Berkshire School	MA	2.0	10.8	9.4	Fixed	15%	Complete	Third party
NewOrfield Hospitals	MA	2.3	12.8	9.2	Fixed		Complete	Third party
Indian Orchard Solar	MA	2.3	14.1		Unknown		Complete	Third party
Springfield Plant	MA	4.2	72.8	47.8	Unknown		Complete	Third party
Master Road Holyoke Plant	MA	4.3	22.3		Fixed	15%	Complete	Third party
Canton Landfill	MA	5.7	47.2	12.8	Fixed	13%	Complete	Official documents
Mount St. Mary's University	MD	12.4	158.8	105.7	Fixed	11%	Construction	Third party
Progress Energy	NC	1.2	11.3	9.1	1 axis	14%	Complete	Official documents
Mayberry NR, Ary Solar Farm	NC	1.2	7.0		Fixed	14%	Complete	Third party
Neuse River Water Water	NC	1.3	11.7		Fixed	14%	Complete	Third party
SAS Solar Farm I and 2	NC	7.2	70.0	14.1	1 axis	15%	Complete	Developer
Kings Mountain Solar Farm	NC	5.0	33.3		Unknown		Complete	Third party
Mooresboro	NC	6.4	38.7	30.8	1 axis	19%	Complete	Developer
Davidson County Solar	NC	17.3	221.8	129.3	1 axis		Complete	Developer
Trenton Solar Farm	NJ	1.3	8.5	8.3	Fixed		Complete	Third party
Silver Lake Solar Farm	NJ	2.1	8.4	6.7	Fixed	14%	Complete	Third party
Maas Solar Garden	NJ	2.2	14.4	11.9	Fixed	16%	Complete	Developer
FLRAD landfill	NJ	3.0	16.3		Fixed		Complete	Third party
Linden Solar Farm	NJ	3.2	16.7		Unknown		Complete	Third party

Name	State	MW-DC	Total Area (acres)	Direct Area (acres)	Tracking	Module efficiency	Status as of August 2012	Data source
Janssen Pharmaceutica	NJ	4.1	29.4	21.9	1 axis		Complete	Third party
Vineland	NJ	4.1	32.5	17.6	Fixed		Complete	Developer
Yardville Solar Farm	NJ	4.4	18.4	16.6	Fixed	16%	Complete	Third party
Norfolk Solar Farm	NJ	4.8	36.9	18.9	1 axis		Proposed	Third party
Princeton University	NJ	5.2	31.7		1 axis	18%	Complete	Third party
Lawrenceville School	NJ	6.1	36.2		1 axis	15%	Complete	Third party
NJ Oak Solar Farm	NJ	12.5	102.5	87.5	Fixed	14%	Complete	Third party
Upper Pittsgrove	NJ	14.4	105.7		1 axis		Proposed	Third party
Tinton Falls	NJ	19.0	114.8		Unknown		Construction	Third party
Pittsgrove Project	NJ	20.0	146.9	85.3	Fixed	14%	Complete	Third party
Santa Fe Waste Water Plant	NM	1.1	10.4	7.9	1 axis	14%	Complete	Developer
City of Alamo Waste Water	NM	1.2	11.2	10.6	2 axis flat	14%	Complete	Third party
Oneda	NM	1.2*	20.0	12.8	2 axis CPV	25%	Complete	Third party
Albuquerque Solar Center	NM	2.0	21.7	12.8	Fixed	11%	Complete	Third party
Deming Solar Energy Center	NM	10.0	80.7	40.0	Fixed	11%	Complete	Third party
Alamogordo Solar Center	NM	20.0	84.7		Fixed	11%	Complete	Third party
Hatch Solar Center	NM	6.5	60.1	38.5	2 axis CPV	26%	Complete	Developer
Sun Edison Jal	NM	10.7	112.5	86.4	1 axis		Complete	Third party
Sun Edison Carlsbad	NM	10.8	100.7	80.3	1 axis		Complete	Third party
Elephant Butte	NM	22.0	187.9		Fixed		Construction	Third party
Roadrunner Solar Facility	NM	23.5*	244.7	183.5	1 axis	15%	Complete	Developer
Chaparral	NM	33.2*	283.6	240.7	Fixed	16%	Complete	Developer
Estancia Solar Farm	NM	80.0	487.9		Unknown		Proposed	Third party
Guadalupe Solar	NM	300.0	2,818.3		Unknown		Proposed	Third party
Las Vegas Solar Center	NV	8.8	56.7		Unknown	11%	Complete	Third party

Name	State	MW-DC	Total Area (acres)	Direct Area (acres)	Tracking	Module efficiency	Status as of August 2012	Data source
El Dorado Solar	NV	12.0	84.0	84.0	Fixed	11%	Complete	Developer
Nellis Air Force Base	NV	14.0	186.7	148.0	1 axis		Complete	Official documents
Searchlight Solar Project	NV	20.0	240.3		1 axis		Complete	Third party
Fish Springs	NV	20.0	211.4		Fixed	10%	Construction	Official documents
Apex	NV	240	187.1		Unknown		Proposed	Third party
Silver State Solar North	NV	50.1	775.0		Fixed	10%	Construction	Official documents
Boulder City	NV	178.3*	1,363.7		1 axis	10%	Construction	Developer
Silver State Solar South	NV	350.0	3,466.1	3484.8	1 axis	10%	Proposed	Official documents
Mojave Guzzo Center	NV	750.0	6,534.7		Unknown		Proposed	Third party
Brookhaven Lab	NY	37.0	231.3	223.5	Fixed	13%	Construction	Developer
Washington Township Solar Array	OH	1.1	11.5	8.4	Fixed	9%	Complete	Developer
Bull Napoleon Solar LLC	OH	8.8	70.3		1 axis	19%	Construction	Third party
Wyandot Solar	OH	12.8	97.0	74.0	Fixed	11%	Complete	Developer
Turning Point Solar	OH	34.5*	496.4		Unknown		Proposed	Official document
Yamhill Solar	OR	1.2	11.8		Fixed	10%	Complete	Developer
Bellevue Solar	OR	1.7	14.0		Fixed	20%	Complete	Developer
Pocono Raceway	PA	3.0	27.2	17.8	Fixed		Construction	Third party
Exeter Cowanty	PA	3.0	18.4	12.3	Fixed		Complete	Developer
Claysville Solar Project	PA	20.0	137.5	99.5	Fixed		Proposed	Developer
Shelby Solar Project	SC	1.0	10.8	6.5	1 axis	19%	Complete	Third party
West Tennessee Solar Farm	TN	5.0	29.4	26.9	Fixed		Construction	Developer
Blue Wing Solar	TX	10.1	124.2	83.7	Fixed		Construction	Developer
Austin Energy Webberville	TX	34.2	434.3		Unknown	15%	Complete	Third party
Pflugerville Solar	TX	60.0	704.7		Unknown		Construction	Third party
South Burlington Solar Farm	VT	2.2	31.7	25.8	2 axis flat		Complete	Third party

Appendix C. CSP Projects Evaluated

Table C-1. Concentrating Solar Power Land-Use Data

Note: Additional CSP plant information, such as storage and annual generation, can be found in Appendix A.

Name	State	MW-AC	Total Area (acres)	Direct Area (acres)	Technology	Status as of August 2012	Data source
Mohave Solar Project	AZ	1.5	15	4	Stirling Engine	Complete	Third party
Quartzsite	AZ	100	1,475		Tower	Proposed	Developer
Crossroad Solar	AZ	150	2,560		Tower	Proposed	Developer
Solana	AZ	280	1,920		Parabolic trough	Construction	Third party
Sierra SunTower	CA	5	50	22	Tower	Complete	Developer
Kimberlina	CA	5.0	33	15	Linear Fresnel	Complete	Developer
Solar Two	CA	10	633	510	Tower	Decommissioned	Third party
Coalinga	CA	13	68	57	Tower	Proposed	Developer
Victorville 2 Hybrid	CA	50	763	230	Parabolic trough	Proposed	Official document
Palmdale Hybrid Gas/Solar Plant	CA	37	777	350	Parabolic trough	Proposed	Official document
Rice Solar	CA	150	2,360	1,410	Tower	Construction	Official document
Abengoa Mojave	CA	250	1,765		Parabolic trough	Construction	Third party
Ford Dry Lake (Cerrado)	CA	250	4,640	1,600	Parabolic trough	Construction	Official document
Hidden Hills 1	CA	250	1,840	1,560	Tower	Proposed	Official document
Hidden Hills 2	CA	250	1,840	1,560	Tower	Proposed	Official document
Rio Mesa 1	CA	250	1,917		Tower	Proposed	Official document
Rio Mesa 2	CA	250	1,917		Tower	Proposed	Official document
Rio Mesa 3	CA	250	1,917		Tower	Proposed	Official document
SEGS (all)	CA	354	2,057	2,057	Parabolic trough	Complete	Third party
Ivanpah All	CA	370	3,315	3,238	Tower	Construction	Official document
Sagauche Solar	CO	200	3,000	2,560	Tower	Construction	Official document
Martin Next Generation	FL	75	500	400	Parabolic trough	Complete	Developer

Nevada Solar One	NV	64	400	200	Parabolic trough	Complete	Third party
Tonopah (Crescent Dunes)	NV	110	1,600	1,537	Tower	Construction	Developer

Appendix D. Impact of PV System Size and Module Efficiency on Land-Use Requirements

System size appears to have little impact on capacity-based land-use requirements. Figure D-1 and Figure D-2 show the total-area requirements for small and large PV systems, with respect to project capacity. No significant trends are observed for land use and system size for small or large PV systems.

Land use was also evaluated with respect to module efficiency. Figure D-3 shows capacity-based direct land-use requirements for all PV systems with respect to module efficiency, and Figure D-4 shows the generation-based direct land-use requirements. We expect that land use will decrease with increasing module efficiencies, but no significant trends are observed for land use and module efficiency for small or large PV systems. A linear regression analysis yields a poor correlation coefficient for both the capacity-based area data (0.04) and the generation-based data (0.08). Isolating for fixed-tilt systems reveals that projects with higher efficiency use less land on a capacity basis (with a correlation coefficient of 0.50). No trends are observed within the pool of 1-axis tracking systems. Variations in land use that remain after isolating for module efficiency and tracking type are not clearly understood.

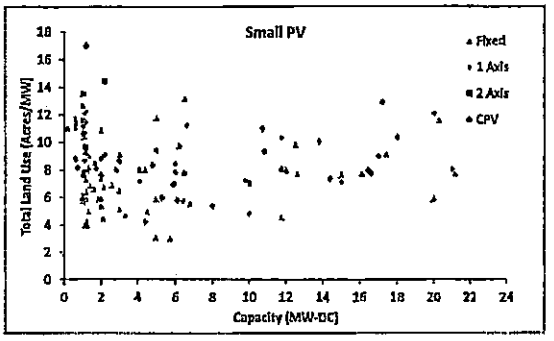

Figure D-1. Total-area requirements for small PV installations as a function of PV plant size

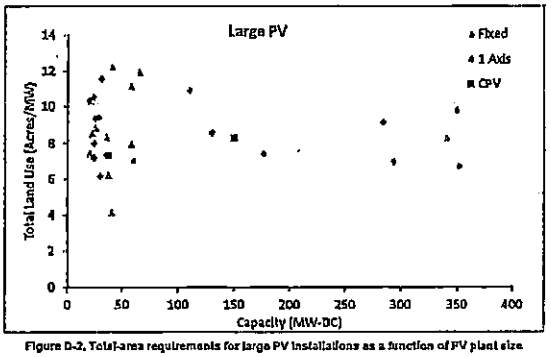

Figure D-2. Total-area requirements for large PV installations as a function of PV plant size

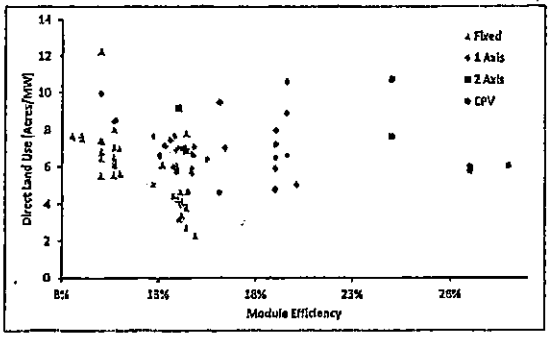

Figure D-3. Capacity-based direct-area land-use requirements for all PV systems as a function of module efficiency

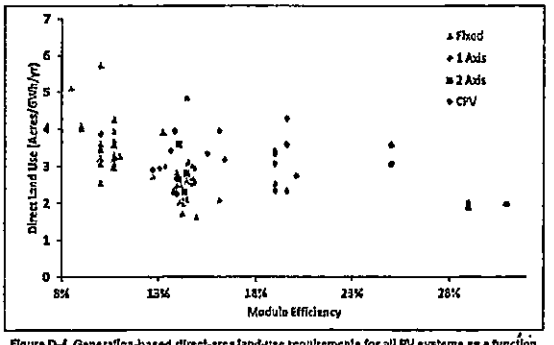

Figure D-4. Generation-based direct-area land-use requirements for all PV systems as a function of module efficiency

Appendix E. Impact of CSP System Size and Storage on Land-Use Requirements

We evaluated the impact of project capacity on land-use requirements and found that system size appears to have little impact on generation-based CSP land-use requirements. Figure E-1 and Figure E-2 show the total-area and direct-area requirements for all CSP systems evaluated, with respect to system size. No significant trends are observed for land-use and capacity for CSP systems.

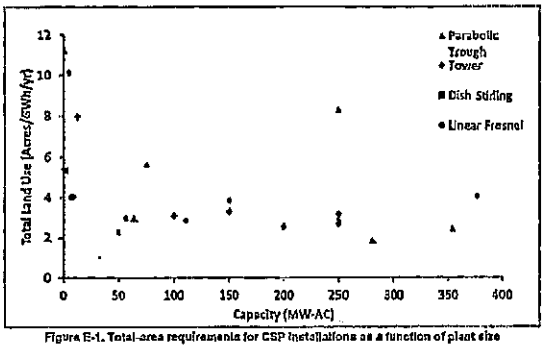

Figure E-1. Total-area requirements for CSP installations as a function of plant size

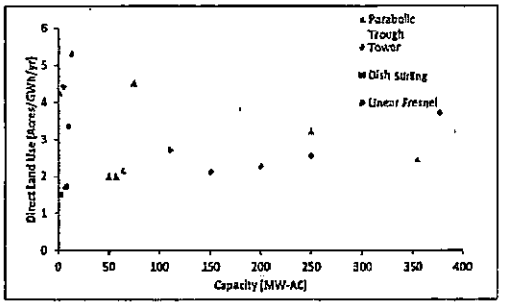

Figure E-2. Direct-area requirements for CSP installations as a function of plant size

We evaluate the impact of multi-hour energy storage on CSP land-use requirements. Eight facilities included thermal storage technology, ranging from 3 to 15 hours of storage. One of the eight CSP facilities with storage is a parabolic trough system, while the remaining seven are tower systems. Figure E-3 shows the generation-based total-area requirements for all storage-equipped CSP systems evaluated, with respect to storage capacity in hours. Figure E-4 shows the capacity-based total-area requirements.

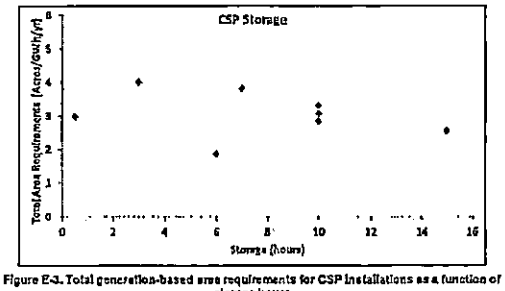

Figure E-3. Total generation-based area requirements for CSP installations as a function of storage hours

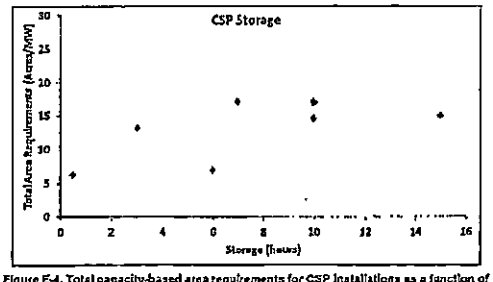

Figure E-4. Total capacity-based area requirements for CSP installations as a function of storage hours

ID only 17-108x Mathews

Solar Farm Fact Sheet

The SAS solar farm sits on almost 12 acres adjacent to the new Executive Briefing Center. There are 10,276 solar panels producing more than 3.6 million kilowatt hours annually. That's enough power for more than 325 average sized U.S. homes.

"The solar farm is a smart decision for SAS and for the community," said Jerry Williams, Environmental Sustainability Program Manager for SAS. "Projects like our solar farm demonstrate a fundamental shift in the value placed on energy efficiency, intelligent power sourcing and end-user consumption. The development and implementation of alternative sources of energy is important for our environment, a stimulus for our economy and a step in the right direction to achieving energy independence."

Solar Farm 1

- Commercial Operation Date: December 10, 2008
- System size: 1 Megawatt (MW) capacity photovoltaic solar array on 4.8 acres
  - The capacity of the system is 1MW which means power output at peak performance will be 1MW.
  - "Name plate capacity" is simply the combined spec peak capacity of all individual modules.
  - The AC power rating of the array is 80% of the DC power rating, based on SunPower estimates. Therefore, the maximum power capacity of the PV system is 800 kW (AC).
  - Estimated annual electricity production: 1.7 million kilowatt hours (kWh)
  - Our system consists of 4 sub-arrays feeding power to 2 inverters and routed through Progress Energy transformer onto the grid.
- The system was designed by SunPower and installed by local contractors. Primary subcontractor was Southern Energy Management (SEM).
- Our system has SunPower® Tracker directional arrays which track the path of the sun (East to West) via a straight-line single axis to achieve greater efficiencies.
  - To effectively track the sun, we use a global positioning system that mechanically tracks the sun throughout the day and rotates the assembly for maximum sun exposure.
  - Directional arrays are capable of generating near peak capacity for a longer period of time, say 5-6 hours/day in our location compared to 4 hours for fixed arrays.
  - The Tracker tilts toward the sun as it moves across the sky, increasing energy capture by up to 25 percent over fixed systems and greatly reducing land-use / acreage requirements.
- The solar farm has 5,040 ground-mounted Sanyo solar panels:
  - Image - http://static.huddler.com/imgrepo/c/ce/Sanyo HIT.jpg
  - They are the HIP xxxBA model series HIT cell types
  - Panel size: 52" x 35" x 1.8"
  - We installed a combination of 195W & 200W capacity types.
  - HIT stands for Heterojunction with Intrinsic Thin layer. That mean these are hybrid solar panels with both crystalline silicon and ultra-thin amorphous silicon layers.
  - Sanyo (Japan) panels were manufactured in Mexico

  - Panels have a standard PV degradation rate for crystalline of <.05% per year and carry a warranty of 25 years.
  - Module efficiency = 15.3% – 17.4% - Cell efficiency = 17.8% - 20.2%. It is essentially how much power they can produce from exposure to sun.
  - Max Power Voltage – 55.8(V) per panel
  - Max Power Current – 3.59 Amps per panel
  - Panel Weight (lbs) – 30.9

Solar Farm 2

- Commercial Operation Date (initial activation): July 23, 2010
- System size: 1.2 Megawatt (MW) capacity photovoltaic solar array on 6.41 acres
  - The capacity of the system is 1.2 MW which means power output at peak performance will be 1.2 MW.
  - The AC power rating of the array is approximately 80% of the DC power rating. Therefore, the maximum power capacity of the PV system is 1 MW (AC).
  - Estimated annual electricity production: 1.9 million kilowatt hours (kWh)
- The system has a total of 5,236 modules with a total of 374 strings of modules.
- The system was designed by groSolar and installed by local contractors.
- Our system has RayTracker directional arrays which track the path of the sun (East to West) via a straight-line single axis to achieve greater efficiencies.
  - To effectively track the sun, we use a global positioning system that mechanically tracks the sun throughout the day and rotates the assembly for maximum sun exposure.
  - Directional arrays are capable of generating near peak capacity for a longer period of time, say 5-6 hours/day in our location compared to 4 hours for fixed arrays.
  - The tracker tilts toward the sun as it moves across the sky, increasing energy capture by up to 25 percent over fixed systems and greatly reducing land-use / acreage requirements.
- The solar farm has 5,236 ground-mounted Canadian Solar CS6P-230P Panels:
  - Image - Canadian CS6P-230 Panels
  - Each Panel has 60 polycrystalline solar cells
  - Panel size: 66" x 39" x 1.7"
  - 230W capacity types.
  - Panels utilize 60 high efficiency, multicrystalline 6.14 inch (156mm) square cells manufactured in China.
  - Panels have a standard PV degradation rate for crystalline of <.05% per year and carry a warranty of 25 years.
  - Module efficiency = 14.3%. It is essentially how much power they can produce from exposure to sun.
  - Max Power Voltage – 29.8(V) per panel
  - Max Power Current – 7.71 Amps per panel
  - Panel Weight (lbs) – 40.8

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3

Business Drivers

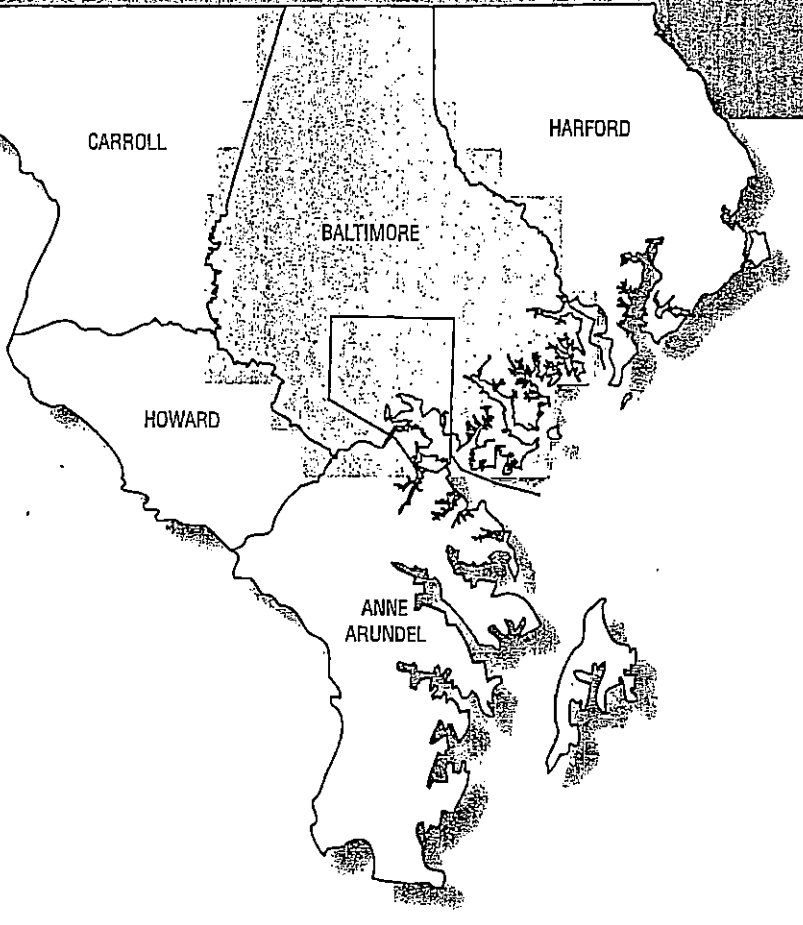
- North Carolina's renewable law (Senate Bill 3) requires NC's three investor-owned utilities – Duke Energy Carolinas, Progress Energy Carolinas, and Dominion North Carolina Power – to meet at least 12.5% of their annual electricity output with renewable energy by year 2021.
- Feasibility studies indicated it just made good business sense to go forward with these projects. We hope other businesses in the community will look at our endeavors and understand the practicality of incorporating similar projects into their own business models.
- Progress Energy will purchase the electricity generated by the solar farm for use on the public energy grid
- Tax incentives include:
  - 30% Federal tax credit
  - 35% State tax credit
  - Accelerated depreciation schedules
- It's a sustainable business practice that just makes good sense.

ADC The Map People®
by Kappa Map Group

STREET ATLAS

Baltimore City & County

Maryland



4 **Regional Maps**
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Large-Scale Maps

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Places of Interest

NAVTEQ ON BOARD

People's Counsel
CBA Exhibit
4

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(800) 829-6277 **www.kappamapgroup.com**

17-1088 People Co. David W. Lee

2 Key Map

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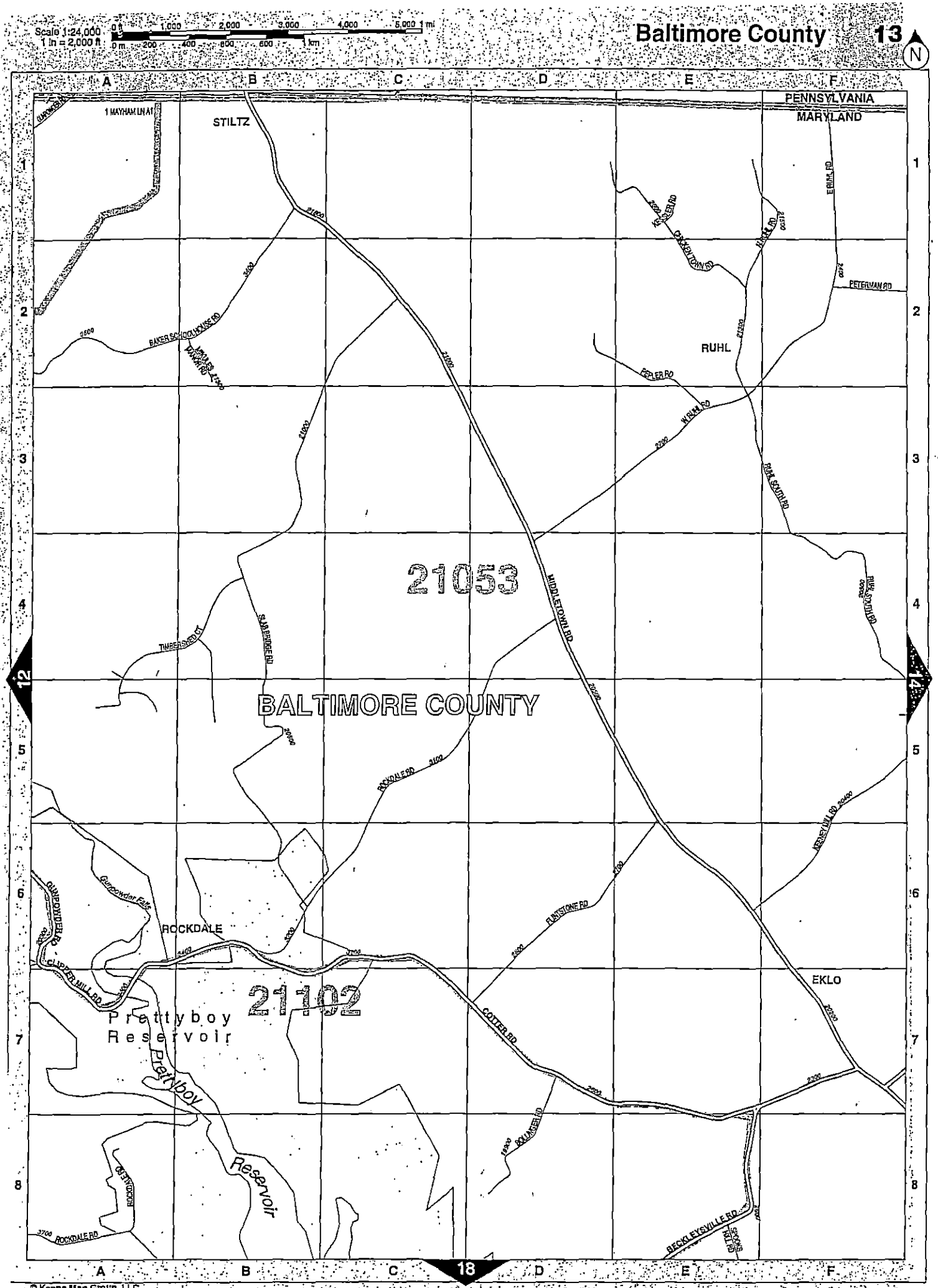

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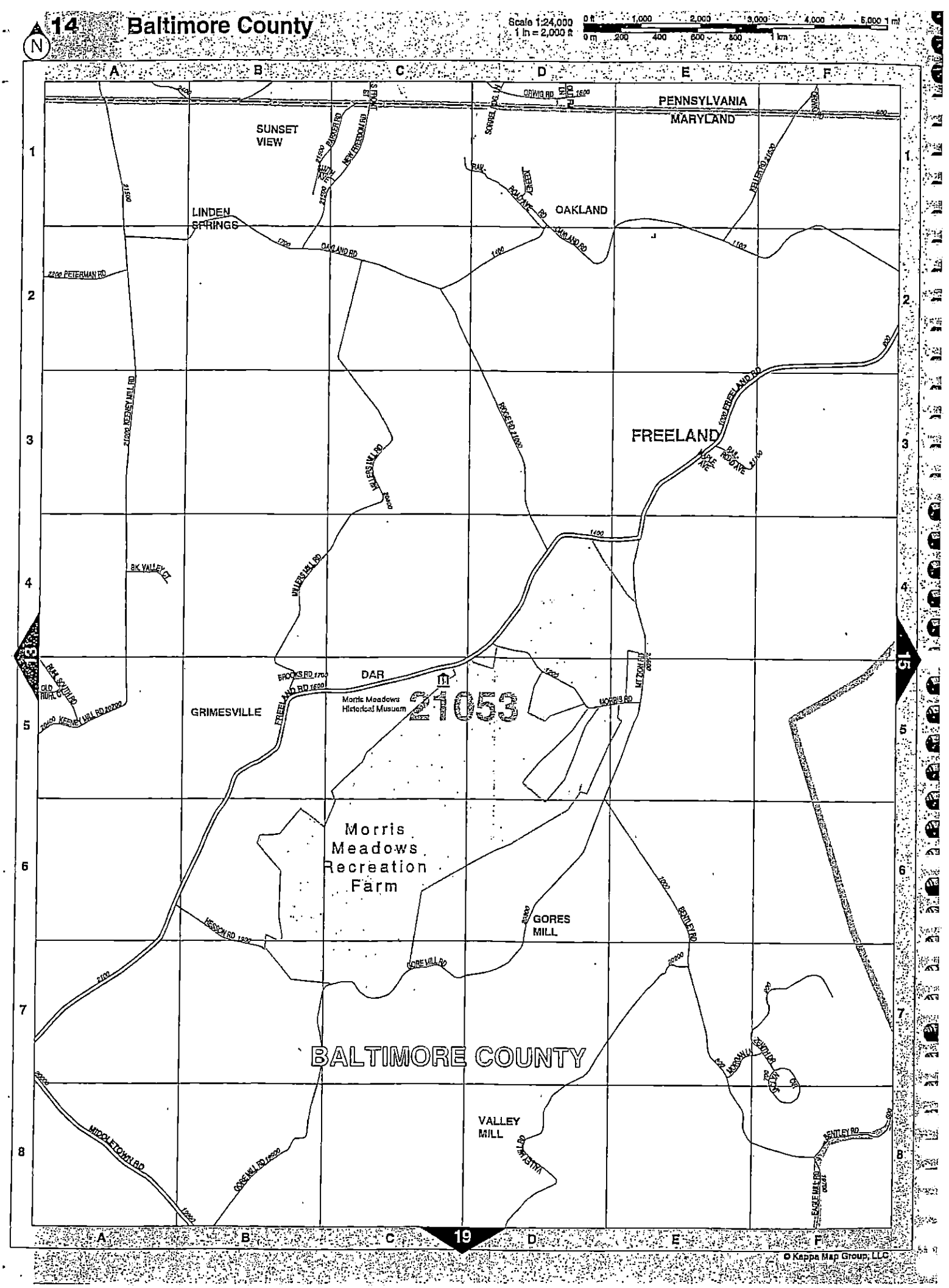
14 Baltimore County
Scale 1:24,000
1 in = 2,000 ft
PENNSYLVANIA
MARYLAND
SUNSET VIEW
LINDEN SPRINGS
OAKLAND
FREELAND
DAR
Morris Meadows Historical Museum
21053
GRIMESVILLE
Morris Meadows Recreation Farm
GORES MILL
BALTIMORE COUNTY
VALLEY MILL
OAKLAND RD
FREELAND RD
BROOKS RD
MORRIS RD
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PETERMAN RD
KERRYMAN HILL RD
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MOSSON RD
BENTLEY RD
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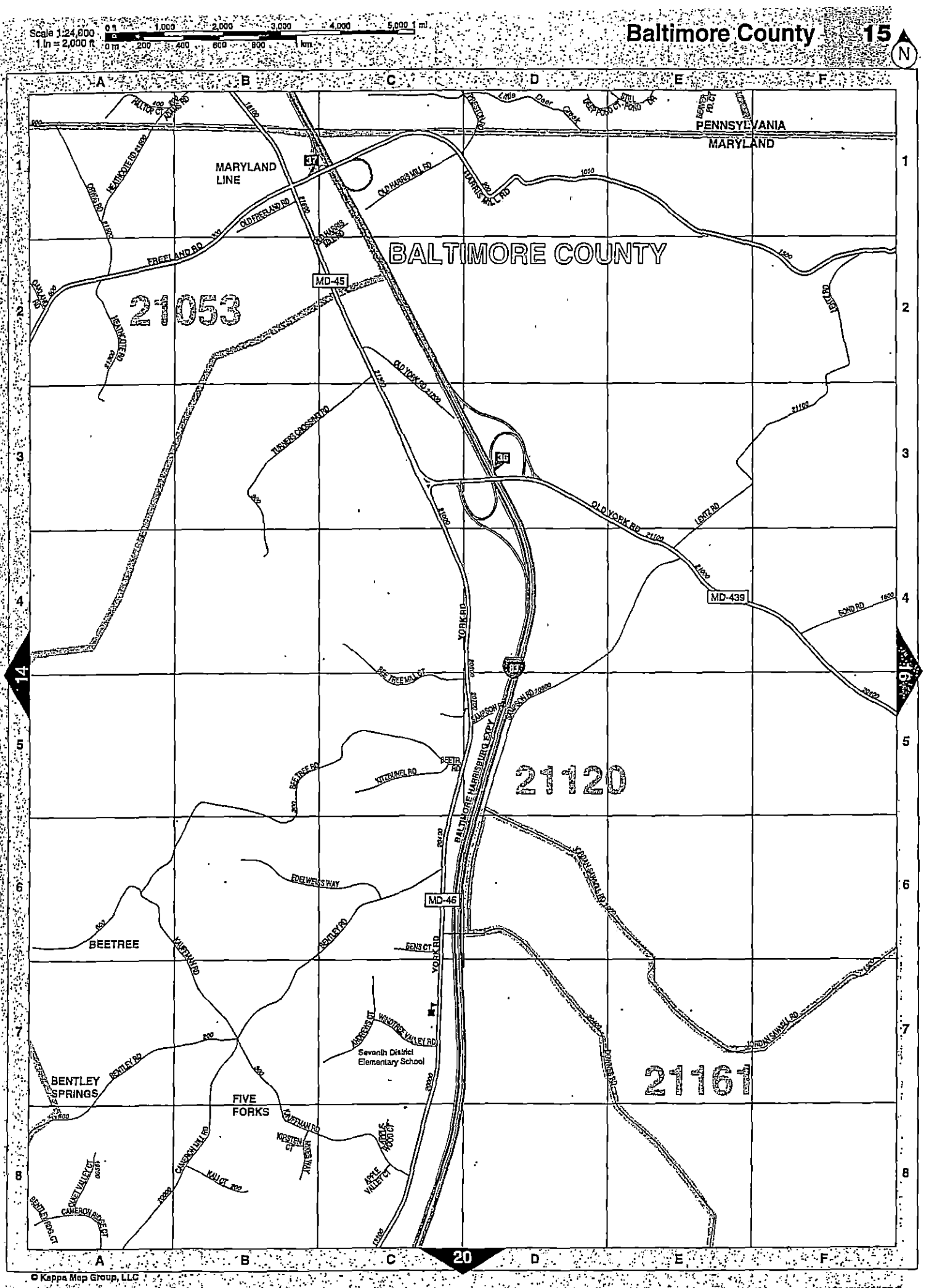

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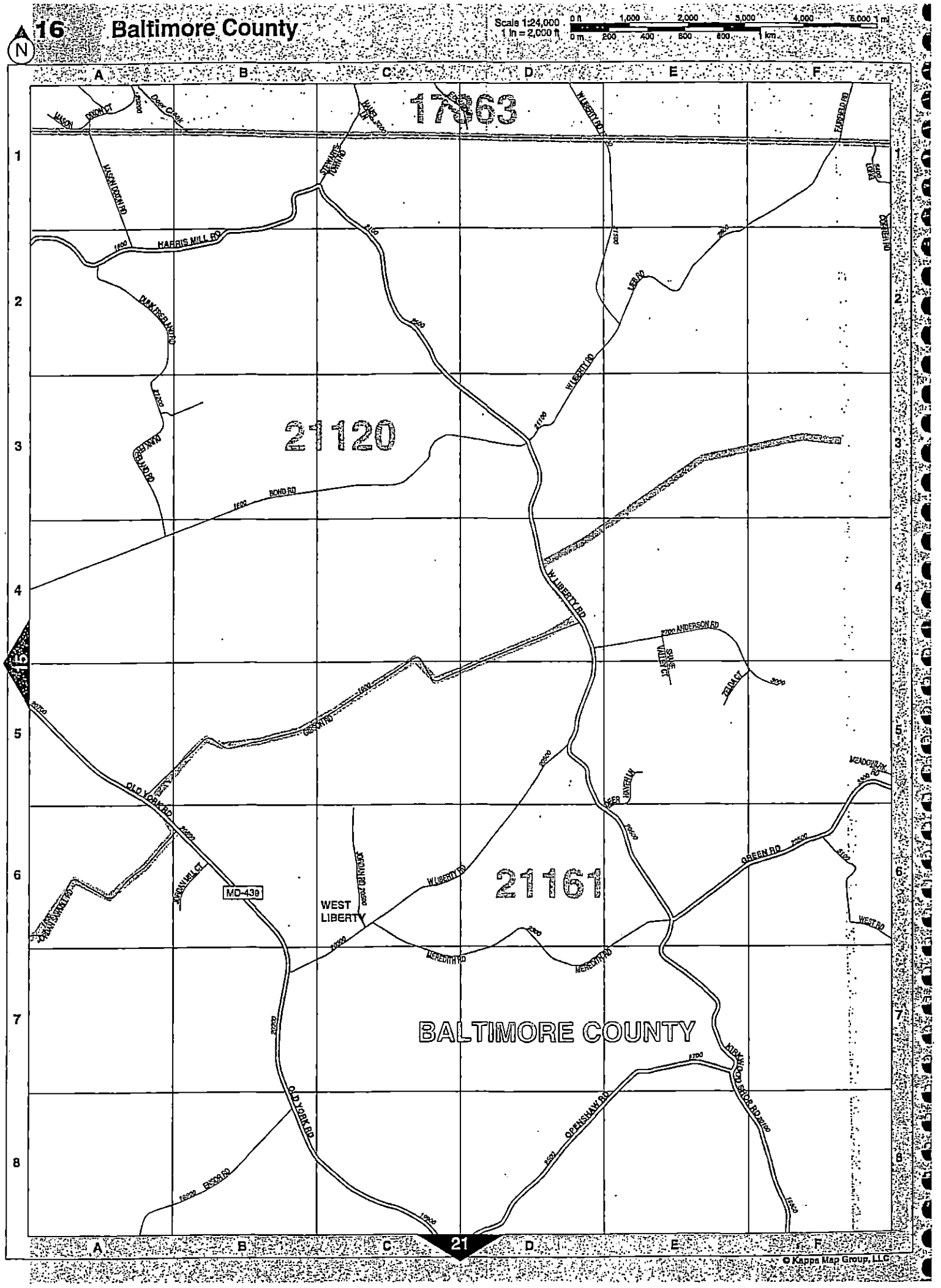
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GREEN RD
MEREDITH RD
OPENSHAW RD
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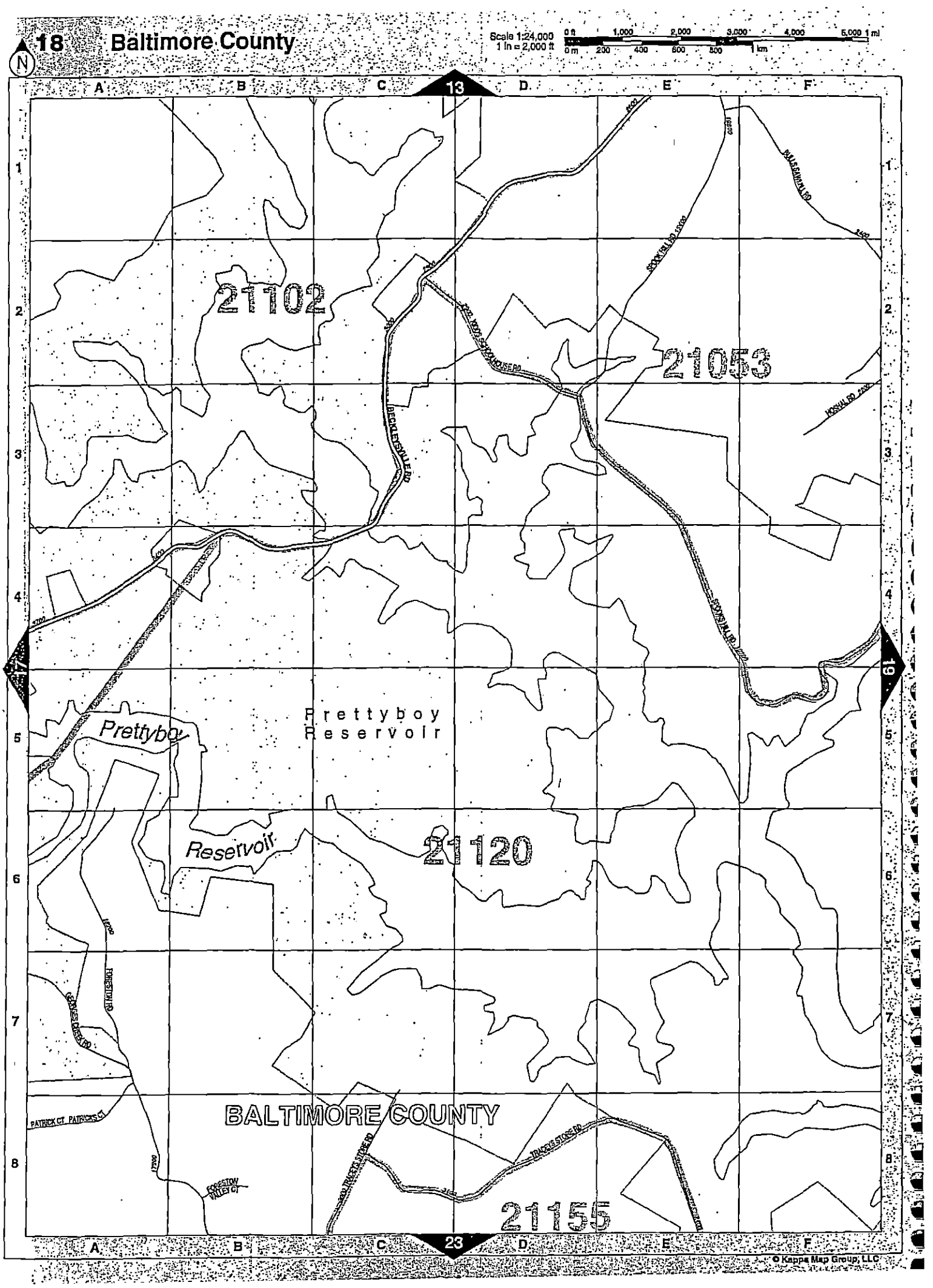
21
© Kappa Map Group, LLC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PRETTYBOY RESERVOIR RD
SPOON HILL RD
HOSHALL RD
MAYS CHAPEL RD
STOCKTON RD
Prettyboy Reservoir
Prettyboy Reservoir
FORESTON RD
GUNPOWDER FALLS
PATRICK CT
PATRICKS CT
FORESTON VALLEY CT
TRACTOR STORE RD
TRACTOR STORE RD
BALTIMORE COUNTY
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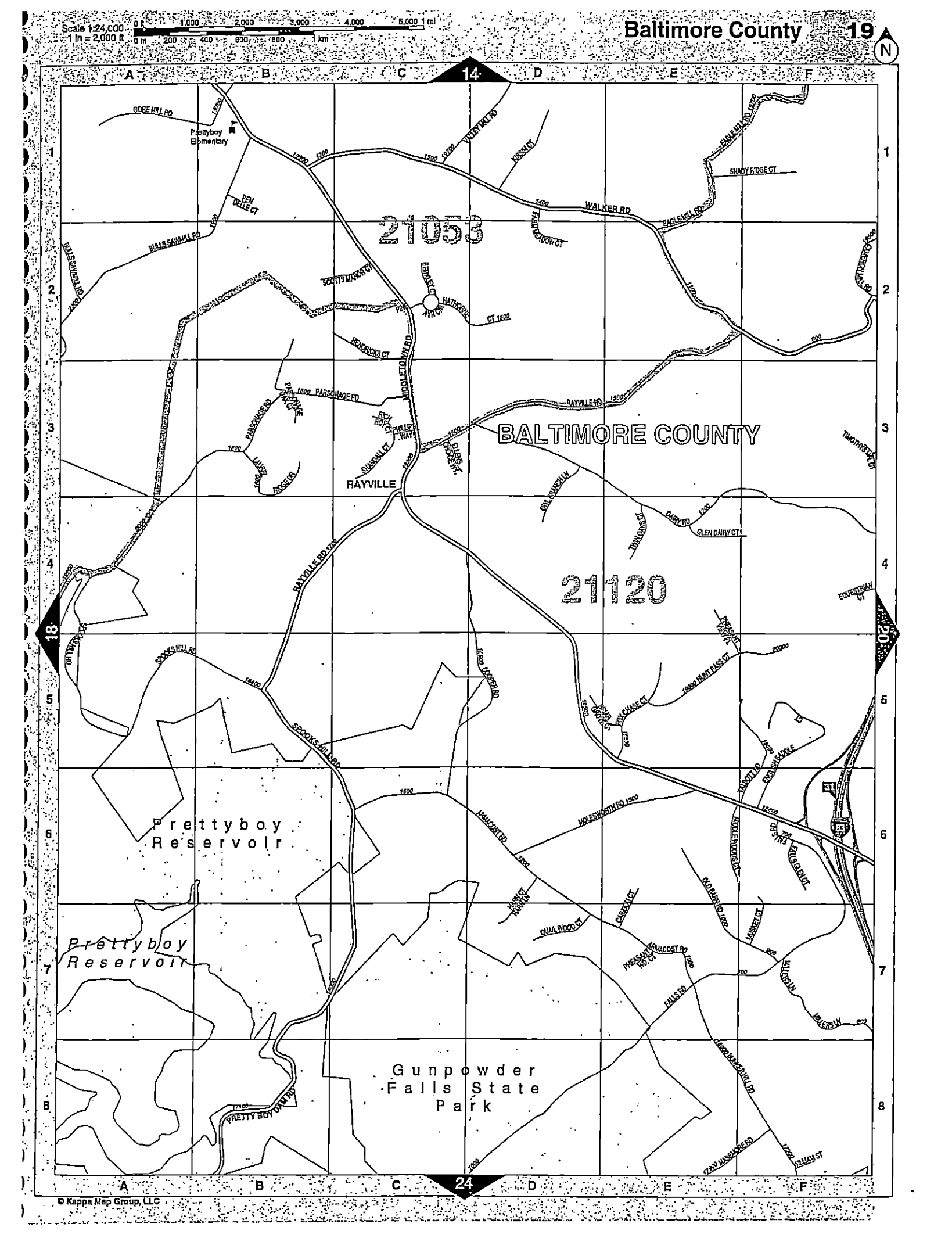
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BALTIMORE COUNTY
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Prettyboy Reservoir
Prettyboy Reservoir
Gunpowder Falls State Park
Prettyboy Elementary
GORE MILL RD
BULLS SAWMILL RD
WALKER RD
EAGLES MILL RD
SHADY RIDGE CT
VALLEY MIST RD
KRISM CT
MEADOW CT
GREEN DELLE CT
SCOTTS MANOR CT
HATHORNE CT
HENDRICKS CT
MIDDLETOWN RD
PARSONAGE RD
RAYVILLE RD
RIDGE ROCK CT
PHILIP WAY
SUMMIT CT
LAUREL RIDGE DR
BIRDS DANCE WAY
OWL CRANCH LN
DAIRY RD
GLEN DAIRY CT
TWIN OAKS CT
TIMOTHY DR CT
EQUESTRIAN CT
RAYVILLE RD
SPOOKS HILL RD
SPOOKS MILL RD
DOGWOOD RD
FOX CHASE CT
HUNT PASS CT
ARNAGOST RD
HOLESHORTH RD
AIRPORT RD
CROSS SADDLE
FALLS GLEN CT
HOLLYWOOD CT
OLD BARN RD
MARKET CT
QUAIL WOOD CT
CARBOLIC CT
PHEASANT RUN CT
FALLS RD
HOLESLAW
PRETTY BOY DAM RD
MANCHESTER RD
MISSOURI RD
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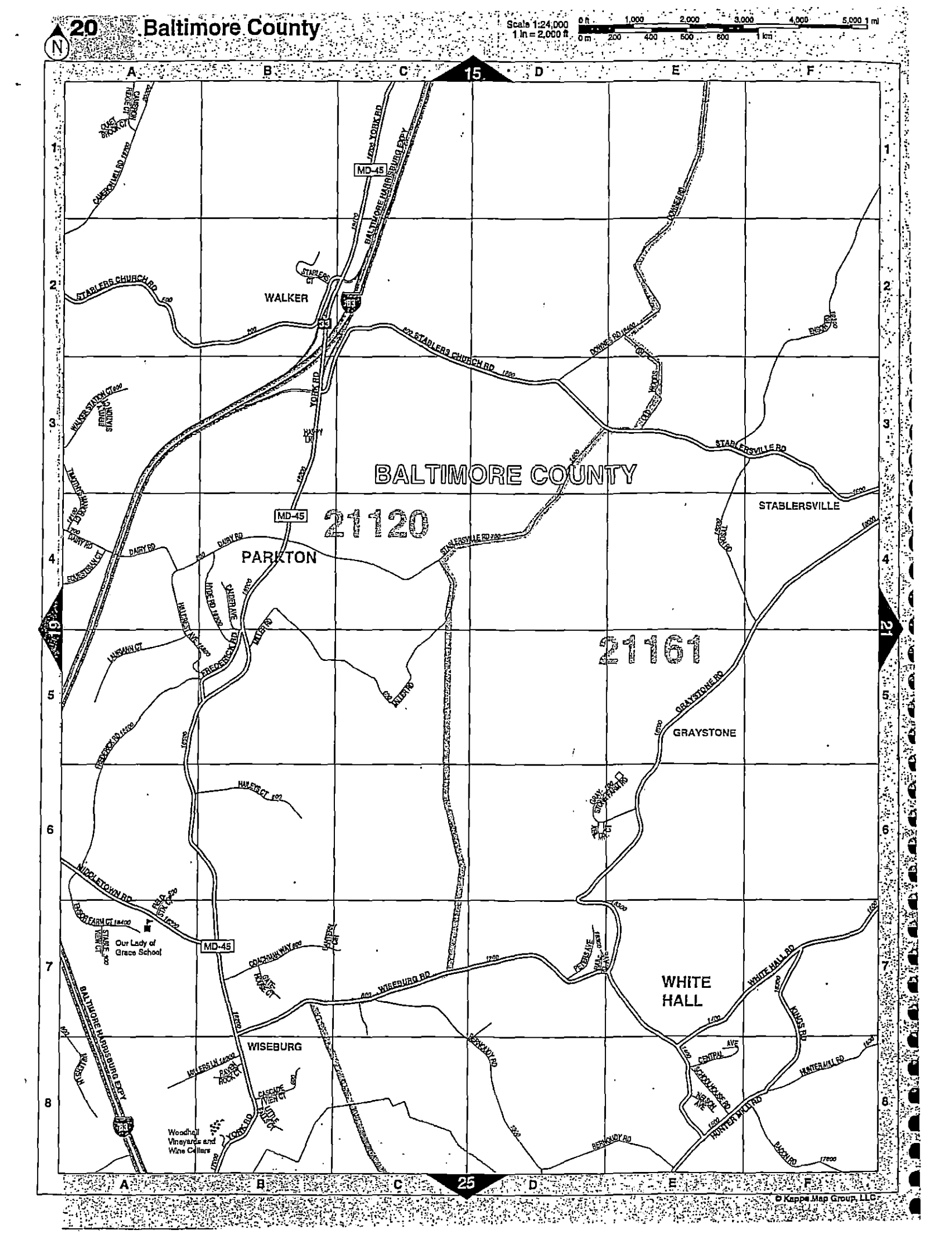
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WHITE HALL
WISEBURG
MD-45
YORK RD
BALTIMORE HARRISBURG EXPY
STABLERS CHURCH RD
STABLERSVILLE RD
DAIRY RD
GRAYSTONE RD
NIDDLETOWN RD
WHITE HALL RD
HUNTER MILL RD
BERKLEY RD
WISEMOOR RD
KNOTS RD
Our Lady of Grace School
Woodhall Vineyards and Wine Cellars
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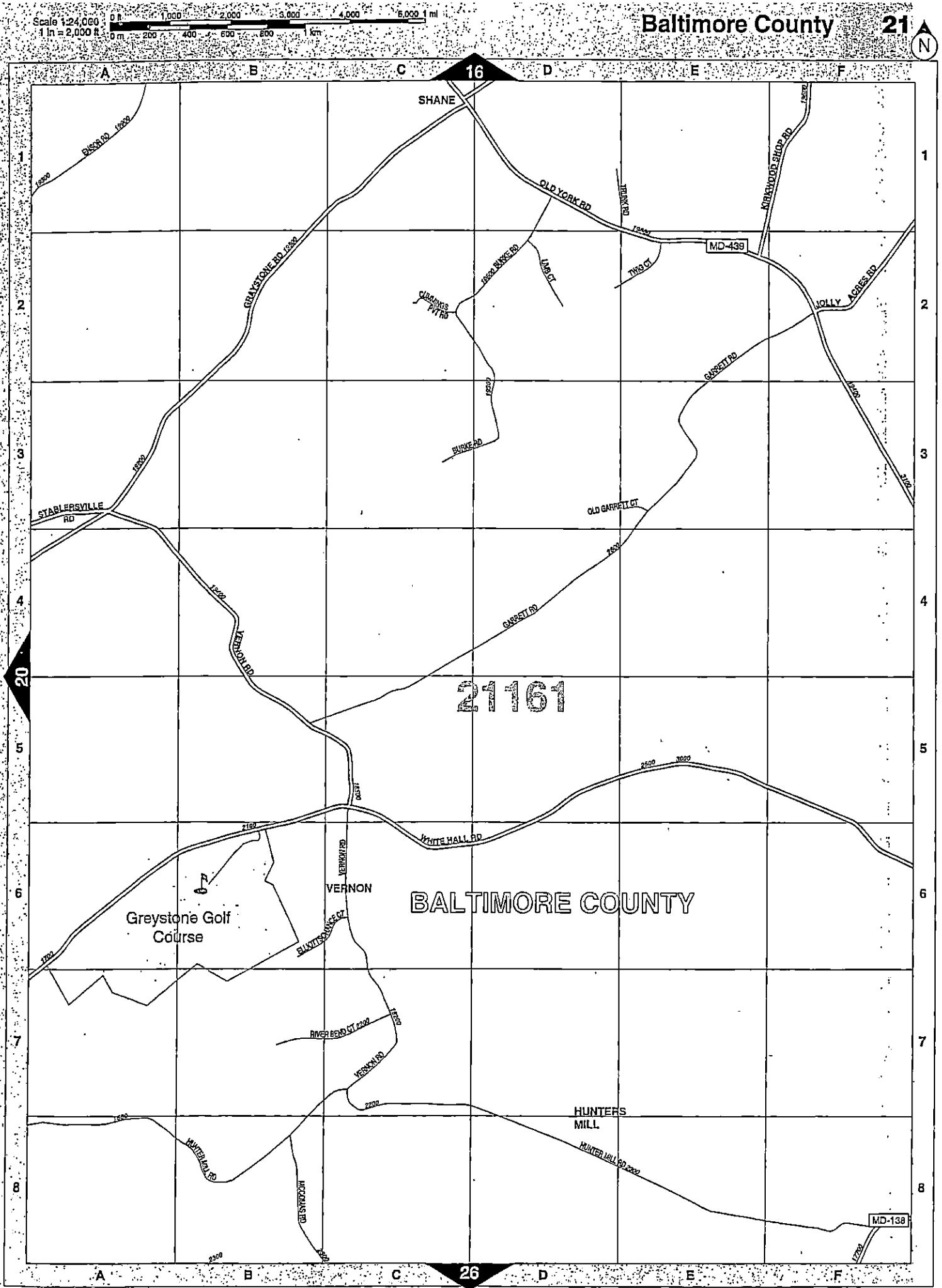

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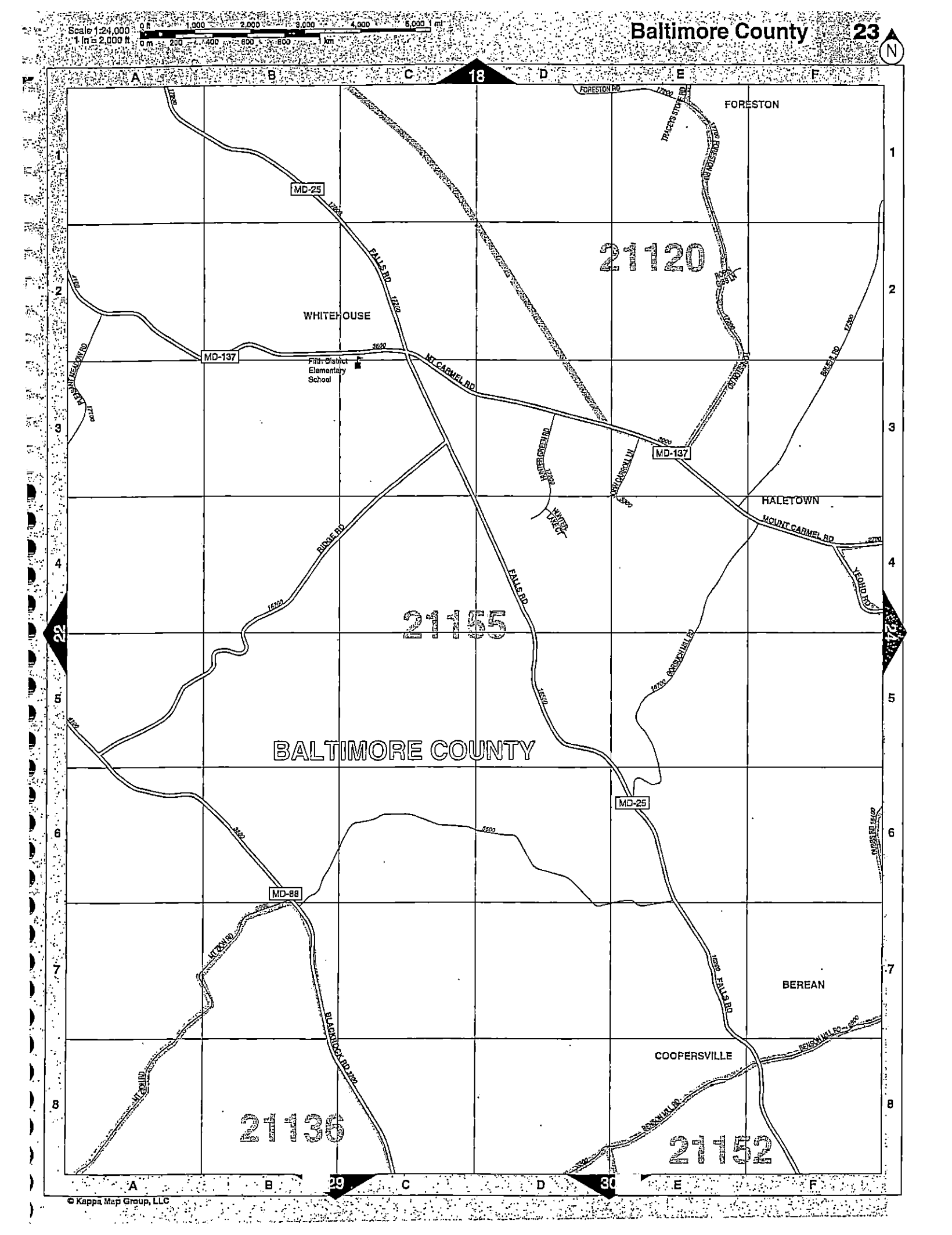
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TRACEYS STORE RD
MD-25
FALLS RD
WHITEHOUSE
MD-137
Fifth District Elementary School
MT CARMEL RD
PLEASANT MEADOW RD
HUNTER GREEN RD
WINTER CREST
OLD ROSSVILLE LN
ROSSVILLE BLVD
BRIGGS RD
HALETOWN
MOUNT CARMEL RD
YEOMAN RD
RIDGE RD
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BALTIMORE COUNTY
ROSSVILLE HILL RD
MD-88
MT ZION RD
BLACKSTOCK RD
BEREAN
COOPERSVILLE
BENSON MILL RD
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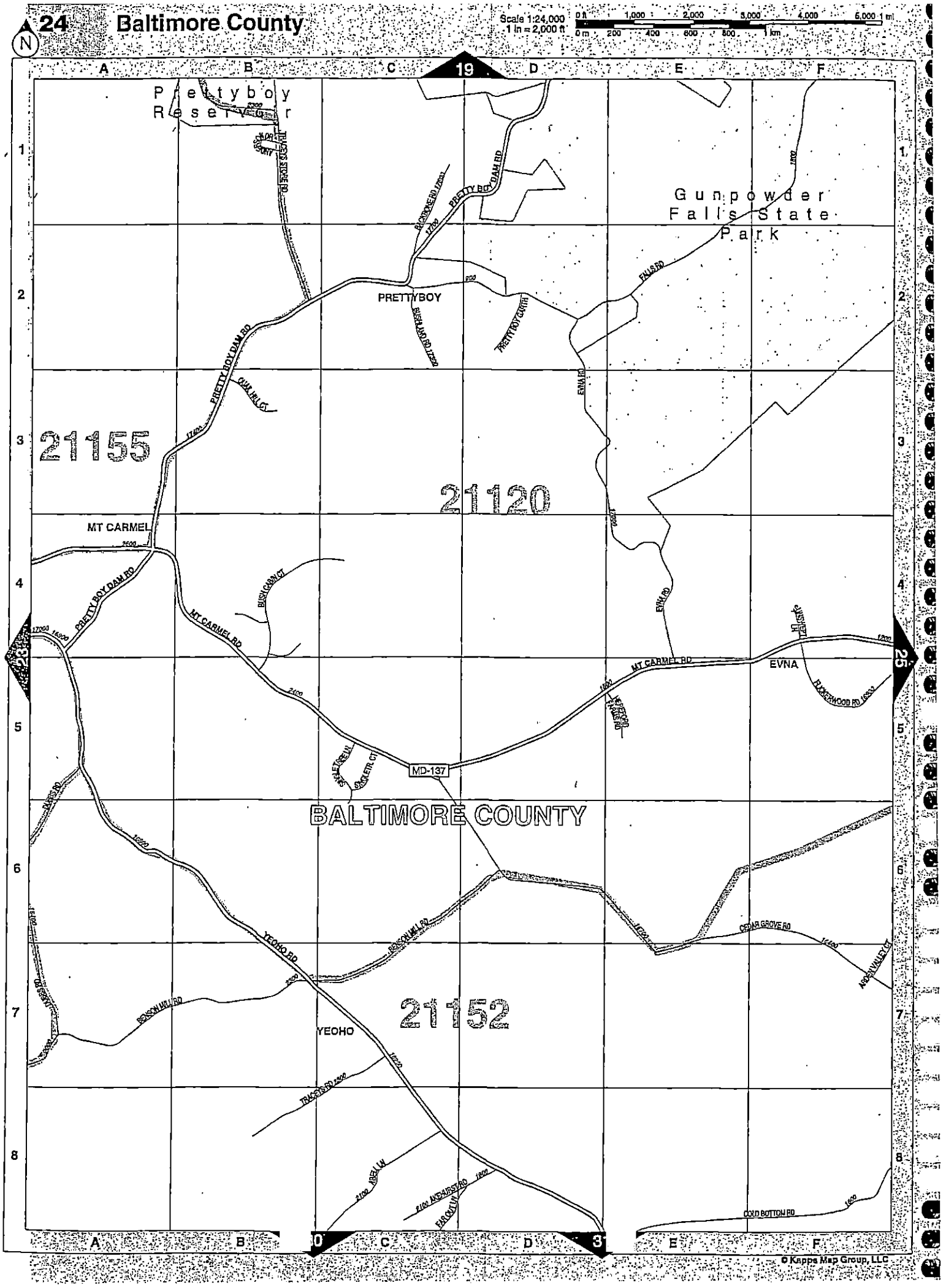

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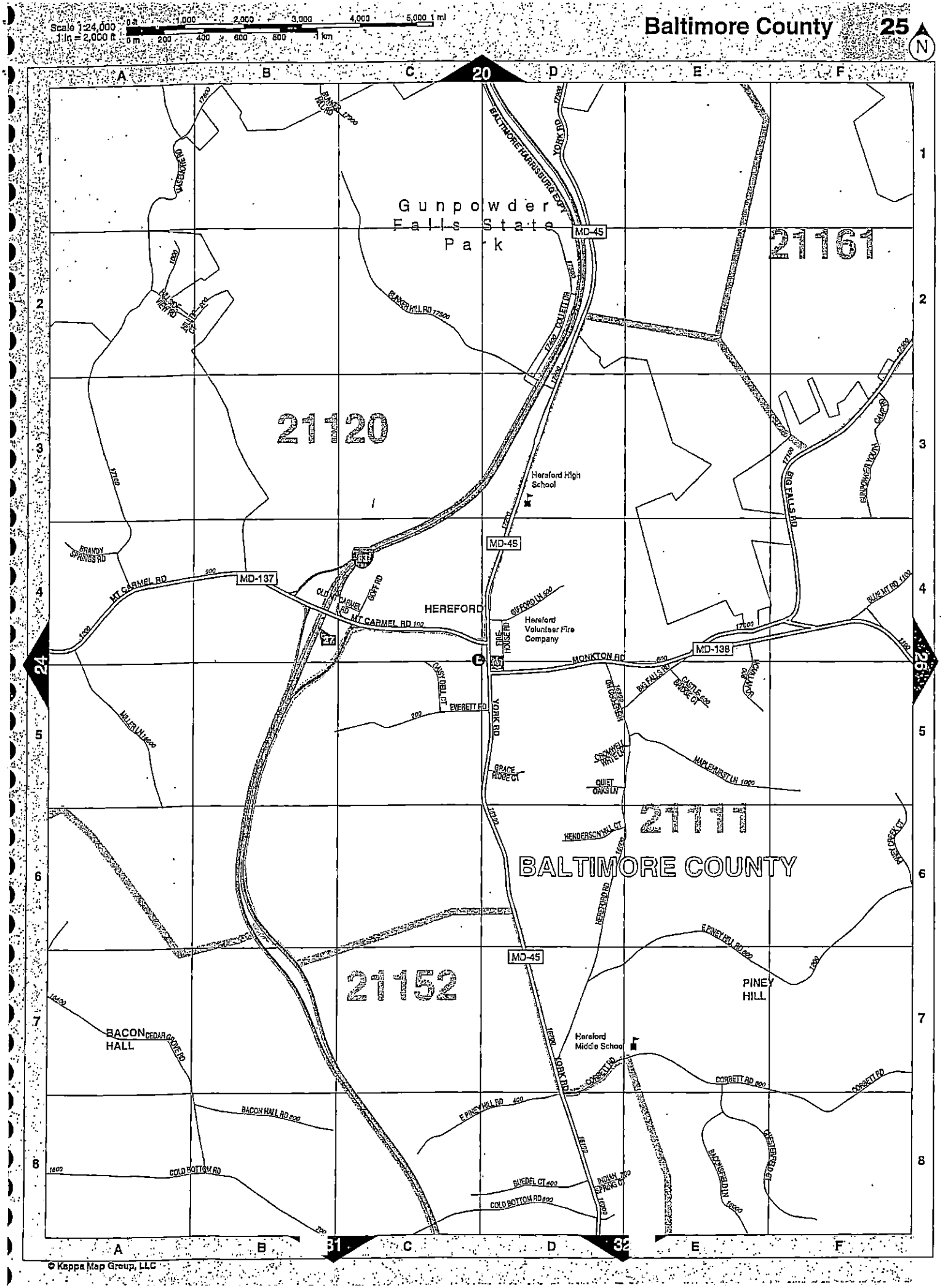

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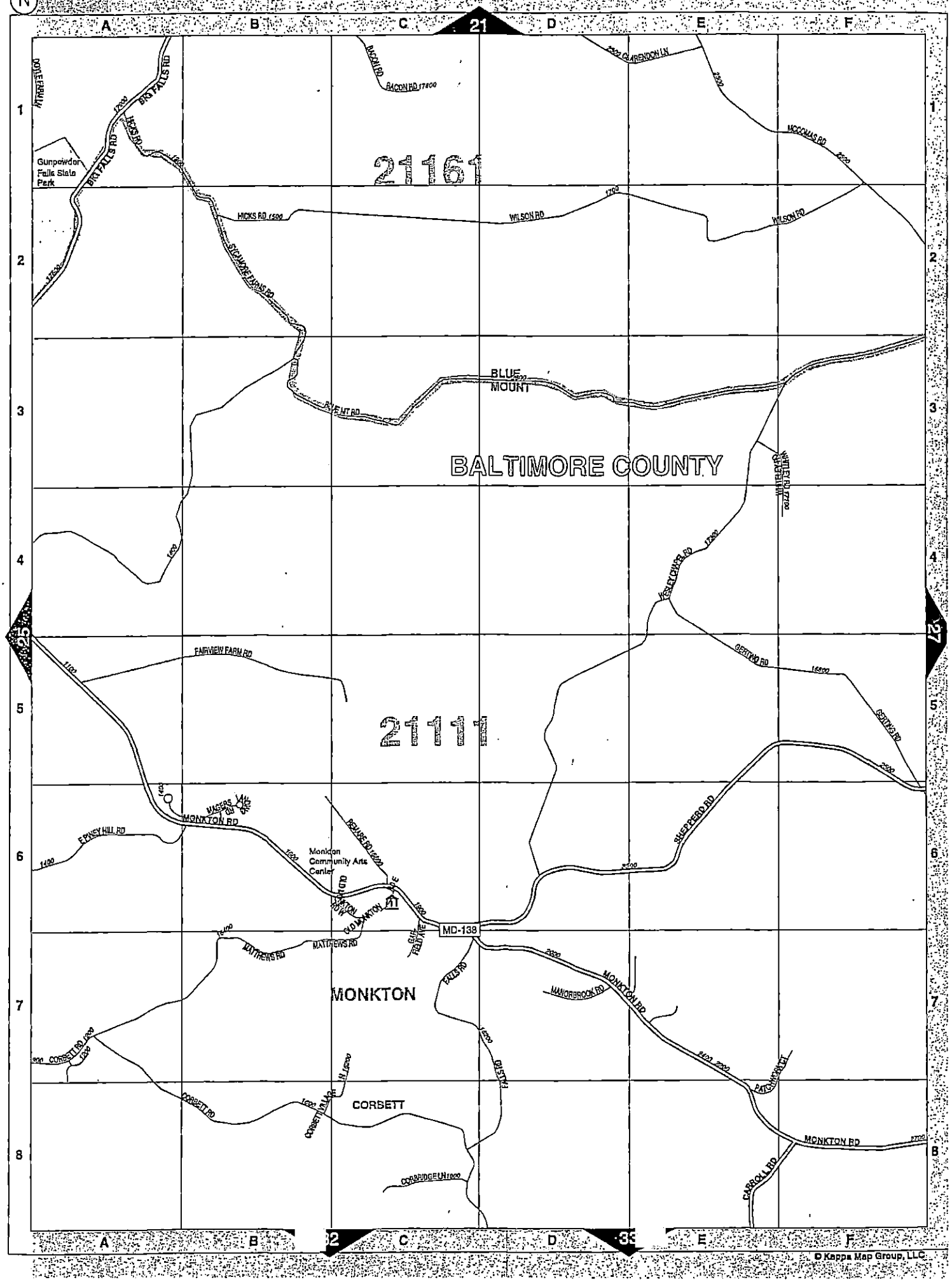

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1/22/18

IN RE: PETITION FOR SPECIAL EXCEPTION (20450 Middletown Road) 6th Election District 3rd Council District David William Matthews *Legal Owner* Bluefin Origination 2 LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2017-0108-X

* * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings ("OAH") for consideration of a Petition for Special Exception filed on behalf of David William Matthews, legal owner and Bluefin Origination 2, LLC, lessee ("Petitioners"). The Petition for Special Exception pursuant to Section 4E-102 of the Baltimore County Zoning Regulations ("B.C.Z.R.") seeks approval to operate a solar facility at the subject property.

Jeffrey S. Webber and Parker Sloan with Cypress Creek Renewables, Tim Dertebaugh, Brian Conlon, and David L. Martin, L.A. with Martin & Phillips Design Associates, Inc., the firm that prepared the site plan, appeared in support of the petition. Christopher D. Mudd, Esq. and Patricia A. Malone, Esq. represented the Petitioners. Numerous citizens attended the hearing to express opposition to the request. Substantive Zoning Advisory Committee ("ZAC") comments were received from the Department of Planning ("DOP") and the Bureau of Development Plans Review ("DPR"). Neither agency opposed the requests.

The subject property is approximately 70.979 acres and is split-zoned RC-2, RC-4, RC-5 and RC-8. The property is on Middletown Road, which is designated as a scenic route. The property was previously a farm, although with the exception of a small area there are no farming activities at the property presently. Petitioners propose to utilize 18.73 acres of the tract for a solar

People's Counsel
CBA Exhibit
5

facility. Petitioners would install between 8,500 to 9,000 solar panels, which would generate approximately 1.9 Mw of AC electricity.

The Lessee's zoning manager, Parker Sloane, testified his company is one of the largest solar providers in the United States, with projects in 12 states. Mr. Sloane testified the panels will be approximately 9 to 10 ft. in height and will rotate throughout the day to face the sun, although he noted the movement would be imperceptible. Like other solar proposals in Baltimore County, this facility would be unmanned and the operator will perform routine inspections 1 to 2 times per year.

Mr. Sloan stated the company had an alert system that would provide immediate notification of any problem or malfunction at the site. The witness testified his company used an "industry standard tool" and determined that there will be no concern with glare from the panels. Mr. Sloane indicated that only the inverter would generate noise, which he likened to a hair dryer. But given its location on the site he stated no noise at all would be heard from outside the property boundaries. In response to questions on cross-examination, Mr. Sloane testified Cypress Creek has completed over 200 projects since 2006, and that based on reports of appraisers hired by the company they have determined solar facilities do not have an adverse impact upon property values.

Many of the citizens had questions concerning the safety of the panels, and to address these issues the Petitioners presented testimony from Jeff Webber, an engineer employed by Cypress Creek. Mr. Webber, who was accepted as an expert, described the different types of silicon used in solar panels, and the attributes of each. He testified silicon is not a hazardous material and that the modules and the racks in which they are located are made of sand, aluminum, copper wire and steel. Mr. Webber stated only the transformer could "leak", and that if that occurred only mineral oil would be discharged. He said there was only an "extremely small risk" such a leak would

occur, and he said the hardwired monitoring system would alert the company immediately if that happened.

With regard to safety, Mr. Webber testified if the electric grid went down, the solar facility would immediately shut down. The witness stated the inverter would shut off within 2 seconds in such a scenario, and that while the panels would continue to function there would not be a current of electricity flowing and there would be no danger of electrocution. In response to questions on cross examination, Mr. Webber conceded economics drives how a facility is designed. He said while it might be possible (i.e., through use of higher efficiency panels) to generate 1.9Mw of electricity on less than 18 acres, the company would incur higher costs in doing so, which would make the project less profitable and/or economically unfeasible.

The final witness was David Martin, a registered landscape architect accepted as an expert. Mr. Martin prepared both the site plan (Exhibit 1) and the schematic landscape plan (Exhibit 8) for the project. He described the project and reviewed each of the requirements of B.C.Z.R. Article 4E, which he stated Petitioners satisfied. Mr. Martin opined the use proposed was "benign," and he testified Petitioners satisfied all requirements for a special exception. He also indicated that in connection with an earlier zoning case (No. 2000-0342-SPH) involving this property--which permitted the construction of a dwelling on an undersized parcel--environmental buffers were provided to Baltimore County to protect the water and forest resources on the site.

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court

again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Mr. Martin opined Petitioners satisfied the requirements of B.C.Z.R. § 502.1 and applicable case law, which under *Attar* and similar cases established a *prima facie* case entitling them to the special exception. While the neighbors expressed many valid concerns with the facility, the issues they identified are inherent in the operation of a solar facility. As such, I do not believe that testimony can rebut the presumption provided by Maryland law that special exception uses are in the public interest.

Having said that, I believe the community raised one issue in particular which warrants further discussion; i.e., the size of the special exception area. The law states that the "maximum area permitted for a single solar facility is the amount of acreage that produces no more than two megawatts . . . of electricity." B.C.Z.R. §102.A.1. Based on Mr. Webber's testimony, there appear to be numerous variables involved in determining the appropriate size and design of a solar facility. As the witness noted, economics is certainly an important consideration. These facilities are operated by for-profit ventures, and Petitioners are entitled to maximize the return they receive on their land and investments.

But in this scenario, they must do so in keeping with the above-quoted provision. Similar solar facilities have been approved in several recent cases. What follows is the case number, special exception area and electricity generated:

2018-0047 (9 acres; 2Mw)
2018-0052 (6.4 acres; 1Mw)
2018-0072 (6 acres; 840Kw)
2018-0078 (9.8 acres; 2Mw)
2018-0095 (16 acres; 2Mw)

While the community opposed the request in each of the above cases (with the exception of No. 2018-0095, which was unopposed), this is the first case in which the acreage issue was squarely presented. Each of the petitioners in the above cases was (like the Lessee here) a for-profit entity, which means it is safe to assume the projects proposed were economically viable. I certainly understand there are a variety of factors which inform the design and layout of a solar facility, but based on the foregoing I believe a 13 acre special exception area would be sufficient to allow for the production of 2Mw of electricity, and such a restriction will be included below.

THEREFORE, IT IS ORDERED this 22nd day of **January, 2018,** by this Administrative Law Judge, that the Petition for Special Exception pursuant to Section 4E-102 of the Baltimore County Zoning Regulations ("B.C.Z.R.") for a Solar Facility, be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must submit for approval by Baltimore County a landscape plan for the site demonstrating, among other things, appropriate screening and vegetation is provided along the scenic route, as required by the Landscape Manual.

3. Petitioners shall install a fence of sufficient height surrounding the solar panels which will, per the electric code, prevent the need for a barbed wire fence enclosure.

4. No weed killers or herbicides shall be used to control weed or grass growth at the facility.

5. Prior to issuance of permits, Petitioners must satisfy the environmental regulations set forth in Article 33 of the Baltimore County Code, pertaining to the protection of water quality, streams, wetlands and floodplains.

6. No trees shall be removed from the special exception area shown on the site plan in connection with the construction and/or operation of the solar facility.

7. Petitioners shall within 30 days of the date hereof submit to the OAH a redlined site plan showing a "special exception area" for the solar facility no larger than thirteen (13) acres.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

People's Counsel
CBA Exhibit
6B
17-108X Mathers

Real Property Data Search (w1) Guide to searching the database

Search Result for BALTIMORE COUNTY

View Map View GroundRent Redemption View GroundRent Registration

Account Identifier: **District** - 06 **Account Number** - 2300010050

Owner Information

Owner Name:	MATTHEWS DAVID WILLIAM	**Use:**	AGRICULTURAL
		Principal Residence:	NO
Mailing Address:	20450 MIDDLETOWN RD FREELAND MD 21053-9621	**Deed Reference:**	/33873/ 00119

Location & Structure Information

Premises Address:	20450 MIDDLETOWN RD FREELAND 21053-9621	**Legal Description:**	70.979 AC 20450 MIDDLETOWN RD SWS 120 FT SE FLINTSTONE RD

Map:	Grid:	Parcel:	Sub District:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:	MS
0006	0019	0069		0000			1	2017	Plat Ref:	

Special Tax Areas: **Town:** NONE
Ad Valorem:
Tax Class:

Primary Structure Built	Above Grade Enclosed Area	Finished Basement Area	Property Land Area	County Use
1881	1,468 SF		70.9800 AC	05

Stories	Basement	Type	Exterior	Full/Half Bath	Garage	Last Major Renovation
2	YES	STANDARD UNIT	STUCCO	1 full/ 1 half	1 Carport	

Value Information

	Base Value	Value As of 01/01/2014	Phase-in Assessments As of 07/01/2016	As of 07/01/2017
Land:	102,500	102,500		
Improvements	109,900	109,900		
Total:	212,400	212,400	212,400	
Preferential Land:	17,000			

Transfer Information

Seller: MATHEWS DENNIS L	Date: 06/28/2013	Price: $0
Type: NON-ARMS LENGTH OTHER	Deed1: /33873/ 00119	Deed2:
Seller: MATHEWS DENNIS L	Date: 12/21/2012	Price: $0
Type: NON-ARMS LENGTH OTHER	Deed1: /32962/ 00456	Deed2:
Seller: MATHEWS WILLIAM H	Date: 10/22/2012	Price: $0
Type: NON-ARMS LENGTH OTHER	Deed1: /32702/ 00256	Deed2:

Exemption Information

Partial Exempt Assessments:	Class	07/01/2016	07/01/2017
County:	000	0.00	
State:	000	0.00	
Municipal:	000	0.00	0.00

Tax Exempt: **Special Tax Recapture:**
Exempt Class: AGRICULTURAL TRANSFER TAX

Homestead Application Information

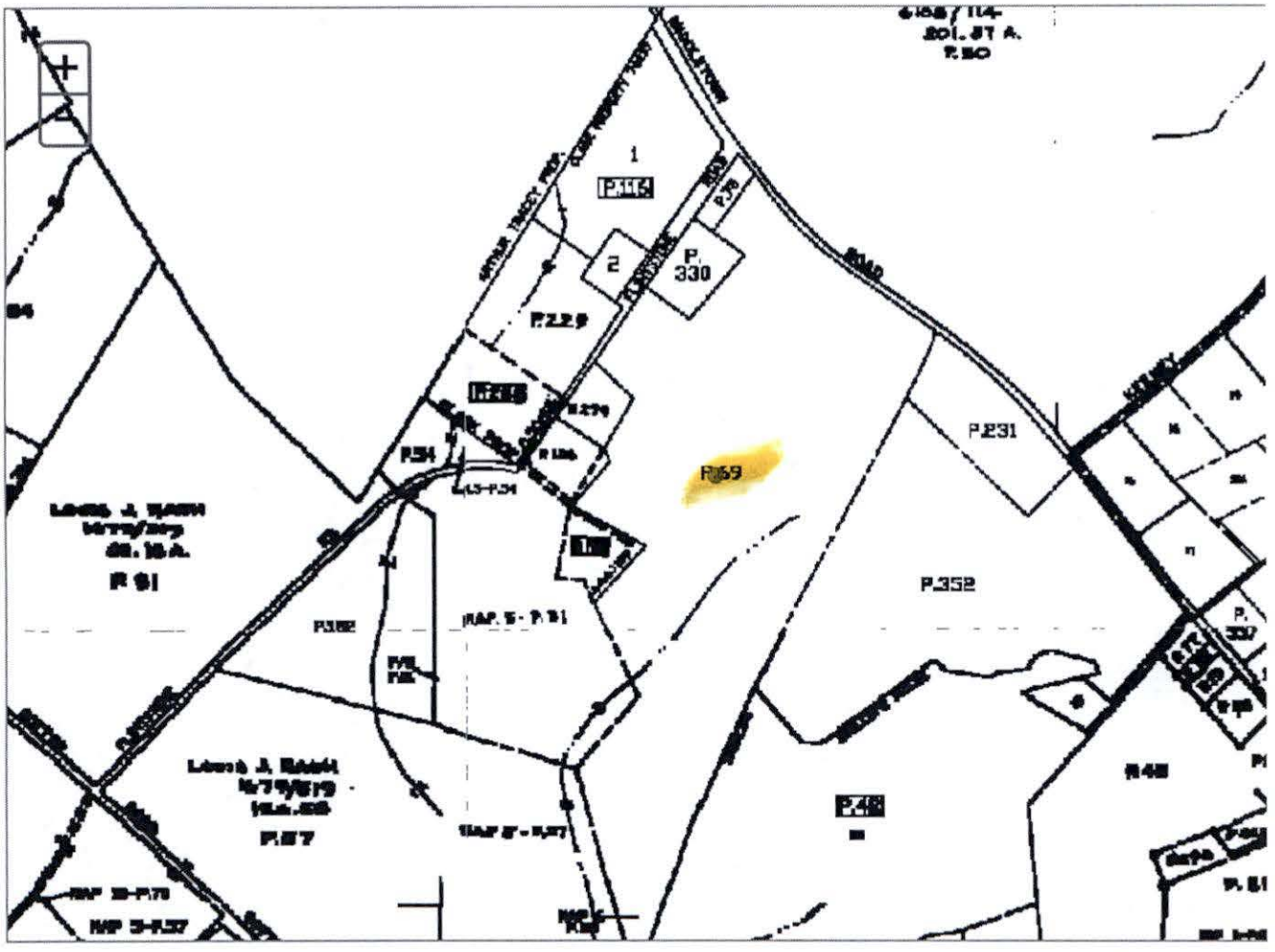
Homestead Application Status: No Application

People's Counsel
CBA Exhibit
7

Baltimore County

New Search (http://sdat.dat.maryland.gov/RealProperty)

District: **06** Account Number: **2300010050**



The information shown on this map has been compiled from deed descriptions and plats and is not a property survey. The map should not be used for legal descriptions. Users noting errors are urged to notify the Maryland Department of Planning Mapping, 301 W. Preston Street, Baltimore MD 21201.

If a plat for a property is needed, contact the local Land Records office where the property is located. Plats are also available online through the Maryland State Archives at www.plats.net (http://www.plats.net).

Property maps provided courtesy of the Maryland Department of Planning.

For more information on electronic mapping applications, visit the Maryland Department of Planning web site at www.mdp.state.md.us/OurProducts/OurProducts.shtml (http://www.mdp.state.md.us/OurProducts/OurProducts.shtml).

USDA NRCS Natural Resources Conservation Service

28577 Mary's Court, Suite 3
Easton, Md 21601

Oct. 2, 2018

Peter Max Zimmerman
People's Counsel for Baltimore County
Jefferson Building
105 West Chesapeake Ave. Room 204
Towson, Maryland 21204

Re: 20450 Middletown Road Farm property
USDA Soils Configuration, USDA Soils Delineation
Baltimore County Board of Appeals Zoning

Dear Mr. Zimmerman,

Enclosed is the USDA-NRCS Official Soils map and report (containing soils information and several interpretation tables) of the farm property located at 20450 Middletown Road Freeland, Maryland. This Soils Report was generated at the web site known as the USDA- NRCS Web Soil Survey (https://websoilsurvey.nrcs.usda.gov/app/). **As stated at the bottom of page 2, this is the site for official soil survey information.**

In your email dated Oct. 2, 2018, you asked me to provide you with my observations on several statements as related to the soils and soil survey for 20450 Middletown Road.

1) NRCS assists in the implementation of the USDA Farmland Protection Policy Act of 1981. As stated in Part 523.2B of the Farmland Protection Policy Act Manual:

B. General Role

Under FPPA, NRCS will provide technical assistance to Federal agencies, State and local governments, Tribes, and nonprofit organizations that receive Federal funds or technical assistance. Examples of technical assistance include the following:

(i) Responding to requests for technical assistance in developing programs or policies that limit the conversion of productive farmland to nonagricultural uses
(ii) Advising agencies when a change in law, regulation, administrative rule, or other type of policy may affect the agency's compliance with FPPA
(iii) Providing site assessment criteria to governmental agencies and nonprofit organizations;
(iv) Developing important farmland maps
(v) Providing technical assistance during alternative site considerations, upon request by another Federal agency

The Farmland Protection Policy Act (FPPA) applies only to Federal assistance and actions that would convert important farmland to nonagricultural uses. It does not authorize the Federal Government in any way to regulate the use of private or non-Federal land or in any way affect the private property rights of owners of private land.

People's Counsel
CBA Exhibit
10

Provisions of FPPA apply to USDA programs that provide financial assistance as well as to programs that provide technical assistance.

Lands Subject to Provisions of FPPA are Important farmlands, including lands identified with soils that are prime, unique, or statewide or locally important farmland, are subject to the provisions of the Farmland Protection Policy Act.

NRCS also provides technical soils assistance to several Maryland State land preservation programs along with assistance to the Farm and Ranch Lands Protection Program (FRPP).

2) I have a Bachelor's Degree from the University of Maryland in Soil Science. I have worked with the USDA Soil Conservation Service, now known as the Natural Resources Conservation Service for over 40 years. My role as a Resource Soil Scientist is to provide guidance to internal and external customers on the interpretation and application of soil survey information related to specific soil, water, air, plant, and animal resource concerns. And providing direction and guidance for natural resource management, farm bill compliance, conducting information and education activities related to soils. I work closely with producers and landowners to provide technical expertise for USDA conservation programs.

3) I confirm that the My Neighborhood soils map, you included with the email, is accurate and consistent with the USDA official soil survey found in the enclosed document.

4) The Glenelg and Glenville soils found on site are considered Prime Farmland soils (GdA, GdB, and GhB) and statewide importance soils (GeC and GhC). Also the Brinklow soil found in the BhC map unit is considered a statewide importance soil. As stated in the report document (page 28) these soils are best suited to food, feed, fiber, forage, and oilseed crops. The Glenelg and Glenville soils have some of the highest ratings for crop productivity on the site (page 41).

If you have any questions about this letter or document, you may contact me at 443-746-4319.

Sincerely,

James E. Brewer

James E. Brewer, CPSS/SC
NRCS Resource Soil Scientist
Easton, Maryland

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Baltimore County, Maryland

20450 Middletown Road Farm

October 1, 2018

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

The following format is suggested for citing Web Soil Survey:

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: https://websoilsurvey.sc.egov.usda.gov/. Accessed [month/day/year].

Last Modified: 08/21/2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map (20450 Middletown Road Farm)

MAP LEGEND

MAP INFORMA

Map Unit Legend (20450 Middletown Road Farm)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	14.7	20.3%
Totals for Area of Interest		72.4	100.0%

Map Unit Descriptions (20450 Middletown Road Farm)

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

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

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

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

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

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

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

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

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

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion

of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

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

Baltimore County, Maryland

BaB—Baile silt loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: pnp5
Elevation: 250 to 980 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 120 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition
Baile and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Baile

Setting
Landform: Drainageways, hillslopes, swales, depressions
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Linear, concave

Typical profile
A - 0 to 9 inches: silt loam
Btg - 9 to 32 inches: silty clay loam
Cg - 32 to 65 inches: loam

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: High (about 10.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Glenville
Percent of map unit: 15 percent
Landform: Drainageways, swales
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Linear

Hydric soil rating: No

BhC—Brinklow channery loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2v7gg
Elevation: 30 to 1,200 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Brinklow and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brinklow

Setting
Landform: Interfluves, hillslopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist

Typical profile
Ap - 0 to 10 inches: channery loam
Bt - 10 to 19 inches: channery silt loam
BC - 19 to 25 inches: channery loam
Cr - 25 to 35 inches: weathered bedrock
R - 35 to 45 inches: bedrock

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 36 inches to paralithic bedrock; 28 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Glenelg
Percent of map unit: 15 percent
Landform: Hillslopes, interfluves
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Linear
Across-slope shape: Concave, convex, linear
Hydric soil rating: No

BhD—Brinklow channery loam, 15 to 25 percent slopes

Map Unit Setting
National map unit symbol: 2v7gf
Elevation: 250 to 1,000 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: Not prime farmland

Map Unit Composition
Brinklow and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brinklow

Setting
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist

Typical profile
Ap - 0 to 10 inches: channery loam
Bt - 10 to 19 inches: channery silt loam
BC - 19 to 25 inches: channery loam
Cr - 25 to 35 inches: bedrock
R - 35 to 45 inches: bedrock

Properties and qualities
Slope: 15 to 25 percent
Depth to restrictive feature: 20 to 36 inches to paralithic bedrock; 28 to 40 inches to lithic bedrock
Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.6 inches)

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

Minor Components

Blocktown
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Glenelg
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear, concave
Hydric soil rating: No

GdA—Glenelg loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2w062
Elevation: 30 to 1,200 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Glenelg and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenelg

Setting
Landform: Hillslopes
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear, concave
Parent material: Residuum weathered from mica schist

Typical profile
Ap1 - 0 to 6 inches: loam
Ap2 - 6 to 10 inches: clay loam
Bt1 - 10 to 18 inches: clay loam
Bt2 - 18 to 25 inches: clay loam
Bt3 - 25 to 30 inches: clay loam
BCt - 30 to 42 inches: loam
CBt - 42 to 54 inches: loam
C - 54 to 76 inches: very channery fine sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Brinktow
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Glenville
Percent of map unit: 5 percent
Landform: Swales, drainageways
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Head slope, interfluve, base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear

Hydric soil rating: No

GdB—Glenelg loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2v7qp
Elevation: 30 to 1,200 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Glenelg and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenelg

Setting
Landform: Interfluves, hillslopes
Landform position (two-dimensional): Summit, backslope, shoulder
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Linear
Across-slope shape: Convex, linear, concave
Parent material: Residuum weathered from mica schist

Typical profile
Ap1 - 0 to 6 inches: loam
Ap2 - 6 to 10 inches: clay loam
Bt1 - 10 to 18 inches: clay loam
Bt2 - 18 to 25 inches: clay loam
Bt3 - 25 to 30 inches: clay loam
BCt - 30 to 42 inches: loam
CBt - 42 to 54 inches: loam
C - 54 to 76 inches: channery fine sandy loam

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Galla
Percent of map unit: 10 percent
Landform: Hillslopes, ridges
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Glenville
Percent of map unit: 5 percent
Landform: Drainageways, swales
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

GeC—Glenelg channery loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2lp6x
Elevation: 250 to 1,050 feet
Mean annual precipitation: 37 to 55 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 110 to 255 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Glenelg and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenelg

Setting
Landform: Hillslopes, interfluves
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy residuum weathered from phyllite

Typical profile
Ap - 0 to 10 inches: channery loam

Bt1,Bt2,BCt1 - 10 to 30 inches: clay loam
BCt2, CBt - 30 to 54 inches: loam
C - 54 to 76 inches: very channery sandy loam

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.7 inches)

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

Minor Components

Galla
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Manor
Percent of map unit: 5 percent
Landform: Hillslopes, interfluves, ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

GhB—Glenville silt loam, 3 to 8 percent slopes

Map Unit Setting
National map unit symbol: 2tmch
Elevation: 20 to 1,090 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 192 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Glenville and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenville

Setting
Landform: Drainageways, swales
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Base slope, head slope, interfluve
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Parent material: Colluvium derived from metamorphic rock over schist, gneiss or phyllite residuum

Typical profile
Ap - 0 to 11 inches: silt loam
Bt1 - 11 to 20 inches: channery silt loam
Bt2 - 20 to 30 inches: silt loam
Btx - 30 to 40 inches: silt loam
C1 - 40 to 59 inches: loam
C2 - 59 to 82 inches: loam

Properties and qualities
Slope: 3 to 8 percent
Depth to restrictive feature: 29 to 31 inches to fragipan
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.03 to 0.11 in/hr)
Depth to water table: About 18 to 22 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 6.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Unnamed
Percent of map unit: 15 percent
Landform: Drainageways
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

Balla
Percent of map unit: 10 percent
Landform: Swales, drainageways

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Linear, concave
Hydric soil rating: Yes

GhC—Glenville silt loam, 8 to 15 percent slopes

Map Unit Setting
National map unit symbol: 2p6wp
Elevation: 250 to 1,050 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 110 to 235 days
Farmland classification: Farmland of statewide importance

Map Unit Composition
Glenville and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenville

Setting
Landform: Drainageways, swales
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy colluvium derived from phyllite and/or loamy colluvium derived from schist

Typical profile
Ap - 0 to 8 inches: silt loam
Bt1, Bt2 - 8 to 30 inches: silt loam
Btx - 30 to 40 inches: loam
C1, C2 - 40 to 70 inches: loam

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 24 to 39 inches to fragipan
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: About 20 to 40 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Glenelg
Percent of map unit: 15 percent
Landform: Hillslopes, interfluves
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

HbA—Hatboro silt loams, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2ip74
Elevation: 200 to 600 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 54 to 57 degrees F
Frost-free period: 140 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition
Hatboro and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hatboro

Setting
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loamy alluvium derived from greenstone, quartzite, phyllite, schist and/or diabase

Typical profile
A - 0 to 11 inches: silt loam
Bg1,Bg2,BCg - 11 to 44 inches: silt loam
Cg1 - 44 to 55 inches: silty clay loam
Cg2 - 55 to 80 inches: sandy loam

Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: High (about 10.4 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Codorus
Percent of map unit: 15 percent
Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

MdE—Manor-Brinklow complex, 25 to 45 percent slopes, very rocky

Map Unit Setting
National map unit symbol: 2lpfp
Elevation: 260 to 4,000 feet
Mean annual precipitation: 8 to 46 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 110 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition
Manor and similar soils: 55 percent
Brinklow and similar soils: 30 percent
Rock outcrop: 5 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manor

Setting
Landform: Hillslopes, ridges
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy residuum derived from phyllite and/or loamy residuum derived from schist

)

Typical profile
A1, A2 - 0 to 6 inches: loam
Bw1, Bw2 - 6 to 22 inches: sandy loam
C1,C2,C3,C4 - 22 to 72 inches: channery loamy sand

Properties and qualities
Slope: 25 to 45 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Brinklow

Setting
Landform: Hillslopes, hillslopes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, free face
Parent material: Gravelly residuum weathered from schist and/or gravelly residuum weathered from phyllite

Typical profile
Ap - 0 to 10 inches: channery loam
Bt,BC - 10 to 25 inches: channery loam
Cr - 25 to 35 inches: weathered bedrock
R - 35 to 80 inches: bedrock

Properties and qualities
Slope: 25 to 45 percent
Depth to restrictive feature: 20 to 33 inches to paralithic bedrock; 33 to 80 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Rock Outcrop

Typical profile
H1 - 0 to 60 inches: bedrock

Properties and qualities
Slope: 25 to 45 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Blocktown
Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, interfluve, nose slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

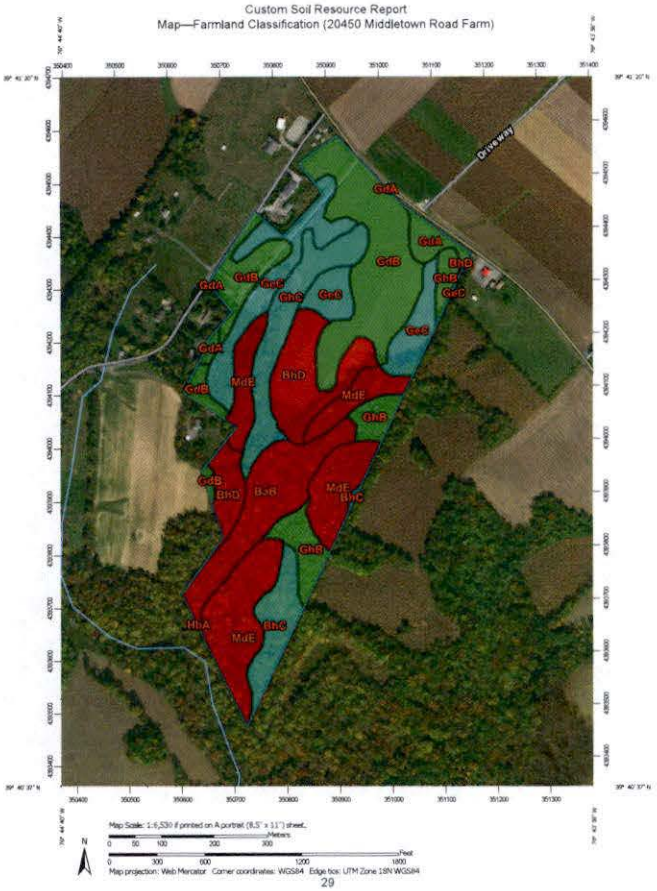
Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Farmland Classification (20450 Middletown Road Farm)

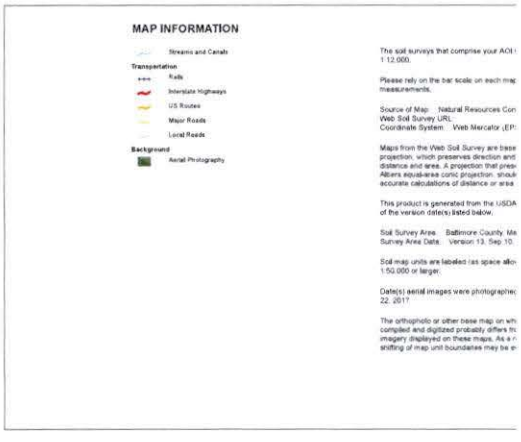
Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Map—Farmland Classification (20450 Middletown Road Farm)



MAP LEGEND

MAP INFORMATION



The soil surveys that comprise your AOI
1:12,000.

Please rely on the bar scale on each map
measurements.

Source of Map: Natural Resources Con
Web Soil Survey URL:
Coordinate System: Web Mercator (EP

Maps from the Web Soil Survey are base
projection, which preserves direction and
distance and area. A projection that pres
Albers equal-area conic projection, shoul
accurate calculations of distance or area

This product is generated from the USDA
of the version date(s) listed below.

Soil Survey Area: Baltimore County, Ma
Survey Area Data: Version 13, Sep 10,

Soil map units are labeled (as space allo
1:50,000 or larger.

Date(s) aerial images were photographe
22, 2017

The orthophoto or other base map on wh
compiled and digitized probably differs fr
imagery displayed on these maps. As a r
shifting of map unit boundaries may be e

Table—Farmland Classification (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	Not prime farmland	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	Farmland of statewide importance	3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	Not prime farmland	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	All areas are prime farmland	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	All areas are prime farmland	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	Farmland of statewide importance	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	All areas are prime farmland	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	Farmland of statewide importance	6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	Not prime farmland	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Not prime farmland	14.7	20.3%
Totals for Area of Interest			72.4	100.0%

Rating Options—Farmland Classification (20450 Middletown Road Farm)

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Hydric Rating by Map Unit (20450 Middletown Road Farm)

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

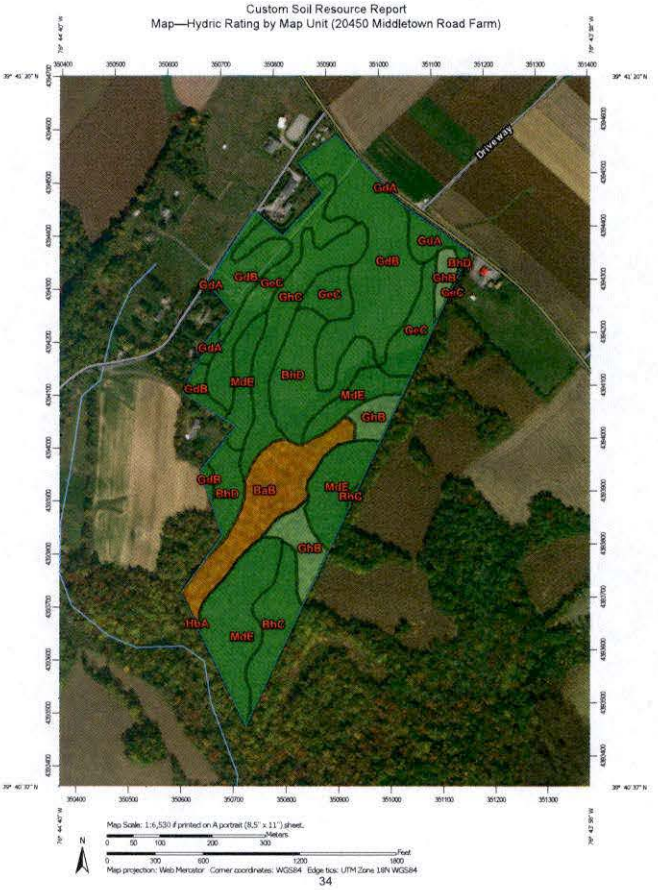
Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

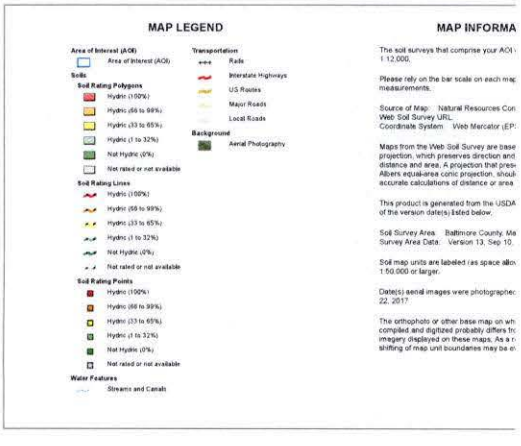
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture. Natural Resources Conservation Service.

Map—Hydric Rating by Map Unit (20450 Middletown Road Farm)



MAP LEGEND



MAP INFORMA

The soil surveys that comprise your AOI 1:12,000.

Please rely on the bar scale on each mag measurements.

Source of Map: Natural Resources Con Web Soil Survey URL: Coordinate System: Web Mercator (EP

Maps from the Web Soil Survey are base projection, which preserves direction and distance and area. A projection that pres Albers equal-area conic projection, shoul accurate calculations of distance or area

This product is generated from the USDA of the version date(s) listed below.

Soil Survey Area: Baltimore County, Ma Survey Area Data: Version 13, Sep 10,

Soil map units are labeled (as space allo 1:50,000 or larger.

Date(s) aerial images were photographe 22, 2017

The orthophoto or other base map on wh compiled and digitized probably differs fr imagery displayed on these maps. As a r shifting of map unit boundaries may be e

Table—Hydric Rating by Map Unit (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	85	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	0	3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	0	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	0	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	0	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	0	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	10	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	0	6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	85	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	0	14.7	20.3%
Totals for Area of Interest			72.4	100.0%

Rating Options—Hydric Rating by Map Unit (20450 Middletown Road Farm)

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

National Commodity Crop Productivity Index (20450 Middletown Road Farm)

National Commodity Crop Productivity Index is a method of arraying the soils of the United States for non-irrigated commodity crop production based on their inherent soil properties. This version features a separate index for soybeans. In the past, soybeans and corn were considered together. The rating a soil is assigned is the highest one of four basic crop group indices, which are based on the climate where the crop is typically grown. Cooler climates are represented by winter wheat, moderate climates are represented by corn and soybeans, and warmer climates are represented by cotton, (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_050734.pdf)

The interpretation is applicable to both heavily populated and sparsely populated areas. Ratings are for soils in their present condition. The present land use is not considered in the ratings.

Ratings are based on properties and qualities to the depth normally observed during soil mapping (approximately 6 feet). Soil, site, and climate properties that influence the growth of crops are major considerations. Soil productivity is influenced by many soil properties. An ideal soil will store adequate amounts of water to nurture the crop between rains. This soil will have a near-neutral pH, will store nutrients, and lack toxic materials. The soil will have no barriers, either physical or chemical, to root growth. Water and gas transmission through the soil will be sufficient to maintain both water and oxygen at sufficient levels in the root zone. The soil will not be saturated with water during the growing season to the point that root growth is inhibited. The soil will not be subject to excessive flooding or ponding during the growing season. Slope is an important consideration because it affects erosion by water, runoff, and the operation of equipment. The climate must provide adequate water and heat to allow the desired crop to mature. A soil that differs from the ideal in any of these features will have lower inherent productivity for a particular crop. The further a soil differs from ideality in any one or all of the factors that determine inherent productivity, the lower its inherent productivity will be.

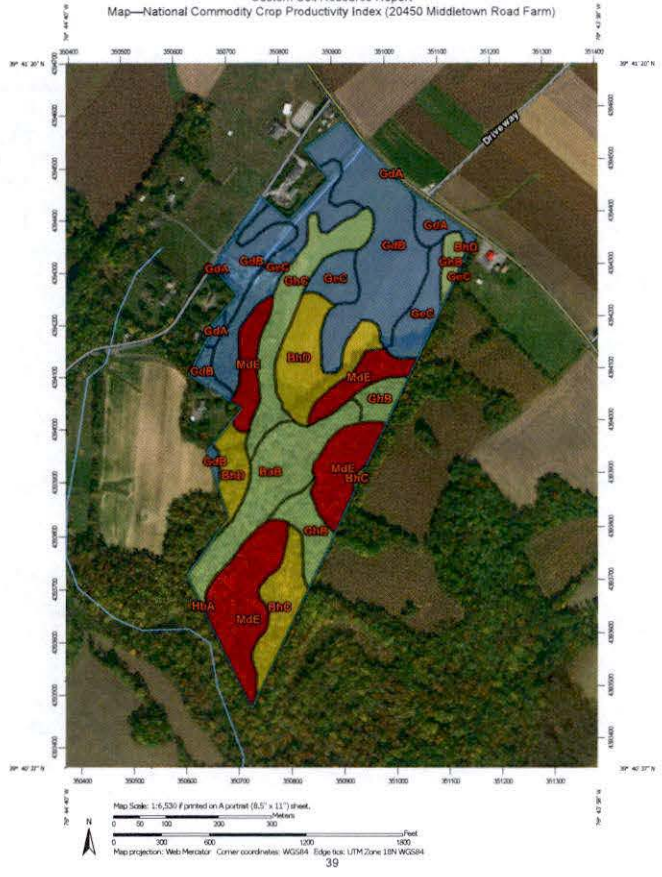
The ratings are both verbal and numerical. Rating class terms indicate the estimated productivity which is determined by all of the soil, site, and climatic features that affect crop productivity. "High inherent productivity" indicates that the soil, site, and climate have features that are very favorable for crop production. High yields and low risk of crop failure can be expected if a high level of management is employed. "Moderately high inherent productivity" indicates that the soil has features that are generally quite favorable for crop production. Good yields and moderately low risk of crop failure can be expected. "Moderate inherent productivity" indicates that the soil has features that are generally favorable for crop production. Good yields and moderate risk of crop failure can be expected. "Moderately low inherent productivity" indicates that the soil has features that are generally not favorable for crop production. Low yields and moderately high risk of crop failure can be expected. "Low inherent productivity" indicates that the soil has one or more features that are unfavorable for crop production. Low yields and high risk of crop failure can be expected.

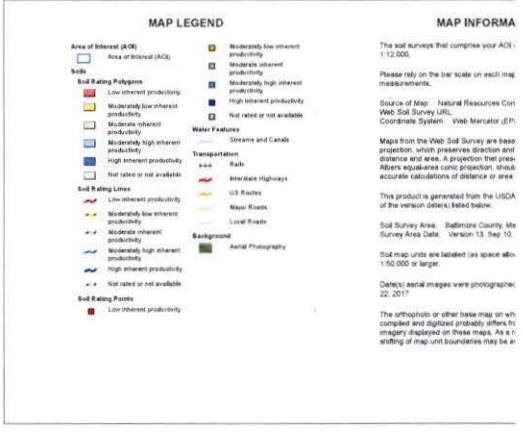
Numerical ratings indicate the overall productivity of the soil. The ratings are shown in decimal fractions ranging from 1.00 to 0.01. They indicate gradations between the point at which the combination of soil, site, and climate features has the greatest positive impact on inherent productivity (1.00) and the point at which the soil features are very unfavorable (0.01).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map—National Commodity Crop Productivity Index (20450 Middletown Road Farm)





Tables—National Commodity Crop Productivity Index (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	0.453			7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	0.390			3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	0.319			7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	0.683			1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	0.693			15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	0.720			10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	0.553			4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	0.502			6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	0.266			0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	0.100			14.7	20.3%
Totals for Area of Interest					72.4	100.0%

Rating	Acres in AOI	Percent of AOI
0.693	15.9	22.0%
0.100	14.7	20.3%
0.720	10.0	13.8%
0.319	7.9	10.9%
0.453	7.5	10.4%
0.502	6.1	8.5%
0.553	4.7	6.5%

Rating	Acres in AOI	Percent of AOI
0.390	3.7	5.2%
0.683	1.8	2.5%
0.266	0.0	0.0%
Totals for Area of Interest	72.4	100.0%

Rating Options—National Commodity Crop Productivity Index (20450 Middletown Road Farm)

Aggregation Method: Weighted Average

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

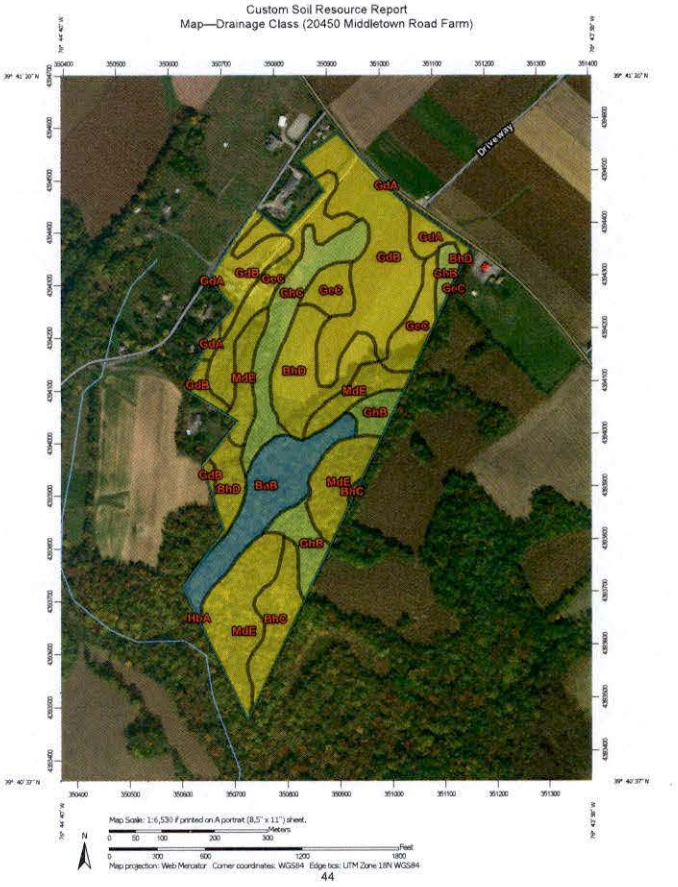
Soil Qualities and Features

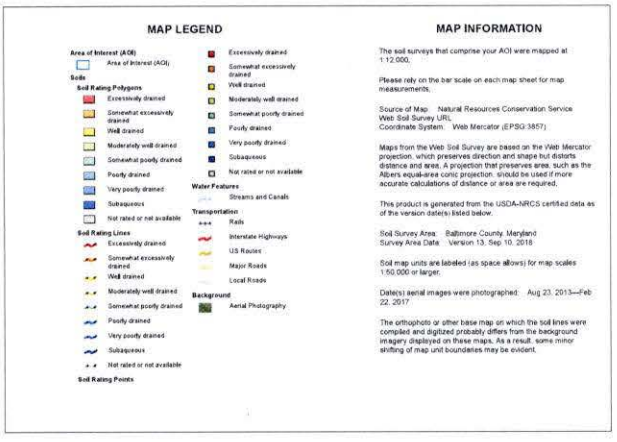
Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Drainage Class (20450 Middletown Road Farm)

"Drainage class (natural)" refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized-excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Map—Drainage Class (20450 Middletown Road Farm)





Table—Drainage Class (20450 Middletown Road Farm)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	Poorly drained	7.5	10.4%
BhC	Brinklow channery loam, 8 to 15 percent slopes	Well drained	3.7	5.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	Well drained	7.9	10.9%
GdA	Glenelg loam, 0 to 3 percent slopes	Well drained	1.8	2.5%
GdB	Glenelg loam, 3 to 8 percent slopes	Well drained	15.9	22.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	Well drained	10.0	13.8%
GhB	Glenville silt loam, 3 to 8 percent slopes	Moderately well drained	4.7	6.5%
GhC	Glenville silt loam, 8 to 15 percent slopes	Moderately well drained	6.1	8.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	Poorly drained	0.0	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Well drained	14.7	20.3%
Totals for Area of Interest			72.4	100.0%

Rating Options—Drainage Class (20450 Middletown Road Farm)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

AOI Inventory

This folder contains a collection of tabular reports that present a variety of soil information. Included are various map unit description reports, special soil interpretation reports, and data summary reports.

Map Unit Description (Brief, Generated) (20450 Middletown Road Farm)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

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

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

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

Report—Map Unit Description (Brief, Generated) (20450 Middletown Road Farm)

Baltimore County, Maryland

Map Unit: BaB—Baile silt loam, 3 to 8 percent slopes

Component: Baile (85%)

The Baile component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on depressions, drainageways, swales, piedmonts. The parent material consists of loamy colluvium derived from phyllite and/or loamy colluvium derived from schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Glenville (15%)

Generated brief soil descriptions are created for major soil components. The Glenville soil is a minor component.

Map Unit: BhC—Brinklow channery loam, 8 to 15 percent slopes

Component: Brinklow (85%)

The Brinklow component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes on piedmonts. The parent material consists of gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 36 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Glenelg (15%)

Generated brief soil descriptions are created for major soil components. The Glenelg soil is a minor component.

Map Unit: BhD—Brinklow channery loam, 15 to 25 percent slopes

Component: Brinklow (80%)

The Brinklow component makes up 80 percent of the map unit. Slopes are 15 to 25 percent. This component is on hillslopes on piedmonts. The parent material consists of gravelly residuum weathered from phyllite and/or gravelly residuum weathered from schist. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 36 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria.

Component: Glenelg (10%)

Generated brief soil descriptions are created for major soil components. The Glenelg soil is a minor component.

Component: Blocktown (10%)

Generated brief soil descriptions are created for major soil components. The Blocktown soil is a minor component.

Map Unit: GdA—Glenelg loam, 0 to 3 percent slopes

Component: Glenelg (85%)

The Glenelg component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on upland piedmonts, nearly level to steeply dissected hillslopes. The parent material consists of residuum weathered from mica schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria.

Component: Brinklow (10%)

Generated brief soil descriptions are created for major soil components. The Brinklow soil is a minor component.

Component: Glenville (5%)

Generated brief soil descriptions are created for major soil components. The Glenville soil is a minor component.

Map Unit: GdB—Glenelg loam, 3 to 8 percent slopes

Component: Glenelg (85%)

The Glenelg component makes up 85 percent of the map unit. Slopes are 3 to 8 percent. This component is on nearly level to steeply dissected hillslopes, upland piedmonts. The parent material consists of residuum weathered from mica schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Gaila (10%)

Generated brief soil descriptions are created for major soil components. The Gaila soil is a minor component.

Component: Glenville (5%)

Generated brief soil descriptions are created for major soil components. The Glenville soil is a minor component.

Map Unit: GeC—Glenelg channery loam, 8 to 15 percent slopes

Component: Glenelg (85%)

The Glenelg component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on hillslopes, piedmonts. The parent material consists of loamy residuum weathered from phyllite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Gaila (10%)

Generated brief soil descriptions are created for major soil components. The Gaila soil is a minor component.

Component: Manor (5%)

Generated brief soil descriptions are created for major soil components. The Manor soil is a minor component.

Map Unit: GhB—Glenville silt loam, 3 to 8 percent slopes

Component: Glenville (75%)

The Glenville component makes up 75 percent of the map unit. Slopes are 3 to 8 percent. This component is on drainageways, piedmonts. The parent material consists of colluvium derived from metamorphic rock over schist, gneiss or phyllite residuum. Depth to a root restrictive layer, fragipan, is 29 to 31 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 20 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Unnamed (15%)

Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

Component: Baile (10%)

Generated brief soil descriptions are created for major soil components. The Baile soil is a minor component.

Map Unit: GhC—Glenville silt loam, 8 to 15 percent slopes

Component: Glenville (85%)

The Glenville component makes up 85 percent of the map unit. Slopes are 8 to 15 percent. This component is on drainageways, swales, piedmonts. The parent material consists of loamy colluvium derived from phyllite and/or loamy colluvium derived from schist. Depth to a root restrictive layer, fragipan, is 24 to 39 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 30 inches during January, February, March, April, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Glenelg (15%)

Generated brief soil descriptions are created for major soil components. The Glenelg soil is a minor component.

Map Unit: HbA—Hatboro silt loams, 0 to 3 percent slopes

Component: Hatboro (85%)

The Hatboro component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on flood plains, river valleys. The parent material consists of loamy alluvium derived from greenstone, quartzite, phyllite, schist and/or diabase. Depth to a root restrictive layer is greater than 80 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, May, October, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Codorus (15%)

Generated brief soil descriptions are created for major soil components. The Codorus soil is a minor component.

Map Unit: MdE—Manor-Brinklow complex, 25 to 45 percent slopes, very rocky

Component: Manor (55%)

The Manor component makes up 55 percent of the map unit. Slopes are 25 to 45 percent. This component is on hillslopes, piedmonts. The parent material consists of loamy residuum derived from phyllite and/or loamy residuum derived from schist. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component: Brinklow (30%)

The Brinklow component makes up 30 percent of the map unit. Slopes are 25 to 45 percent. This component is on hillslopes, piedmonts, hillslopes. The parent material consists of gravelly residuum weathered from schist and/or gravelly residuum weathered from phyllite. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 33 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component: Blocktown (10%)

Generated brief soil descriptions are created for major soil components. The Blocktown soil is a minor component.

Component: Rock outcrop (5%)

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

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2117 12/21/17

IN RE: PETITION FOR SPECIAL EXCEPTION (15637 York Road) 8th Election District 3rd Council District Robert K. Gerner *Legal Owner* ESA Sparks Glenco, LLC *Lessee*	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY
	*	Case No. 2018-0047-X
Petitioners	*	

* * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of a Petition for Special Exception filed on behalf of Robert K. Gerner, legal owner and ESA Sparks Glenco, LLC, lessee ("Petitioners"). The Special Exception was filed pursuant to the Baltimore County Zoning Regulations ("B.C.Z.R.") to approve a 9 acre ± solar facility on a portion of a 30.723 acre parcel of land in a RC-7 zone.

Brian Quinlan, owner Robert Gerner and surveyor Bruce Doak appeared in support of the petition. Timothy M. Kotroco, Esq. represented Petitioners. Several area residents opposed the request. Substantive Zoning Advisory Committee (ZAC) comments were received from the Department of Planning (DOP), the Bureau of Development Plans Review (DPR), the Department of Environmental Protection and Sustainability (DEPS) and State Highway Administration (SHA). None of the reviewing agencies opposed the requests.

The subject property is approximately 30.7230 acres and is zoned RC-7. Petitioners propose to use approximately nine (9) acres of the tract for a solar facility, and the site plan was highlighted to show this area. Exhibit 2. The property is unimproved and the proposed facility would be located approximately 1,275 ft. from York Road, which is designated as a scenic route. The nearest dwelling is approximately 750 ft. from the proposed facility.

Brian Quinlan testified he is a principal in the entity which would operate this project. He is a U.S. Naval Academy graduate with an engineering background and nearly 10 years of experience in solar energy. He testified the panels will be approximately 7 ½ ft. in height and would not emit sound or odor. Other than grass mowing between May-September and twice yearly maintenance inspections, the site will be unmanned and will not generate any traffic.

Bruce Doak, a licensed surveyor, explained he has over 30 years of experience in zoning and development matters in Baltimore County. He is a resident of northern Baltimore County and lives on a 50 acre farm, and stated he is intimately familiar with the rural portions of the north County. Mr. Doak opined the Petitioners satisfied the requirements for a special exception under B.C.Z.R. §502.1, and he believes this is an "ideal location" for the solar facility. He explained the proposed gravel access road into the site would be approximately 8 to 10 ft. wide and would be situated at least 10 ft. from any boundary line.

The neighbors at the hearing stated the solar facility was inappropriate in a rural zone. They testified the facility would be an eyesore and would be visible from their homes. There was some dispute as to whether the facility would be visible from York Road. The DOP noted in its ZAC comment the solar panels "will not be visible from York Road or adjacent residentially [sic] properties." But Al Rude and William Mayo, whose properties adjoin the subject property, disagreed and said the site will be visible from their homes and York Road as well.

Lynn Jones testified there are wetlands on the site, and she also feared that water runoff from the site and panels would flow into and increase the temperature in a nearby Class III trout stream. Several of the residents expressed dissatisfaction with the recent legislation (Bill 37-17)

People's Counsel
CBA Exhibit
11

which expressly permits by special exception solar facilities in all rural zones in the County. Residents testified their representative on the Council was "dead set against" the solar bill, but that the majority of the Council approved the bill allowing the facilities in RC zones. Such conflicts are inherent in the nature of our representative democracy.

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Based on the testimony of Messrs. Quinlan and Doak, I believe Petitioners are entitled to special exception relief. Petitioners presented expert testimony regarding their compliance with the requisite standards for a special exception, and none of the County review agencies expressed misgivings about the proposal. I found this testimony to be credible and persuasive.

I also believe the subject property is an appropriate site for this use. Unlike several recent cases in which solar facilities have been proposed in rural areas, this site is situated over 1,200 feet from York Road and will also benefit from topographical changes and existing forest and tree cover which will help to screen the solar panels. I do not dispute the testimony of the neighbors that they will be able to view the site, especially in the fall and winter when the leaves are off the trees. But the law does not require the facilities to be invisible; instead, it specifies only that "screening of...scenic routes and scenic views" be provided in accordance with the Baltimore

County landscape manual. B.C.Z.R. §4E-104.A.6. A condition will be added below to ensure this requirement is satisfied.

I am sympathetic to the concerns raised by the neighbors, and as I stated at the hearing I would likely feel the same way if I was in their shoes. But I am not able to decide a case on that basis. I am required to evaluate zoning cases based on existing law and regulations, and cannot decide a matter based on subjective opinions. Solar panels are not aesthetically pleasing, and everyone would prefer a view from their home which featured a field, forest or pasture in its natural state. But that is true in every case involving a solar facility, and is an adverse effect the Council was presumed to have considered when it enacted this legislation. In other words, most special exception uses are regarded as "potentially troublesome because of noise, traffic, congestion...." *Montgomery County v. Butler*, 417 Md. 271, 297 (2010). As such, I believe the petition should be granted, subject to the conditions noted below which will help to "lessen the impact of the facility on the health, safety and general welfare of surrounding residential properties." B.C.Z.R. §4E-104.A.10.

THEREFORE, IT IS ORDERED this 21st day of December, 2017, by this Administrative Law Judge, that the Petition for Special Exception to approve a nine (9) acre ± solar facility on a portion of a 30.723 acre parcel of land in a RC-7 zone, be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must comply with the ZAC comment submitted by the DEPS, a copy of which is attached hereto.

3. Petitioners must obtain from the State Highway Administration (SHA) a residential or farm entrance permit.

4. No trees shall be removed from the site in connection with the construction and/or operation of the solar facility.

5. No weed killers or herbicides shall be used to control weed or grass growth at the solar facility.

6. No signage or lighting shall be installed at the site in connection with the solar facility.

7. Petitioners must submit for approval by Baltimore County a landscape plan for the site.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

10-13-17

IN RE: PETITIONS FOR SPECIAL EXCEPTION AND VARIANCE (Hanover Road) 4th Election District 3rd Council District Donald E. & Kathleen Lippy *Legal Owners* New Source Generation, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0052-XA

* * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) as Petitions for Special Exception and Variance filed for property located on Hanover Road in northwest Baltimore County, not far from the Carroll County line. The Petitions were filed on behalf of Donald E. and Kathleen Lippy, legal owners of the subject property and New Source Generation, LLC, lessee. The Special Exception petition seeks approval for a solar facility. The Petition for Variance seeks to approve a minimum setback of 35 ft. in lieu of the 50 ft. setback imposed by Article 4E of the B.C.Z.R. A site plan was marked as Petitioners' Exhibit 2.

Appearing at the hearing in support of the petitions were Ken Donithan, Donald Lippy and professional land surveyor John Lemmerman. Lawrence E. Schmidt, Esq. represented Petitioners. The Hanover Road Community Association, represented by Mike McCann, Esq. opposed the request. The Petition was advertised and posted as required by the B.C.Z.R. A substantive Zoning Advisory Committee (ZAC) comment was received from the Department of Planning (DOP). That agency did not oppose the request.

The subject property is approximately 6.454 acres in size and is zoned RC 2. The property is unimproved and is currently in agricultural use. Petitioners propose to install solar panels on the property which would generate approximately one megawatt of electricity. Mr. Donithan testified at least 60% of the power generated would be used by the Lippy brothers in their farming operations in Baltimore and Carroll Counties.

Mr. Donithan testified Petitioners have obtained conditional approval from both the PSC and BGE pursuant to the community solar energy program adopted by the State of Maryland. Baltimore County has approved a final landscape plan for the project (Exhibit 6) and there will be enhanced screening along both road frontages. The facility will also be enclosed by a security fence.

SPECIAL EXCEPTION

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Based on the testimony of Messrs. Donithan and Lemmerman, and mindful of the presumption supplied by Maryland case law, I believe Petitioners are entitled to the special exception. Both witnesses stressed the project would not generate traffic or noise and the facility will for the most part be monitored remotely. Mr. Donithan testified that after construction the only regular visits to the property would be for mowing the grass. Protestant did not call any witnesses in its case and did not submit any documents or other evidence which would refute or undermine in any way the testimony and evidence presented by Petitioners. As such, the special exception will be granted.

VARIANCE

A variance request involves a two-step process, summarized as follows:

1. It must be shown the property is unique in a manner which makes it unlike surrounding properties, and that uniqueness or peculiarity must necessitate variance relief; and

2. If variance relief is denied, Petitioner will experience a practical difficulty or hardship.

Cromwell v. Ward, 102 Md. App. 691 (1995).

John Lemmerman, a professional surveyor accepted as an expert, testified the property has a unique "L" shape and is bordered by agricultural properties protected by State easements. As such I agree with his opinion the property is unique. If the B.C.Z.R. were strictly interpreted Petitioners would suffer a practical difficulty since they would be unable to complete the proposed solar facility.

Finally, I find that the variance can be granted in harmony with the spirit and intent of the B.C.Z.R., and in such manner as to grant relief without injury to the public health, safety, and general welfare. This is demonstrated by the lack of Baltimore County opposition. In addition, only one variance is sought and the relief requested is in my opinion modest, especially considering there will be enhanced landscaping along the road frontages that will mitigate the impact of the reduced setback (i.e., 35 feet in lieu of the required 50 feet).

LEGAL ISSUES

Protestant's counsel contends the petition should be dismissed since it was filed in violation of B.C.Z.R. §500.12, which concerns "subsequent petitions" after the denial of a petition for special exception. While it is true the previous petition for special exception (in Case No. 2016-0335-SPHX) was denied by the Board of Appeals, a petition for judicial review was filed and that matter is pending in the circuit court. As such, there has not been a final order denying

the earlier petition, which in my opinion renders B.C.Z.R. §500.12 inapplicable. In addition, the earlier petition sought to operate a "public utility" at the site while the special exception in this case is for a "solar facility."

Even if this were not the case, I also believe that provision should not bar the Petitioners from seeking relief in this case. Section 500.12 is in my opinion meant to address a scenario where a litigant files successive petitions for special exception involving the same use and the same property after a final denial of his initial request.

In that sense I agree with Petitioners' counsel that Section 500.12 is akin to a *res judicata* provision, and should be given a similar interpretation. This regulation appears to have been enacted in 1959, at which time Maryland law held that decisions of administrative bodies were not entitled to preclusive effect. *Seminary Galleria, LLC v. Dulaney Valley Improv. Ass'n., Inc.*, 192 Md. App. 719, 735-36 (2010). In this case specific legislation (Bill 37-17) was enacted by the County Council in June 2017, permitting solar facilities in the rural zones by special exception. A change in law will overcome a *res judicata* defense, and for similar reasons I believe it makes Section 500.12 inapplicable. In addition, it would be inequitable to require Petitioners to wait 18 months before seeking approval for a solar facility, especially since the law itself caps (at ten) the number of such facilities permitted in any council district, which makes time of the essence.

THEREFORE, IT IS ORDERED by the Administrative Law Judge for Baltimore County, this 13th day of October, 2017, that the Petition for Special Exception to approve a solar facility be and is hereby GRANTED; and

IT IS FURTHER ORDERED that the Petition for Variance pursuant to the Baltimore County Zoning Regulations (B.C.Z.R.) to approve a minimum setback of 35 ft. from the tract

boundary in lieu of the 50 ft. solar facility setback required by Article 4E of the B.C.Z.R., be and is hereby GRANTED.

The relief granted herein shall be subject to and conditioned upon the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must comply with the ZAC comment of the DOP dated September 13, 2017, a copy of which is attached.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

1/3/18

IN RE: PETITION FOR SPECIAL EXCEPTION (19735 Graystone Road) 7th Election District 3rd Council District Jerry Phillips *Legal Owner* Forefront Power, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0072-X

* * * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of a Petition for Special Exception filed on behalf of Jerry Phillips, legal owner and Forefront Power, LLC, lessee ("Petitioners"). The Special Exception was filed pursuant to the Baltimore County Zoning Regulations ("B.C.Z.R.") to use the property for partial development of an 840 kilowatt (kW) A/C ground-mounted solar facility.

Brian Maliszewski (on behalf of the lessee) and professional engineer Allan Mitchell appeared in support of the petition. Lawrence E. Schmidt, Esq. represented the Petitioners. The Valleys Planning Council, Sparks-Glencoe Community Planning Council and numerous citizens opposed the requests. Substantive Zoning Advisory Committee (ZAC) comments were received from the Department of Planning (DOP), the Bureau of Development Plans Review (DPR) and the Department of Environmental Protection and Sustainability (DEPS). None of the reviewing agencies opposed the requests.

The subject property is approximately 50.54 acres in size and zoned RC-2. The property is situated on Graystone Road, which is a Baltimore County Scenic Route. Petitioners propose to install 3,276 solar panels on approximately six (6) acres of land at the northern point of the site, closest to Graystone Road. The panels will be approximately 7-8 ft. in height, and a chain-link fence will enclose the solar panels. Petitioners propose to install landscaping which - - at least at maturity - - would screen the fence and panels from the view of motorists on Graystone Road.

As the undersigned noted at the hearing, it is nearly certain Petitioners will not be able to screen or enclose the panels in such a fashion that would prevent them from being seen by immediate neighbors. But the law does not require that; the zoning regulations specify only that "screening of...scenic routes and scenic views" be provided in accordance with the Baltimore County landscape manual. B.C.Z.R. §4E-104.A.6. A condition will be added below to ensure this requirement is satisfied.

Special Exception Law

Under Maryland law, a special exception is a permitted use which is presumably in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited recently in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Counsel proffered the testimony of Petitioners' witnesses (including a professional engineer) who would opine the project complied with all requirements for a special exception under B.C.Z.R. §502.1 and applicable case law. While the protestants raised many valid concerns, I do not believe that testimony is sufficient to successfully rebut the presumption under Maryland law. As such, the petition will be granted.

I am sympathetic to the concerns expressed by the community, and agree the proposed solar panels would mar an otherwise bucolic landscape along a rural roadway. But I cannot deny

the petition on that basis. That is because a six acre field of solar panels will have a negative impact upon a rural setting whether it is located in White Hall, Monkton, Sparks, Parkton or any other agricultural community in northern Baltimore County.

The County Council expressly permitted solar facilities in rural areas (including RC-2 zones) and along scenic routes, provided certain landscaping requirements are satisfied. Indeed, most special exception uses are regarded as "potentially troublesome because of noise, traffic, congestion...." *Montgomery County v. Butler*, 417 Md. 271, 297 (2010). As such, I believe the petition should be granted, subject to the conditions noted below which will help to "lessen the impact of the facility on the health, safety and general welfare of surrounding residential properties." B.C.Z.R. §4E-104.A.10.

THEREFORE, IT IS ORDERED this 3rd day of January, 2018, by this Administrative Law Judge, that the Petition for Special Exception to use the property for partial development of an 840 kilowatt (kW) A/C ground-mounted solar facility, be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must comply with the ZAC comments of the Bureau of DPR & DEPS, copies of which are attached.

3. No signage or lighting shall be installed at the site in connection with the solar facility.

4. No deliveries to or maintenance of the solar facility shall occur between the hours of 6:00 PM – 7:00 AM.

5. Petitioners must submit for approval by Baltimore County a landscape plan which satisfies the requirements set forth in the Landscape Manual and B.C.Z.R. §4E-104.A.6.

6. Any expansion, enlargement and/or relocation of the solar facility as shown on the site plan admitted herein as Petitioners' Ex. 1 shall require a public hearing before the OAH.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

12/7/17

IN RE: PETITION FOR SPECIAL EXCEPTION (9155 Old Court Road) 2nd Election District 4th Council District Delores White-Rose *Legal Owner* Forefront Power, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0078-X

* * * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of a Petition for Special Exception filed on behalf of Delores White-Rose, legal owner and Forefront Power, LLC, lessee ("Petitioners"). The Special Exception was filed pursuant to the Baltimore County Zoning Regulations ("B.C.Z.R.") to use the property for a 1,980 kilowatt (kW) A/C ground-mounted solar facility.

Kelsey Crane, Brian Maliszewski, Delores White-Rose, Shana Beiger and professional engineer Andrew Miller appeared in support of the petition. Lawrence E. Schmidt, Esq. represented the Petitioners. Cathy Wolfson, of the Greater Patapsco Community Association, attended the hearing and opposed the request. Substantive Zoning Advisory Committee (ZAC) comments were received from the Department of Planning (DOP), the Bureau of Development Plans Review (DPR) the State Highway Administration (SHA), and Department of Environmental Protection and Sustainability (DEPS). None of the reviewing agencies opposed the requests.

The subject property is approximately 16.75 acres and is zoned RC-2. The property is unimproved and is situated along Old Court Road in the Granite area. Forefront proposes to install on the property 6,822 solar panels which would be enclosed within a fence. The enclosure area would be approximately 9.81 acres in size. The panels would be 6-8 feet in height and would be set back a minimum of 50 ft. from any property boundary.

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Professional engineer Andrew Miller testified via proffer the facility would be unmanned and would generate no noise or traffic. While not required under County law, Forefront undertook a "glare analysis" and determined the project would satisfy Federal Aviation Administration (FAA) standards. Those standards are designed to ensure a pilot's vision is not obscured by glare, and while they are not applicable in this case it is helpful to know the project would satisfy those rigorous standards. Mr. Miller opined Petitioner satisfied the requirements of B.C.Z.R. §502.1.

A landscape plan has not yet been approved for this project, although Petitioners submitted a proposed plan (Ex. 2) which reflects that substantial vegetative buffers would be installed around the periphery of the site, and Mr. Miller did not believe the solar panels would in fact be visible to motorists on Old Court Road. A chain-link fence will also enclose the panels, and Forefront representatives indicated they would be amenable to installing slats or sheeting on the fence to soften its appearance.

Ms. Wolfson stated her association met and voted to object to the proposal, based solely upon the anticipated (negative) visual impact the project will have on the community. Solar panels certainly do not improve the view shed in a rural area; a forest or open field would have more aesthetic appeal. But the County Council recently enacted legislation (Bill 37-17) which permits such facilities in the RC zones, and the petition cannot be denied based on aesthetics. In special exception parlance, the lack of visual appeal is an inherent negative impact of the use, and the Council is presumed to have been aware of this when it enacted the legislation. Without proof that the use would have non-inherent impacts at this location I believe the petition should be granted.

THEREFORE, IT IS ORDERED this 7th day of December, 2017, by this Administrative Law Judge, that the Petition for Special Exception to use the property for a 1,980 kilowatt (kW) A/C ground-mounted solar facility in accordance with Section 4E-102 of Baltimore County Council Bill No. 37-17, be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must obtain from SHA an entrance or access permit.

3. Petitioners must comply with the ZAC comments of the DOP, DPR & DEPS, copies of which are attached.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

12/29/17

IN RE: PETITIONS FOR SPECIAL HEARING, SPECIAL EXCEPTION & VARIANCE (11956 Philadelphia Road) 11th Election District 6th Council District 11956 Philadelphia Road, LLC *Legal Owner* Turning Point Energy, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0095-SPHXA

* * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for Baltimore County for consideration of Petitions for Special Hearing, Special Exception and Variance filed on behalf of 11956 Philadelphia Road, LLC, legal owner, and Turning Point Energy, LLC, lessee ("Petitioners").

The Petition for Special Hearing was filed pursuant to § 500.7 of the Baltimore County Zoning Regulations ("B.C.Z.R") as follows: (1) asking the Administrative Law Judge (ALJ) if the requirement for a 50 ft. setback applies to an internal property line; (2) to approve shared access for an existing farm and a proposed solar facility; and (3) to approve use of an easement to connect special exception areas. In the alternative, a Petition for Variance seeks to permit a 20 ft. setback in lieu of the required 50 ft. Finally, a Petition for Special Exception was filed to permit a solar facility in the RC 5 zone.

Appearing at the public hearing in support of the requests was Mitch Kellman. Jennifer R. Busse, Esq. represented the lessee and Howard Alderman, Esq. represented the legal owner. Doug Behr, of the Greater Kingsville Civic Association, attended the hearing to obtain additional information regarding the requests. The Petition was advertised and posted as required by the Baltimore County Zoning Regulations. Substantive Zoning Advisory Committee (ZAC) comments were submitted by the Department of Planning (DOP), the Bureau of Development Plans Review (DPR) and the Department of Environmental Protection and Sustainability (DEPS). None of the reviewing agencies opposed the requests.

The subject property adjoins Interstate 95 to the north and Philadelphia Road (Md. Route 7) to the south. The site is approximately 23.55 acres in size and is zoned RC-5. The property is improved with a single-family dwelling and agricultural outbuildings (which constitute a "farm" under the B.C.Z.R.), which will remain on site. Petitioners propose to operate a solar facility on approximately 16 acres of the site, which is bisected by high-voltage power lines owned by Baltimore Gas & Electric (BGE).

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272, (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Mr. Kellman testified Petitioners satisfy the requirements of B.C.Z.R. §502.1, and he believes this is an "ideal location" for the facility. He noted the site is adjacent to I-95 and a BGE electric substation, and he believed the landscaping proposed would screen the solar facility from view of motorists and/or pedestrians. This appears to be the first hearing seeking approval for a solar facility in the 6th Council district, and Mr. Kellman confirmed the property is not subject to an agricultural or preservation easement. He also advised none of the roadways adjoining the site

are designated as scenic. Based on this testimony and the exhibits presented, and in the absence of any evidence to the contrary, the petition for special exception will be granted.

Special Hearing

The petition for special hearing primarily concerns whether the 50 ft. "tract boundary" setback requirement found in B.C.Z.R. §4E-104 applies to an internal lot line at the site. As Mr. Kellman explained, the subject property is bisected by a strip of land owned in fee simple by BGE, on which are located high-voltage power lines and support structures. BGE will grant to Petitioners an easement so they may travel across this strip while constructing and/or operating the solar facility. In these circumstances, the bisecting strip/road does not create separate parcels for development and zoning purposes. *Freeland Comm. Ass'n v. HZ Props., LLC*, Ct. Special Appeals (9/16/2016, unreported). As such, the internal property lines created by the BGE strip are not considered "tract boundaries," and a variance is not required to locate the solar panels 20 feet from these lines.

The other aspect of the special hearing concerns the use of a shared access driveway. The driveway, which is shown on the redlined site plan (Ex. 3), would be used by the existing resident and the solar facility. Nothing in the law prohibits such an arrangement, and with the exception of construction traffic accompanying the installation of the panels there will be little or no vehicular traffic using the drive to access the solar facility. As such this aspect of the petition for special hearing will also be granted.

THEREFORE, IT IS ORDERED this 29th day of December, 2017, by this Administrative Law Judge, that the Petition for Special Hearing filed pursuant to § 500.7 of the Baltimore County Zoning Regulations ("B.C.Z.R."): (1) to determine the requirement for a 50 ft. setback does not apply to an internal property line; (2) to approve shared access for an existing farm and a proposed

solar facility; and (3) to approve use of an easement to connect special exception areas, be and is hereby GRANTED.

IT IS FURTHER ORDERED that the Petition for Special Exception to permit a solar facility in the RC 5 zone, be and is hereby GRANTED.

IT IS FURTHER ORDERED that the Petition for Variance to permit a 20 ft. setback in lieu of the required 50 ft., be and is hereby DISMISSED WITHOUT PREJUDICE..

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.
2. No lighting or signage (with respect to the solar facility) shall be installed at the property.
3. No trees shall be removed from the site in connection with the construction and/or operation of the solar facility.
4. Petitioners must submit for approval by Baltimore County (with a copy to the Greater Kingsville Civic Association, Inc.) a landscape plan for the site.
5. Petitioners must comply with the ZAC comment submitted by the DEPS, a copy of which is attached hereto.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB:sln

3/6/18

IN RE: PETITIONS FOR SPECIAL HEARING AND SPECIAL EXCEPTION	*	BEFORE THE
(9203 Dogwood Road)	*	OFFICE OF
2nd Election District		
4th Council District	*	ADMINISTRATIVE HEARINGS
Margaret E. Neubauer, et al		
Legal Owners	*	FOR BALTIMORE COUNTY
Solar Smart, LLC		
Lessee	*	Case No. 2018-0123-SPHX
Petitioners	*	

* * * * * * * * *

OPINION AND ORDER ON MOTION FOR RECONSIDERATION

Now pending is a Motion for Reconsideration in the above matter. By Order dated January 26, 2018 a solar facility was permitted by special exception at the subject property.

At the hearing, Petitioner's engineer testified the solar panels themselves (which would generate 0,9 MW of electricity) would occupy only 5 acres of the 25 acre site. Based on that testimony the undersigned included a condition in the order restricting the special exception area to 5 acres, which was erroneous. As explained in the motion, there will also be perimeter fencing (as required by the B.C.Z.R.) and an access road, both of which are arguably part of the solar facility. To eliminate any doubt on the point Petitioners request condition number 5 be modified to provide for a six (6) acre special exception area for the solar facility. Having received the motion and the original order I believe this is a reasonable request, and the motion will therefore be granted.

THEREFORE, IT IS ORDERED this 6th day of March 2018, by this Administrative Law Judge, that the Motion for Reconsideration be and is hereby GRANTED.

IT IS FURTHER ORDERED that Restriction Number 5, on page 4 of the January 26, 2018 Order in the captioned matter, be and is hereby Amended to read as follows:

5. "No more than six (6) acres of the subject property may be devoted to the solar facility special exception use."

IT IS FURTHER ORDERED that all other terms and conditions in the original Order shall continue in full force and effect.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

P42

IN RE: PETITIONS FOR SPECIAL HEARING AND SPECIAL EXCEPTION (9203 Dogwood Road) 2nd Election District 4th Council District Margaret E. Neubauer, et al *Legal Owners* Solar Smart, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0123-SPHX

* * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of Petitions for Special Hearing and Special Exception filed on behalf of Margaret E. Neubauer, *et al*, legal owners and Solar Smart, LLC, lessee ("Petitioners"). The Special Hearing was filed pursuant to § 500.7 of the Baltimore County Zoning Regulations ("B.C.Z.R") to approve an amendment to the Minor Subdivision No. 06072M, Lot 2, to allow the development of a Solar Facility. A Petition for Special Exception was filed to allow a Solar Facility on property zoned RC 2.

Nicholas Linehan, Donald Zimmerman, Elizabeth Neubauer, Jane Culver and Ann Albrecht attended the public hearing in support of the requests. Timothy Kotroco, Esq. represented the Petitioners. Three citizens attended the hearing to obtain additional information regarding the requests. The Petition was advertised as required by the Baltimore County Zoning Regulations. Substantive Zoning Advisory Committee (ZAC) comments were received from the Bureau of Development Plans Review (DPR), Department of Planning (DOP) and the Department of Environmental Protection and Sustainability (DEPS). None of the reviewing agencies opposed the requests.

The subject property is approximately 25.268 acres in size and is zoned RC 2. The proposed solar facility would occupy approximately five (5) acres of land and would generate 0.9 MW of electricity. The lessee explained it would install approximately 3,000 fixed solar panels at the site, and would conduct routine maintenance twice yearly. The lessee has entered into a 20 year lease for the site, with an option to renew.

SPECIAL EXCEPTION

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272, (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Mr. Linehan, a landscape architect accepted as an expert, testified Petitioners satisfied the requirements of B.C.Z.R. §502.1 governing special exceptions. He noted the site was well-screened by existing, mature trees and vegetation, and he also described the landscaping proposed which would provide additional screening. In light of this testimony, and in the absence of any evidence to the contrary, the petition for special exception will be granted.

Concerning the ZAC comment submitted by DPR, the undersigned respectfully disagrees that "solar panels are considered a utility." Indeed, in a 2016 zoning case (No. 2016-0335-SPHX) the undersigned made just such a determination, which was ultimately reversed by the circuit court. Bill 37-17 was enacted at least in part in response to this precedent. The landscaping requirements

for a solar facility are not specified in the Landscape Manual, which is understandable given the legislation permitting the use was enacted less than a year ago.

In fact, Bill 37-17 itself specifies that a "landscaping buffer shall be provided around the perimeter" of a solar facility that is visible from a dwelling or public street. Petitioners are aware of this requirement and the schematic landscape plan submitted at the hearing (Pet. Ex. No. 6) shows plantings in that area. There was a reference in the DOP ZAC comment to "interior contour screening" at the site. Mr. Zimmerman, an engineer employed by the Lessee, indicated that vegetation and shrubs cannot be planted among the solar panel arrays, since it would require frequent maintenance and could also interfere with or shade the solar panels. This would be antithetical to the goal of such a facility, and Petitioners shall not be required to provide landscaping inside the chain link fencing which will enclose the solar panels.

THEREFORE, IT IS ORDERED this 26th day of January 2018, by this Administrative Law Judge, that the Petition for Special Hearing to approve an amendment to Minor Subdivision No.06072M, Lot 2, to allow the development of a Solar Facility thereon, be and is hereby GRANTED.

IT IS FURTHER ORDERED that the Petition for Special Exception to allow a Solar Facility on property zoned RC 2 be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. For so long as the solar facility is operational and/or solar panels remain on the subject property, no dwelling(s) or improvements of any kind other than those shown on the site plan admitted as Exhibit 1 shall be

permitted on Lot 2 of the Minor Subdivision Plan No. 06072M.

3. Petitioners must comply with the ZAC comment submitted by DEPS, a copy of which is attached hereto and incorporated herein.

4. Prior to issuance of permits Petitioners must submit for approval by Baltimore County a landscape plan for the site providing for a buffer around the perimeter of any portion of the solar facility that is visible from a dwelling or public street.

5. No more than five (5) acres of the subject property may be devoted to the solar facility special exception use.

6. The chain link fence proposed for the site shall have black vinyl coating on all portions which are visible from a dwelling or public roadway.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

pwl

IN RE: PETITIONS FOR SPECIAL HEARING AND SPECIAL EXCEPTION (10021 Old Court Road) 2nd Election District 4th Council District Margaret E. Neubauer, et al *Legal Owners* Solar Smart, LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2018-0124-SPHX

* * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of Petitions for Special Hearing and Special Exception filed on behalf of Margaret E. Neubauer, *et al*, legal owners and Solar Smart, LLC, lessee ("Petitioners"). The Special Hearing was filed pursuant to § 500.7 of the Baltimore County Zoning Regulations ("B.C.Z.R") to approve an amendment to Minor Subdivision No. 06059M, Lot 1, to allow the development of a Solar Facility. A Petition for Special Exception was filed to allow a Solar Facility on property zoned RC 2.

Nicholas Linehan, Donald Zimmerman, Elizabeth Neubauer, Jane Culver and Ann Albrecht attended the public hearing in support of the requests. Timothy Kotroco, Esq. represented the Petitioners. Four citizens attended the hearing to obtain additional information regarding the requests. The Petition was advertised as required by the Baltimore County Zoning Regulations. Substantive Zoning Advisory Committee (ZAC) comments were received from the Bureau of Development Plans Review (DPR), Department of Planning (DOP), State Highway Administration (SHA) and the Department of Environmental Protection and Sustainability (DEPS).

The subject property (known as Lot 1) is approximately 62.386 acres in size and is zoned RC 2. Petitioners propose to construct a solar facility on approximately 10 acres of the subject property, as delineated on the site plan admitted as Exhibit 1. A solar facility is permitted by special exception in the RC 2 zone.

SPECIAL EXCEPTION

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272, (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Mr. Linehan, a landscape architect accepted as an expert, testified Petitioners satisfied the requirements of B.C.Z.R. §502.1 governing special exceptions. He indicated the Lessee would install approximately 6,000 solar panels on two separate "pods" at the site, which would generate approximately 1.98 MW of electricity. He described the site plan in detail and discussed the landscaping proposed for the project, which would for the most part screen the solar facility from adjacent homes and motorists on Old Court Road, which is a scenic route. In light of this testimony, and in the absence of any evidence to the contrary, the petition for special exception will be granted.

Concerning the ZAC comment submitted by DPR, the undersigned respectfully disagrees that "solar panels are considered a utility." Indeed, in a 2016 zoning case (No. 2016-0335-SPHX) the undersigned made just such a determination, which was ultimately reversed by the circuit court. Bill 37-17 was enacted at least in part in response to this precedent. The landscaping requirements

for a solar facility are not specified in the Landscape Manual, which is understandable given the legislation permitting the use was enacted less than a year ago.

In fact, Bill 37-17 itself specifies that a "landscaping buffer shall be provided around the perimeter" of a solar facility that is visible from a dwelling or public street. Petitioners are aware of this requirement and the schematic landscape plan submitted at the hearing (Pet. Ex. No. 2) shows plantings in those areas. There was a reference in the DOP ZAC comment to "interior contour screening" at the site. Mr. Zimmerman, an engineer employed by the Lessee, indicated that vegetation and shrubs cannot be planted among the solar panel arrays, since it would require frequent maintenance and could also interfere with or shade the solar panels. This would be antithetical to the goal of such a facility, and Petitioners shall not be required to provide landscaping inside the chain link fencing which will enclose the solar panels. .

THEREFORE, IT IS ORDERED this 26th day of January 2018, by this Administrative Law Judge, that the Petition for Special Hearing to approve an amendment to Minor Subdivision No. 06059M, Lot 1, to allow the development of a Solar Facility thereon, be and is hereby GRANTED.

IT IS FURTHER ORDERED that the Petition for Special Exception to allow a Solar Facility on property zoned RC 2 be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. For so long as the solar facility is operational and/or solar panels remain on the subject property no dwelling(s) or improvements of any kind other than those shown on the site plan admitted as Exhibit 1 shall be

permitted on Lot 1 of Minor Subdivision Plan No. 06059M.

3. Petitioners must comply with the ZAC comment submitted by DEPS, a copy of which is attached hereto and incorporated herein.

4. Prior to issuance of permits Petitioners must submit for approval by Baltimore County a landscape plan for the site providing for a buffer around the perimeter of any portion of the solar facility that is visible from a dwelling or public street.

5. The chain link fence proposed for the site shall have black vinyl coating on all portions which are visible from a dwelling or public roadway.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

5/4/18

IN RE: PETITION FOR SPECIAL EXCEPTION (10790 Raphel Road)	*	BEFORE THE
11th Election District 5th Council District	*	OFFICE OF
Baltimore Gas & Electric Company *Legal Owner*	*	ADMINISTRATIVE HEARINGS
P52ES Under Armour Community Solar 1, LLC *Lessee* Petitioners	*	FOR BALTIMORE COUNTY Case No. 2018-0127-X

* * * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings (OAH) for consideration of a Petition for Special Exception filed on behalf of Baltimore Gas and Electric Company, legal owner and P52ES Un der Armour Community Solar I, LLC, lessee ("Petitioners"). The petition was filed pursuant to the Baltimore County Zoning Regulations ("BCZR") to approve a Solar Facility.

Robert Wallace appeared on behalf of the lessee in support of the petition. Patsy Malone, Esq. represented the Lessee. Two citizens attended the hearing to obtain additional information about the project. Substantive Zoning Advisory Committee (ZAC) comments were received from the Department of Environmental Protection and Sustainability (DEPS), the Bureau of Development Plans Review (DPR) and the Department of Planning (DOP). None of the reviewing agencies opposed the request.

The subject property is approximately 138 acres in size and is zoned RC-5. The Lessee proposes to lease from BGE a portion of the site to operate a solar facility which will produce 2MW of electricity. The special exception area shown on the plan is approximately 16.64 acres although the solar panels themselves would occupy only about eight (8) acres of land.

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Edward Tom, a registered landscape architect accepted as an expert, described the proposed landscaping for the project, and noted that only one portion of the large site facing Raphel Road is visible to motorists or others travelling past the property. As such landscaping will be provided in that area and Petitioners propose to install a variety of vegetation to create a naturalistic border. Mitch Kellman, a land use planner accepted as an expert, confirmed the project complies with all restrictions and requirements of Article 4B of the BCZR governing solar facilities. He also opined Petitioners have satisfied the requirements for special exception relief as set forth at BCZR §502.1.

Doug Behr, on behalf of the Greater Kingsville Civic Association, Inc., (GKCAI) indicated the community would prefer Petitioners to remove some of the existing macadam and provide additional landscaping near the intersection of Raphel and Philadelphia Roads. He explained for many years a farm stand was operated at this portion of the site, which is now a vacant parking lot with broken asphalt and gravel. Counsel indicated Petitioners were willing to work with the community to address this issue, which would greatly improve the appearance of this portion of the site which is immediately adjacent to two roadways.

THEREFORE, IT IS ORDERED this 11th day of May, 2018, by this Administrative Law Judge, that the Petition for Special Exception to use the property for a Solar Facility be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must comply with the ZAC comment submitted by the Bureau of DPR, a copy of which is attached hereto and incorporated herein.

3. Petitioners, in consultation with the County's landscape architect and the GKCAI, shall use good faith efforts to attempt to honor the community's request for additional landscaping near the intersection of Raphel and Philadelphia Roads.

4. No signage (other than temporary construction signs) or lighting shall be permitted on the property in connection with the solar facility.

5. The solar panels themselves shall occupy no more than eight (8) acres of the special exception area shown on the site plan.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

JS 1/9 1:30 PM

Case No.: 2017-0108-X 2450 Middletown Rd.

Exhibit Sheet

SLO 1/22/18

Petitioner/Developer Protestant

No. 1	Site plan	Photos of damaged solar panels; internet printouts re: same
No. 2	zoning description	Photos of vicinity w/ Key Sheet
No. 3	Sloan resume	Map showing distance from property to Prettyboy Reservoir
No. 4	Webber CV	Map showing ponds, streams and springs on property
No. 5	Martin CV	Aerial photo
No. 6	Photos	Letter from Jocelyn Kelley dated 1-9-18
No. 7	Photos	Letter dated 1-5-18 from North County Community Group w/ attachments
No. 8	Landscape plan	
No. 9	Letter from J. Hermann 1-2-18	
No. 10		
No. 11		
No. 12		

PETITIONER'S EXHIBIT 2

MARTIN & PHILLIPS

DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
222 BOSLEY AVENUE. SUITE B1. TOWSON, MARYLAND 21204

ZONING DESCRIPTION

Revised December 27, 2017

20450 Middletown Road
Freeland, MD 21053-9621

Beginning for the description of a 18.64 acre tract being a part of Parcel 0069 Tax Map 06, Baltimore County at a point at the centerline intersections of Middletown Road 24' wide and Flintstone Road 50' wide thence S 30° 38' 19" E 423.63' feet more or less to a point of beginning at the northwestern most corner of the subject Special Exception area and to a point on a curve running parallel to Middletown Road having a:

1) Radius of 1755.60' with a chord bearing of S 47° 29' 37"E, and a length of 316.34' thence
2) S 54° 46' 59"E, 243.60' thence
3) N 35° 15' 55"E, 50.18' thence
4) S 54° 44' 05" E, 80.00' thence
5) S 35° 15' 55" W, 50.12' thence
6) S 54° 46' 59"E, 23.83' thence
7) S 32° 49' 43"W, 61.36', to a point on a curve having a radius of 99.82' and a chord bearing of S 37° 28' 07"W, and a length of 80.83' thence to a line bearing
8) S 13° 35' 13"W, and a length of 91.82', thence
9) S 03° 07' 02"W, 215.51', thence
10) S 20° 22' 19" E 46.65', thence
11) S 10° 55' 43"W, 26.17', thence
12) S 05° 56' 55"E, 112.93', thence
13)
14) S 25° 45' 24"W, 81.26', thence
15) S 74° 07' 58"W, 200.14', thence
16) N 63° 42' 20"W, 89.55', thence
17) S 39° 42' 30"W, 177.52', thence
18) S 76° 08' 24"W, 104.52', thence
19) S 61° 36' 19"W, 81.53', thence
20) S 80 59' 07"W, 41.40', thence
21) N 55° 36' 49"W, 155.96', to a point on curve having a radius of 126.32' and a chord bearing of N 04° 54' 16"E, 163.58', thence
22) N 03° 36' 33"E, 305.92', to a point on curve having a radius of 151.05 and a chord bearing of N28° 13' 11"W thence
23) N11° 16' 41"E, 46.16' thence
24) N 32° 59' 36"W, 113.05', thence
25) N 41° 42' 37"E, 669.63', back to the point of beginning

Containing 815,832.4 Square Feet or 18.73 Acres of Land more or less.

The above bearings are based on the Maryland State Coordinate System (NAD83/91).
NOTE: THE ABOVE DESCRIPTION IS FOR ZONING PURPOSES ONLY AND IS NOT TO BE USED FOR CONTRACTS, CONVEYANCES OR AGREEMENTS.

TELEPHONE: 410.321.8444. TOLL FREE: 866.395.8595
FAX: 410.321.1175

Parker Sloan

PETITIONER'S EXHIBIT 3

130 Roberts Street • Asheville, NC 28801 • Phone: 828-367-9035 • E-Mail: parker.sloan@gmail.com

Experience

Zoning and Outreach Manager, Cypress Creek Renewables (Formerly FLS Energy) August 2015 - Present

- Represent Cypress Creek Renewables at Planning Board, Board of Commissioners, Town Board, Board of Adjustment, and City Council meetings, in conjunction with attorneys and relevant experts. Testified as an expert in land use issues in Iredell, Washington, and Richmond Counties NC.
- Prepare for hearings and meetings by researching local zoning ordinances, future land use plans, and comprehensive land use plans, and by managing development of appropriate materials in collaboration with internal and external team members
- Manage all external zoning related contractors/legal counsel/consultants and internal engineering/finance/other support related to the zoning process
- Develop community outreach strategy, which may include developing and deploying mailers, organizing and facilitating community meetings, and going door to door to engage local community
- Manage development of zoning site plans to ensure projects comply with all relevant ordinances
- Prepare and submit rezone, variance, Special Use Permit, and Conditional Use Permit applications
- Interface with landowners and host jurisdiction stakeholders and others on site visits to proposed development locations

Medical Legal Partnership Liaison, Pisgah Legal Services (Grant Funded) December 2014 – August 2015

- Promoted Pisgah Legal Service's healthcare assistance program with media and partner organizations
- Facilitated relationships between Pisgah Legal Services, Mission Hospital, and other healthcare assisters
- Collaborated internally with programs and partner organizations to identify persons needing healthcare related legal assistance
- Provided impartial and objective information assisting people with health insurance issues and questions

Campaign Manager, Terry Van Duyn for NC Senate May 2014 – November 2014

- Developed and managed a $200,000 budget and marketing plan
- Supervised and trained entire campaign operation which included staff
- Represented Senator at events and public speaking engagements and created and coordinated distribution of campaign promotional materials
- Managed contractual relationships with graphic designers, printing vendors, web masters, communications consultants, and pollsters

County Planner, Henderson County Planning Department May 2007 – May 2014

- Provided exemplary customer service to County residents, answered citizen inquiries and concerns
- Administered Community Development Block Grant projects and prepared federal affordable housing grant applications, including recent $300,000 Community Revitalization CDBG project.
- Conducted site location suitability analysis for potential key economic development projects
- Prepared policy research and analysis on issues, including environmental regulations, land use, zoning, infrastructure, housing, and economic incentives
- Drafted plans and ordinances including zoning code amendments, subdivision ordinance changes, and County comprehensive plan updates
- Prepared reports, agendas, public presentations, and recommendations for various community stakeholders including elected and appointed officials, Board of Commissioners, Planning Board, and community groups

Community Service

Buncombe County Planning Board, Member	Appointed March 2015

Education

Masters in Public Administration, Western Carolina University	May 2014
B.S. Community & Regional Planning, and B.S. Geography, Appalachian State University	May 2007

Jeffrey S. Webber
mr.jeffrey.webber@gmail.com
(415) 577-7965

PETITIONER'S EXHIBIT 4

Education

Master of Science in Mechanical Engineering, **2012**
European Solar Engineering School (ESES), Dalarna University, Sweden
Solar Thermal, Photovoltaics, Hybrid Systems, Passive Solar Design, Building Integrated PV, Renewable Energy Systems, Engineering Economics, ***Master's Thesis on Photovoltaic Electrical Mismatch (Published)***

Bachelor of Science in Physics, Astrophysics Focus **2008**
University of California, Santa Cruz, California (UCSC)
Electricity & Magnetism, Mechanics (Classical, Statistical, Quantum), Special Relativity, Optics, Thermodynamics, High Energy Astrophysics, Cosmology, Planetary Dynamics, Multivariable Calculus, Complex Number Theory, Probability & Statistics, **Graduated with Honors.** ***Bachelor's Thesis on Stellar Evolution (Published)***

Technical Skills and Software

- PVsyst (expert user)
- Microsoft Excel
- Visual Basic
- System Advisor Model
- PVWatts
- Homer
- Helioscope
- Meteonorm
- Solar Power Prospector

Employment Experience

Cypress Creek Renewables, *San Francisco, CA* **June 2015-Present**

Performance Lead

My role as Performance Lead is to build, manage, and direct CCR's Development-Engineering group, the primary responsibility of which is to maximize the value of CCR's solar PV assets while appropriately managing all performance risk tied to contractual guarantees. This is accomplished via expert understanding of the solar PV energy production model and the full-scope relationship to stages of solar PV development, from new markets through structured project finance and long term asset management.

Black and Veatch Corporation, *San Francisco, CA* **Oct 2013-May 2015**

Renewable Energy Consultant

Primary role is to conduct system level PV performance related engineering services. Performed energy generation forecasts used for project valuation on over 2,500 MWac of projects totalling approximately $6 billion in transactions. Provided additional technical support for 160 projects in the USA, Canada, Mexico, Japan, China, Central America, and Australia.

System-level PV engineering services:
- Energy Production Forecasting
- Performance Test Analysis
- Operational Performance Assessment
- Plant Design and Optimization
- Third party technical due diligence
- EPC and O&M contract review

Project Management:
- Drafting scope, schedule, and budget

Construction Monitoring Services:
- PV plant commissioning
- Performance Testing
- Punchlist Management
- Storm Damage Assessment

PV Subject Matter Specialties:
- Solar Resource and Meteorological Dataset Analysis
- Soiling Loss Modeling (dirt and snow)
- Utility Scale Electrical Mismatch analysis

- Coordinating team resources
- Module Performance Modeling (PAN files)

Publications

J. Webber and E. Riley, "Mismatch Loss Reduction in Photovoltaic Arrays as a Result of Sorting Photovoltaic Modules by Max-Power Parameters," *ISRN Renewable Energy*, vol. 2013, Article ID 327835, May 12, 2013.

J. Webber and G. Smith , "The Red Giant Branches of Milky Way Globular Clusters: A Near Infrared Perspective," *Journal of the Royal Astronomical Society of Canada*, vol. 107, pp. 6, Feb 2013

Volunteering

Track & Field	Competed in 400 meter hurdles, pole-vault, javelin, and decathlon. Volunteer Coach of UCSC Track & Field Club in 2008. Set UCSC Track & Field Club record in 110m hurdles (2004) and 1-mile speed walk (2008).	**1999-2008**
College Radio DJ	Hosted several radio shows at KZSC 88.1 FM, a flagship college radio station. Elected as Electronic Music Director (2007-2008), a 20 hour/week volunteer position responsible for parlay with record label promoters, organizing volunteers to process new music, music library maintenance, and tabulating KZSC's electronic music "Top 10" charts.	**2003-2008**
Eagle Scout	Eagle Scout Volunteer Project involved constructing a set of planter boxes for Salem Lutheran Elementary School. Required organizing $500 in donated lumber, 25 volunteers, and totalled 170 man-hours.	**2002**

MARTIN & PHILLIPS

DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
222 BOSLEY AVENUE, SUITE B1, TOWSON, MARYLAND 21204

CURRICULA VITAE

DAVID L. MARTIN, L.A.

Martin & Phillips Design Associates, Inc., Principal
Director of Land Planning / Landscape Architecture
Professional Registration: Landscape Architect
Maryland - No. 776
Pennsylvania - No. 573-E

Education:
The Pennsylvania State University
Bachelor of Science Landscape Architecture - 1971

PETITIONER'S EXHIBIT 5

Professional Affiliations:
American Society of Landscape Architects, Member
Urban Land Institute, Member

Professional practice includes 36 years of land planning, landscape architecture, comprehensive zoning, PUD master planning, site planning, and expert witness testimony regarding land use and zoning issues. Mr. Martin has been practicing in the Greater Baltimore Metropolitan region since 1987 and has been qualified as an expert in land planning, site planning, and zoning cases in Anne Arundel County, Baltimore County, Howard County, Harford County, Cecil County, Bel Air, Aberdeen, Havre de Grace, Perryville, Port Deposit and Federal District Court of Baltimore.

Prior to his relocation to Maryland, Mr. Martin practiced landscape architecture and land planning in Pennsylvania, Florida, Massachusetts, Alabama, The Commonwealth of the Bahamas and Jamaica.

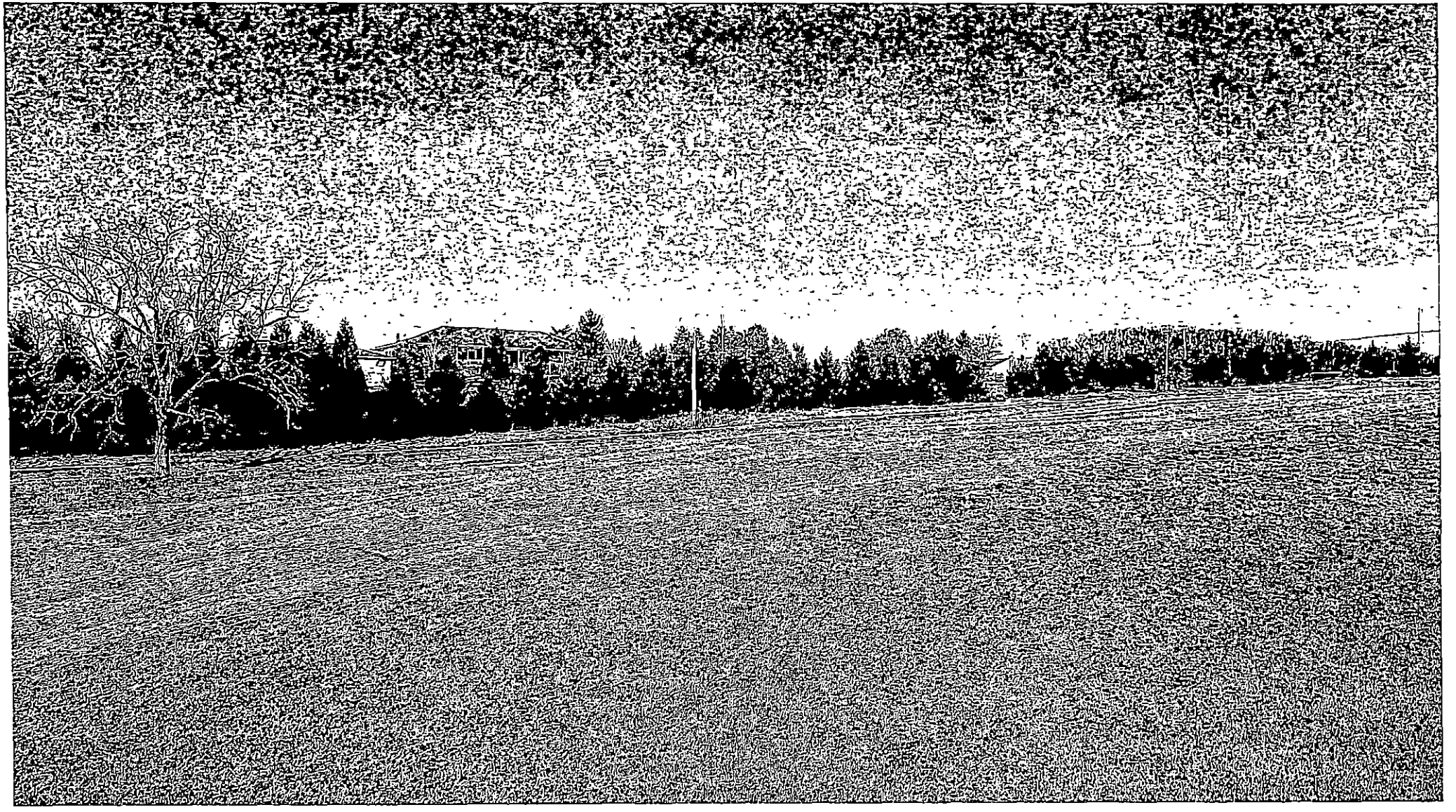
As President of Martin & Phillips Design Associates, Inc. Mr. Martin supervises community planning, site development, subdivision development plans, and master planning efforts, He also offers zoning, testimony and interpretation on land planning issues before zoning commissioners, boards of appeals, planning commissions, and elected bodies. Mr. Martin facilitates community input meetings, and presents Development Plans in Baltimore County and oversees the preparation of special exception and variance plan requests. He also directs the design of parks, amenity features, lighting plans and landscape plans associated with residential, commercial and institutional projects.

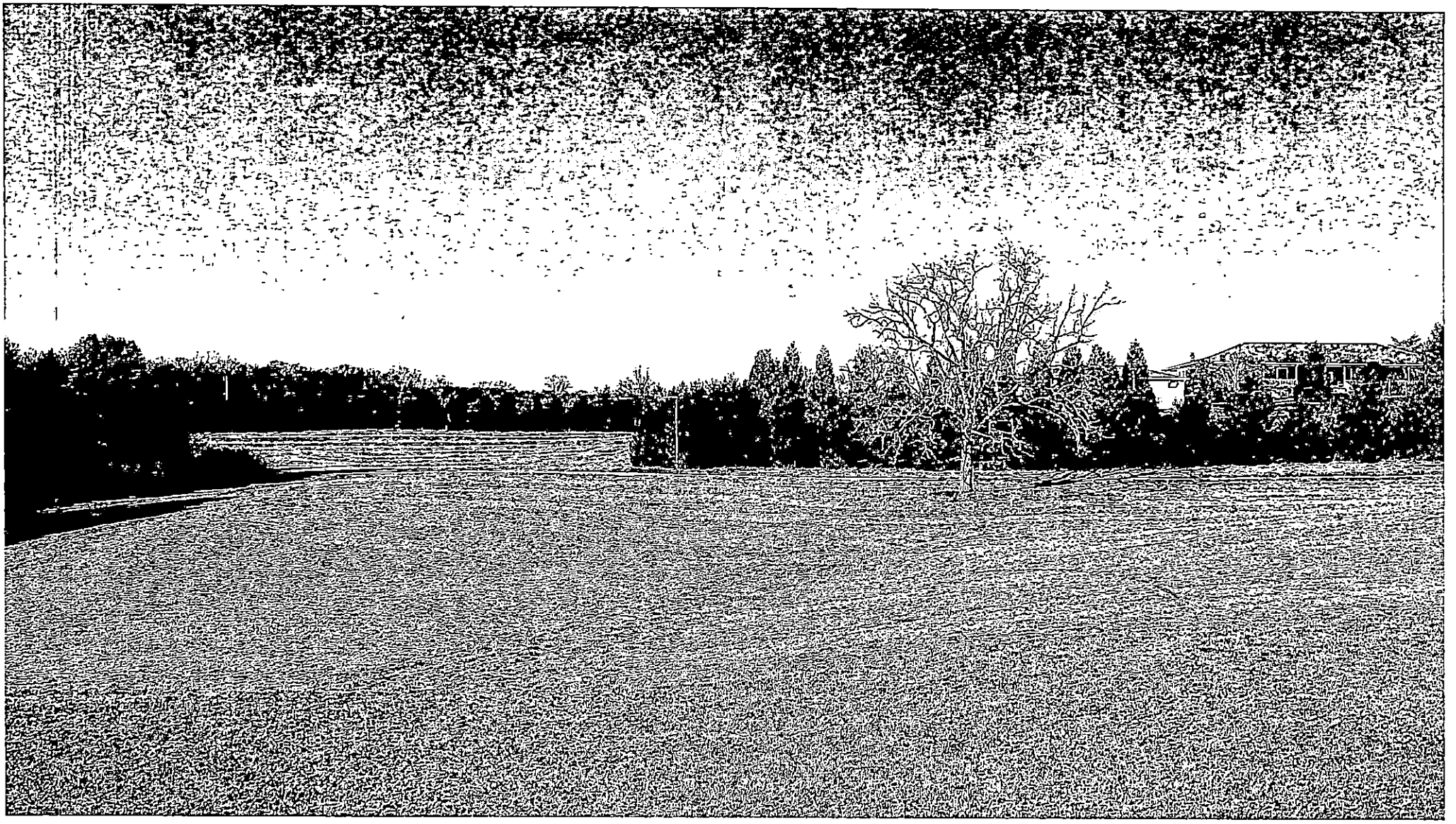
Significant projects include Developments of Regional Impact (DRI) in the State of Florida including; Palm Coast, Florida - 10,000 acre master plan, Beverly Hills, Florida - 6,500 acre master plan, and Doral Park, Florida - 2000 acre master plan. Significant local projects include: Hollywoods, Monmouth Meadows, Greenbriar, Bainbridge Development, Forge Landing, Owings Mills Commerce Center, The Avenue at Whitemarsh, New England Motor Freight Trucking Facility, Cedar Land Farms P.U.D., Westwicke, Beaverbrook, Biddison Property, Bridle Ridge, Green Spring Station, Home Depot of Owings Mills, Bel Air and Timonium, Ashland Market Place, Powell Property, and Baker Property.

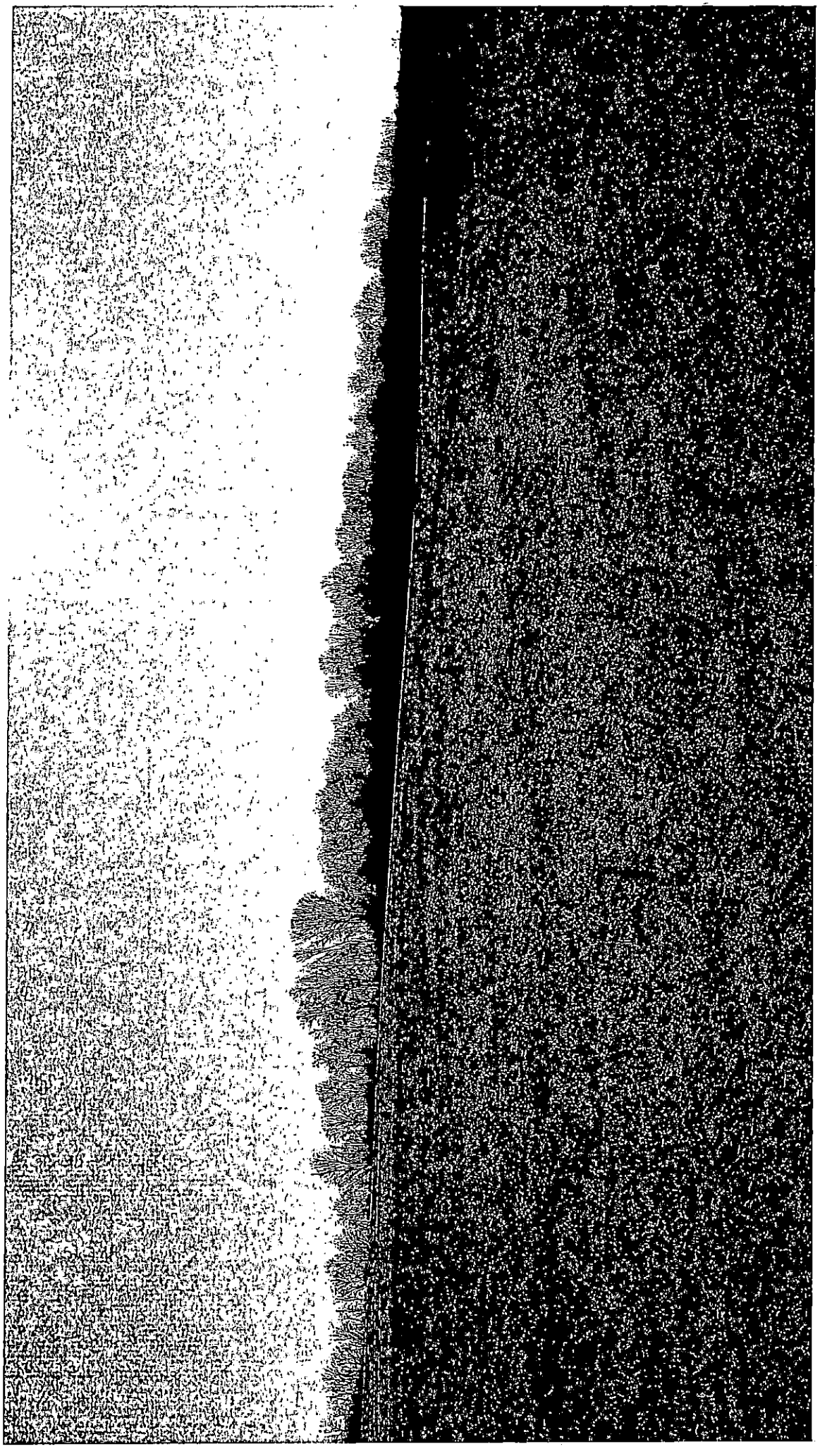
Mr. Martin has prepared numerous comprehensive-zoning petitions in Baltimore County during the 1992, 1996, 2000, 2004 and 2008 CZMP processes and has a thorough understanding of the principles of Euclidean zoning and their application throughout the Baltimore Metro region. He also served on an ad-hoc committee that authored the Service Employment (SE) Zone of Baltimore County and the Public Affairs Committee for NAIOP. He has extensive experience dealing with all of the Baltimore Regional Area County's development regulations.

TELEPHONE: 410.321.8444, TOLL FREE: 866.395.8595
FAX: 410.321.1175

PETITIONER'S EXHIBIT 6







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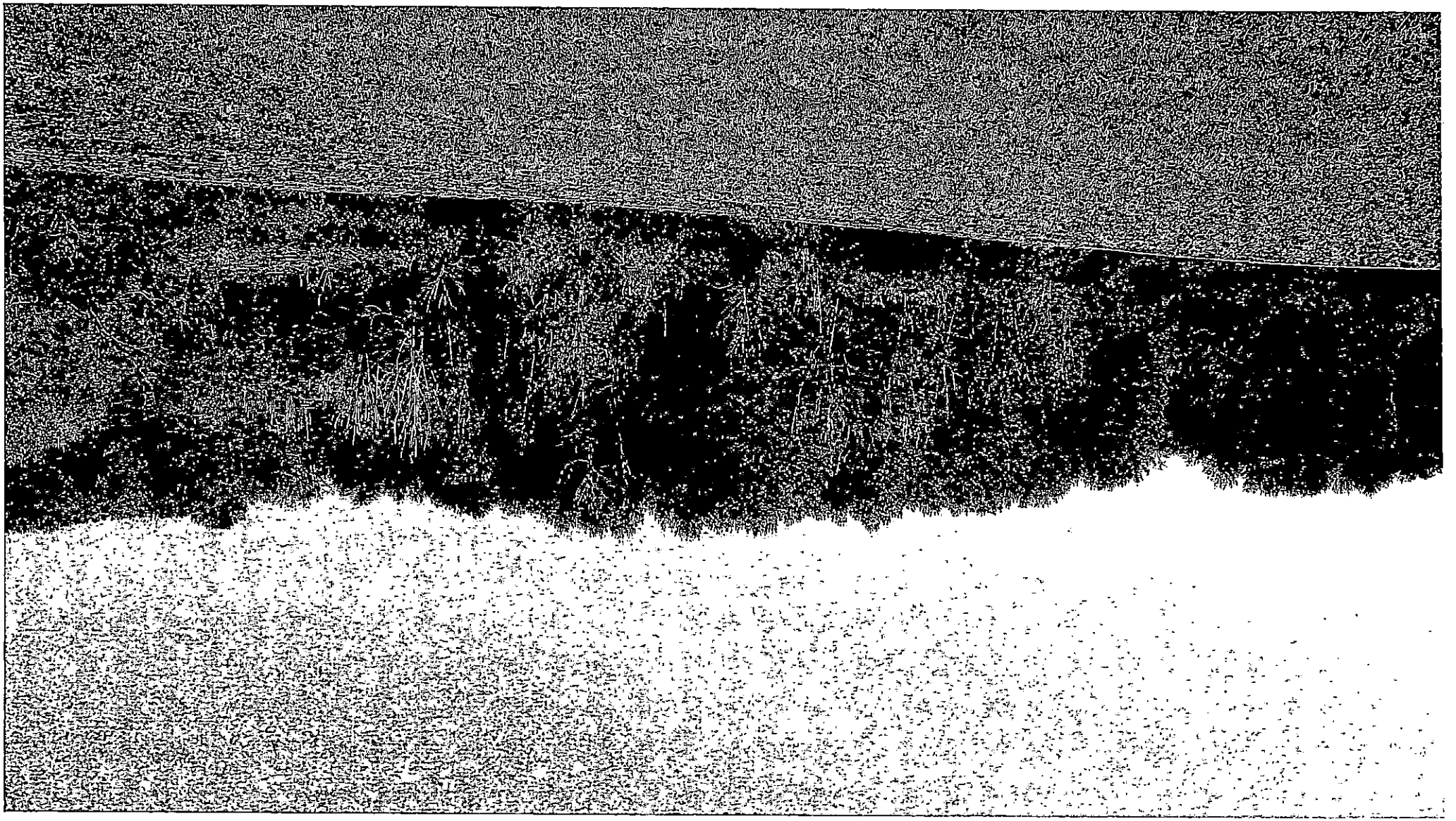

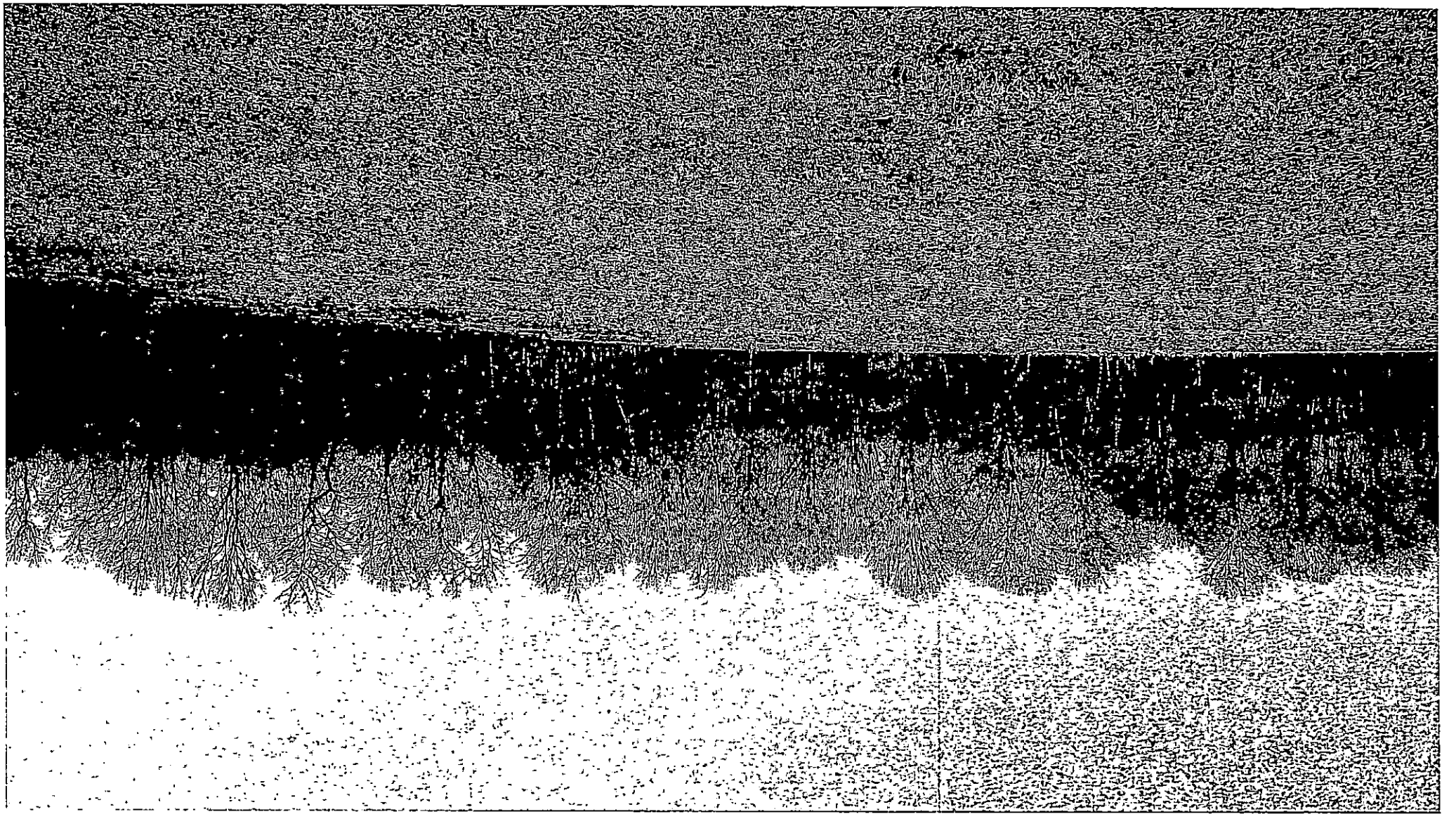

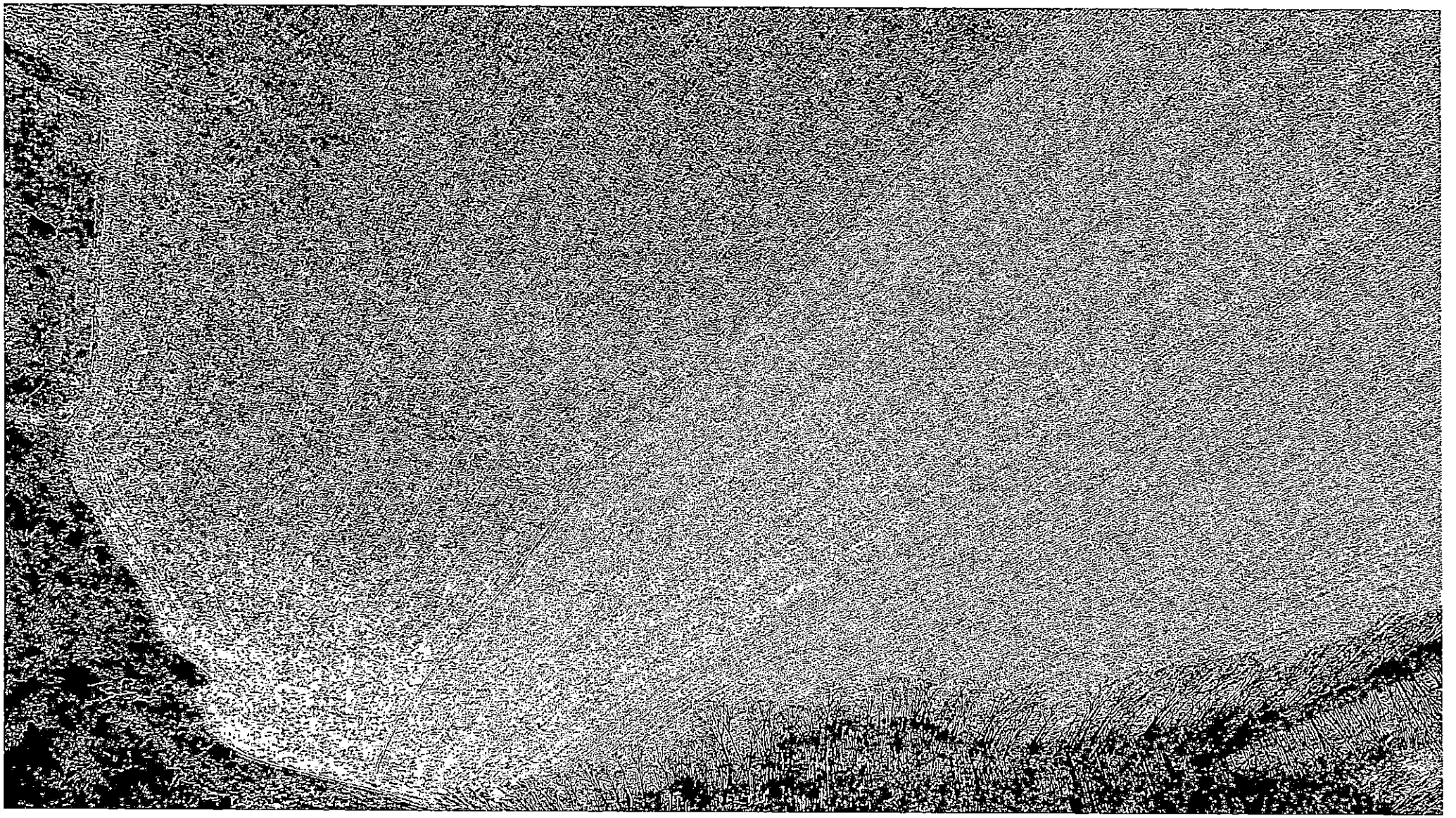

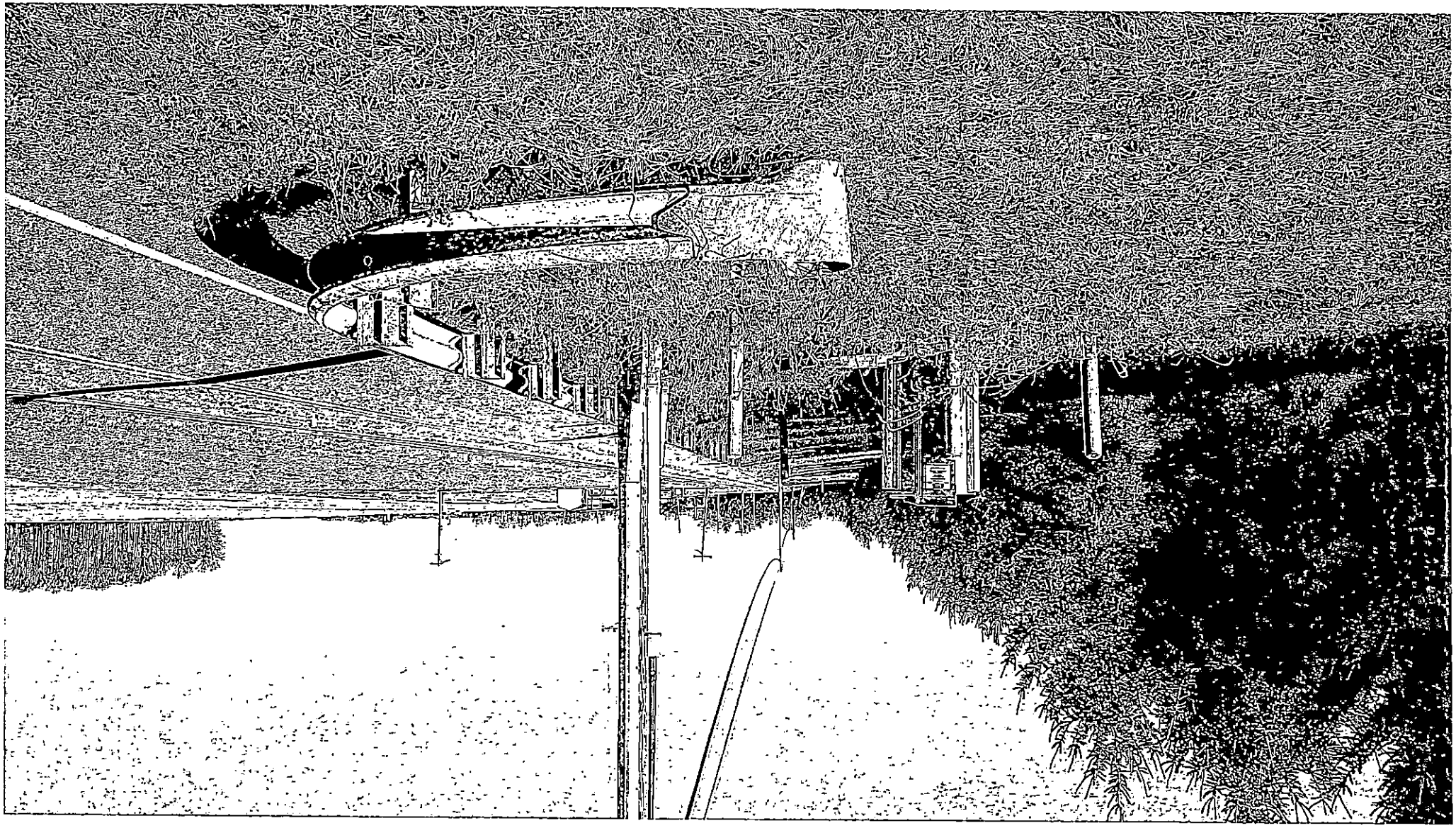

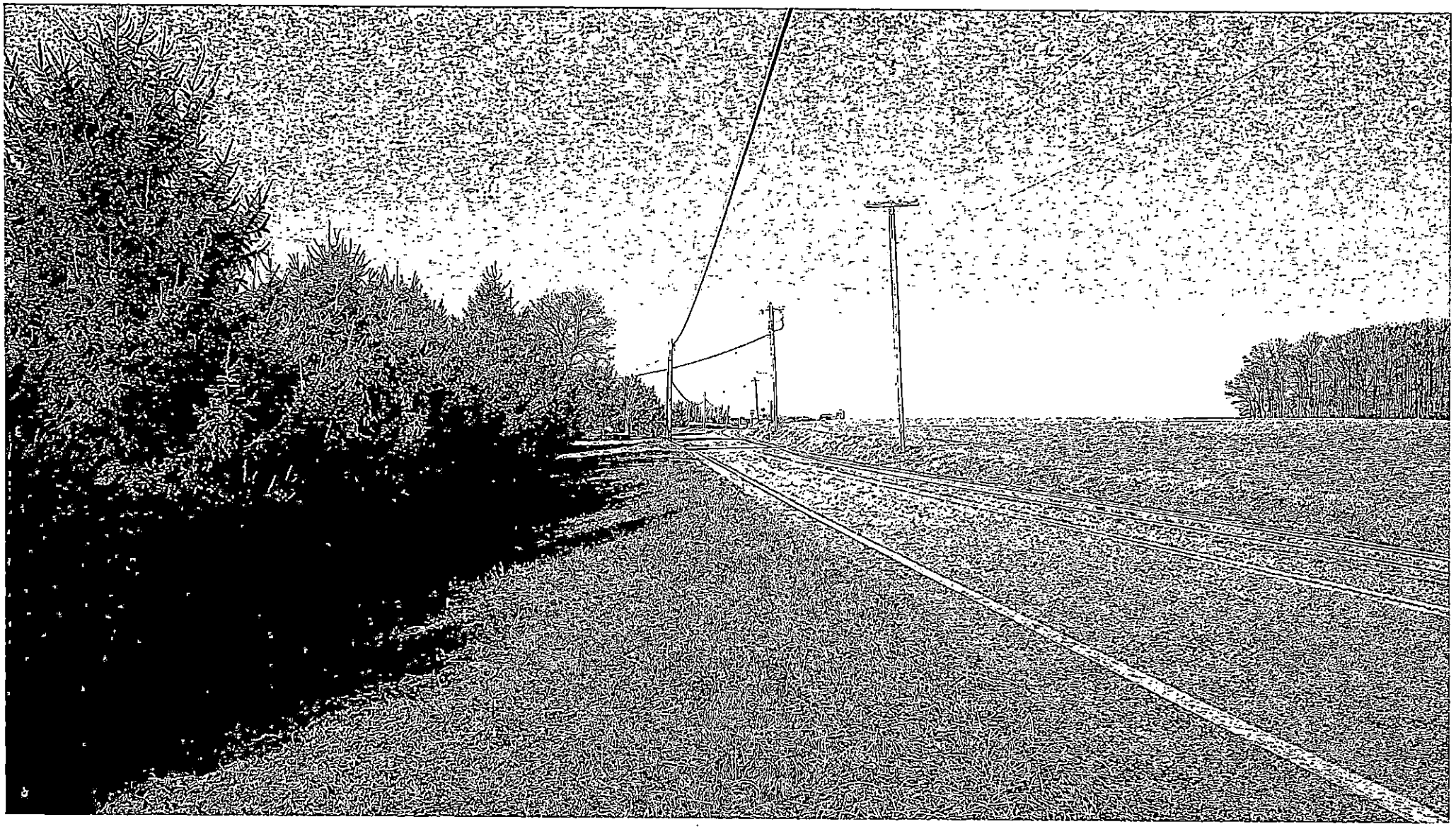

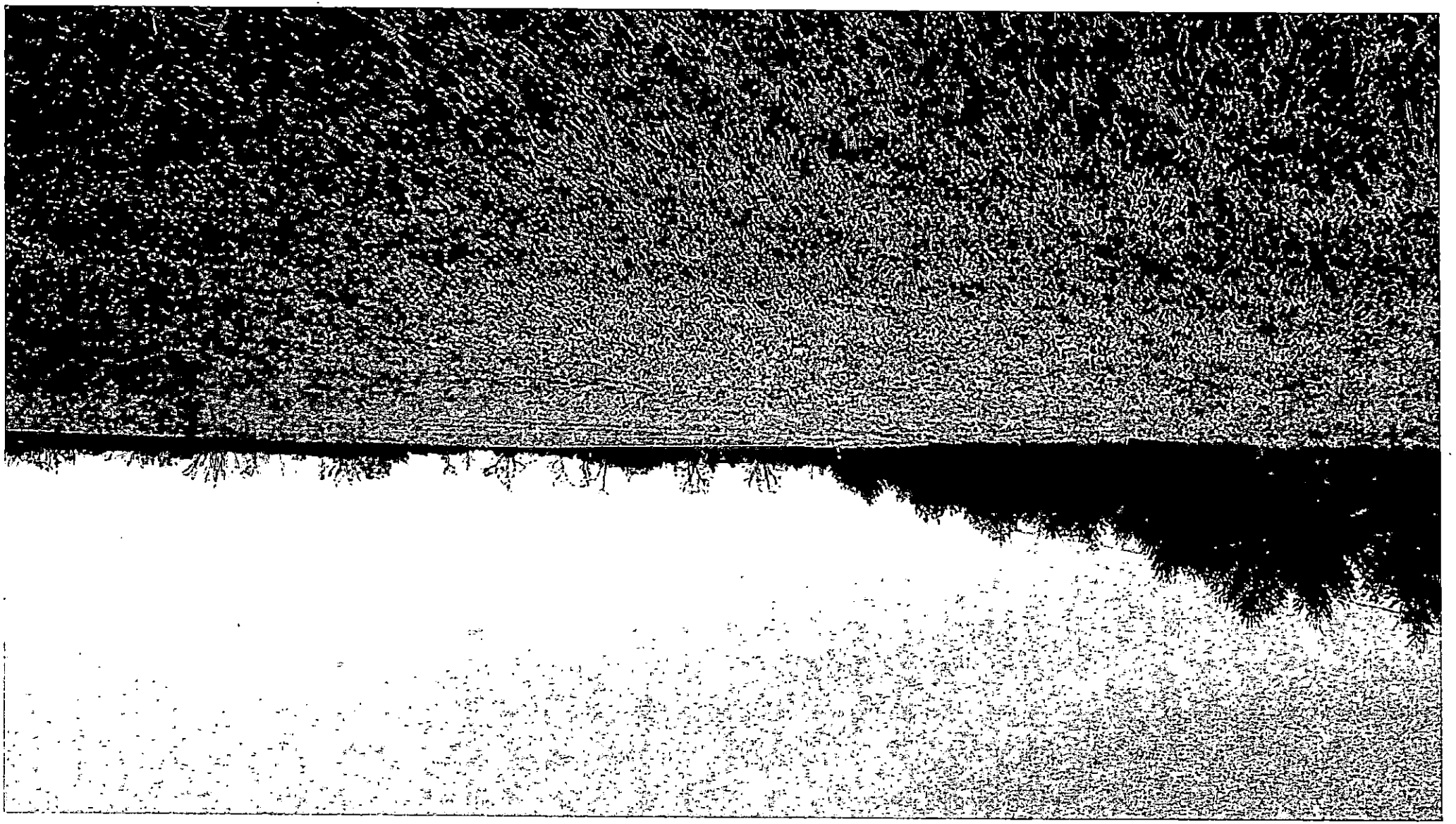

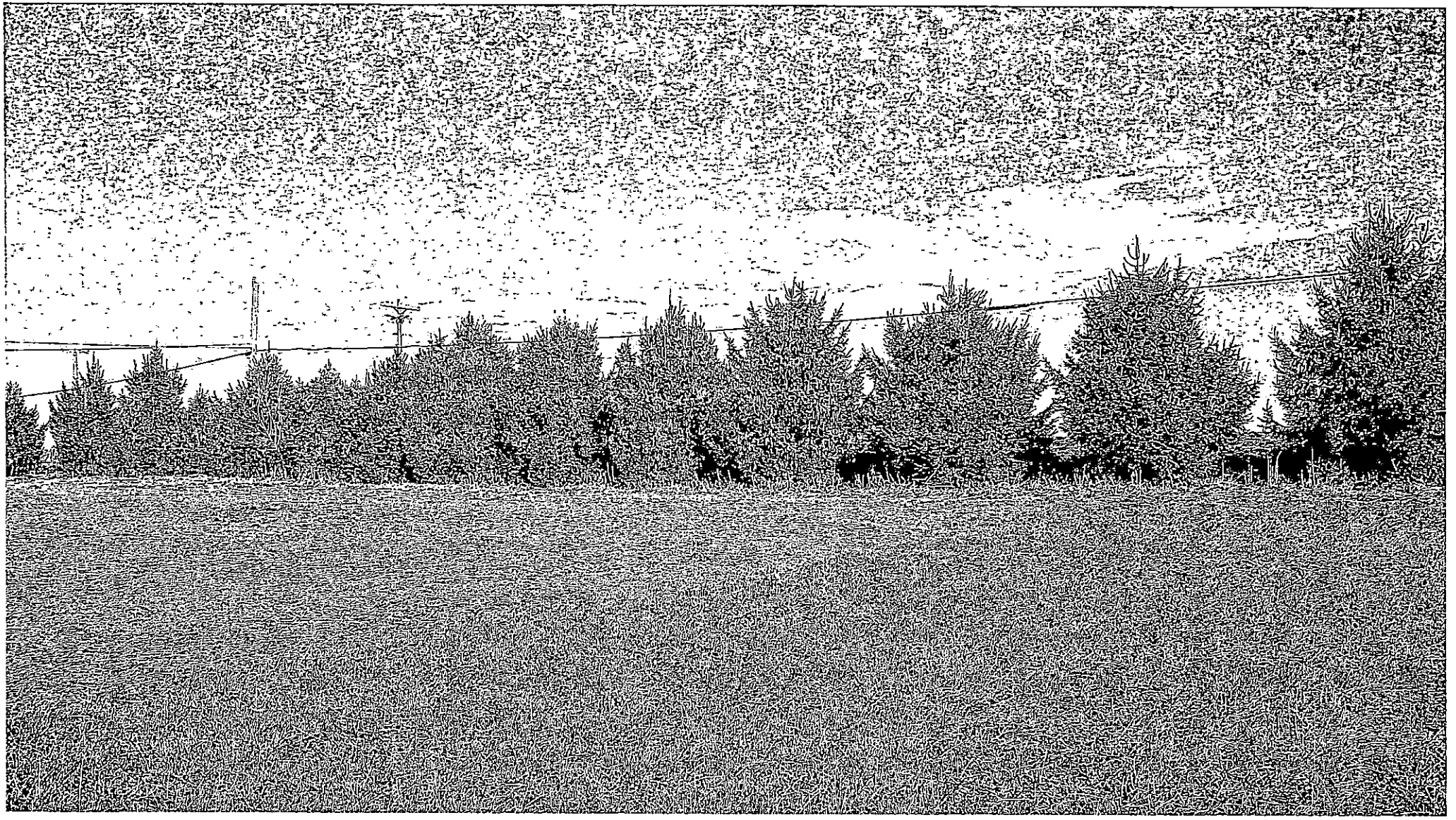

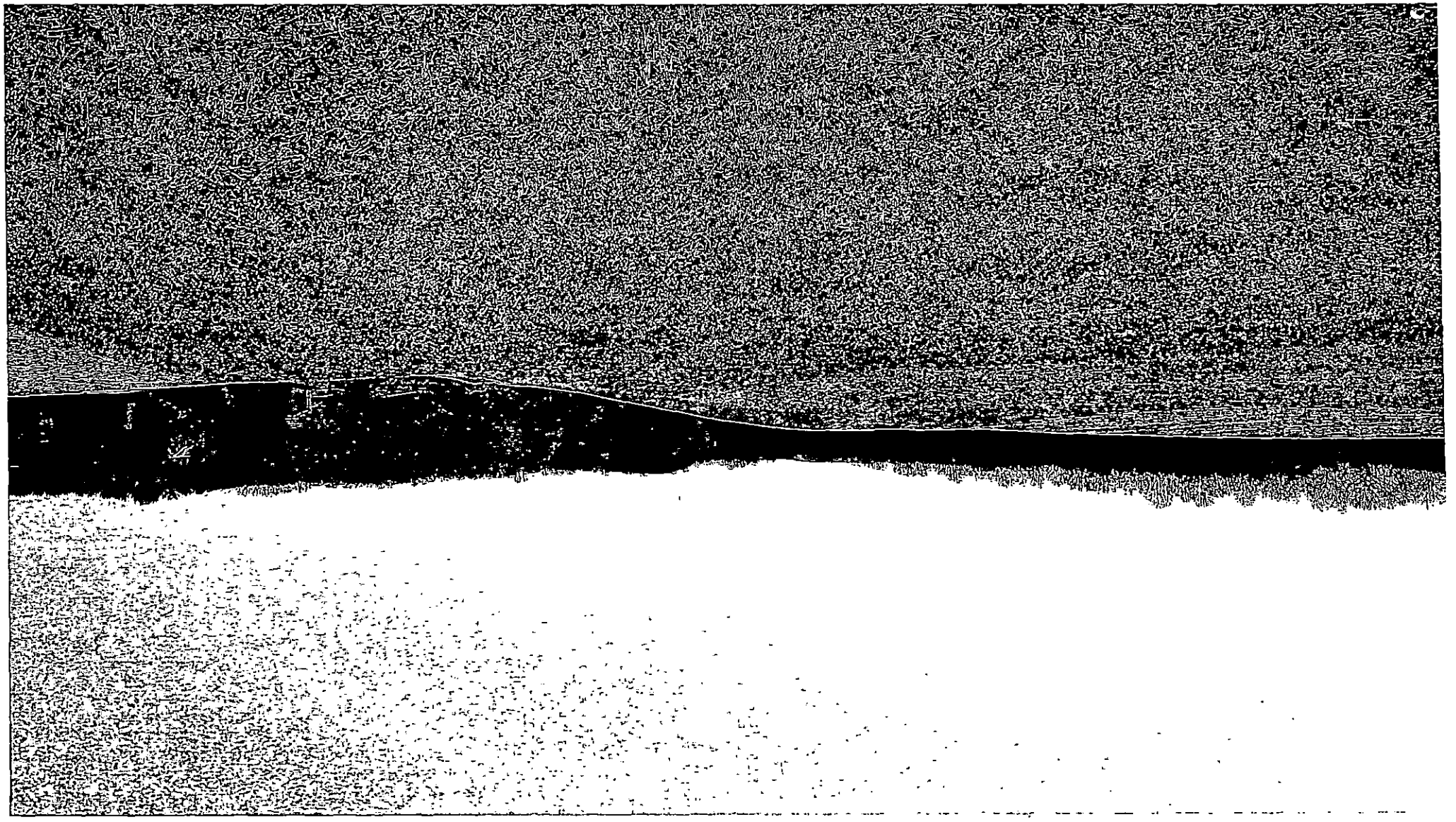

KEVIN KAMENETZ
County Executive

ARNOLD JABLON
Deputy Administrative Officer
Director, Department of Permits, Approvals & Inspections

January 2, 2018

Martin & Phillips Design Associates, Inc
222 Bosley Avenue, Suite B1
Towson, Maryland 21204
Phone: 410-321-8444

Subject: 20450 Middletown Road
Zoning Case # 2017-0108-X
Freeland, Maryland 21053-9621

Dear Mr. Martin:

This is in response to your Schematic Landscape Plan submission date stamped December 20th, 2017, having completed a cursory review of the submitted Schematic Landscape Plan it appears that in general you have addressed both the Department of Planning's as well as my ZAC landscape associated comments and could be approved after a number of general comments have been addressed, provided the Special Exception is granted.

Sincerely,

1/2/18.

James Hermann, RLA.
Landscape Architect, Development Plans Review

cc:

PETITIONER'S EXHIBIT 9

JD 1/9

Case No.: 2017-0108-X 2450 Middletown Rd. 1:30 pm

Exhibit Sheet

SEP 1/22/18

Petitioner/Developer Protestant

No. 1	Site plan	Photos of damaged solar panels; internet printouts re: same
No. 2	zoning description	Photos of vicinity w/ Key Sheet
No. 3	Sloan resume	Map showing distance from property to Prettyboy Reservoir
No. 4	Webber CV	Map showing ponds, streams and springs on property
No. 5	Martin CV	Aerial photo
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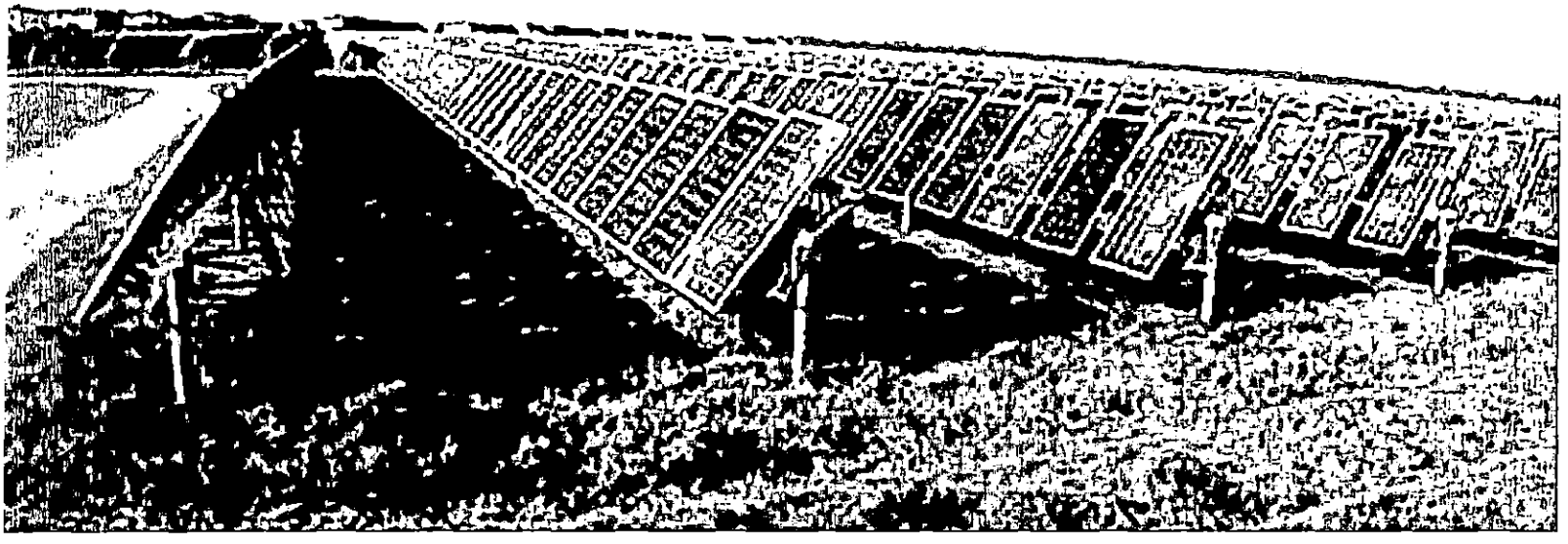
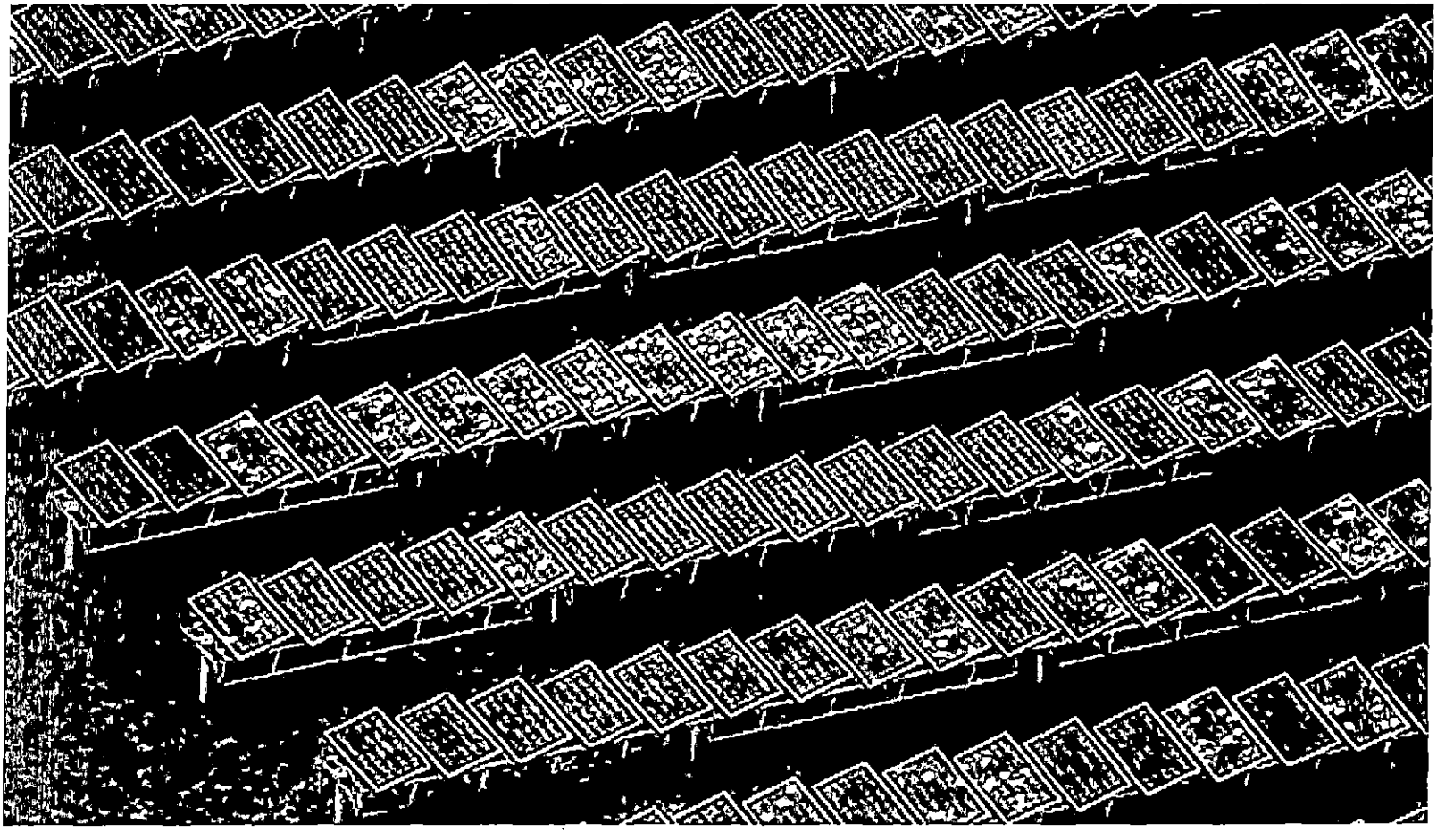
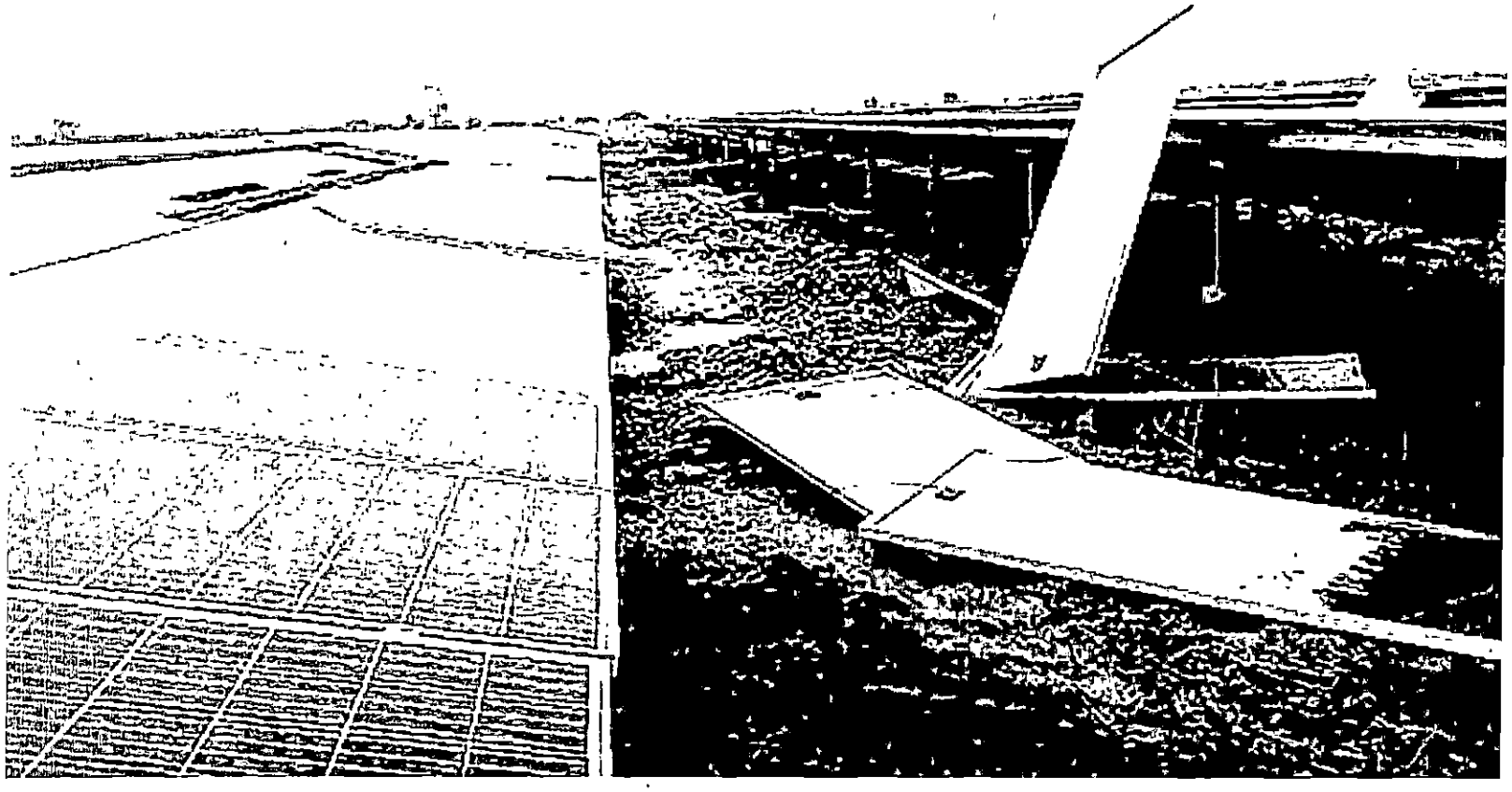
No. 8	Landscape plan	
No. 9	Letter from J. Hermann 1-2-18	
No. 10		
No. 11		
No. 12		

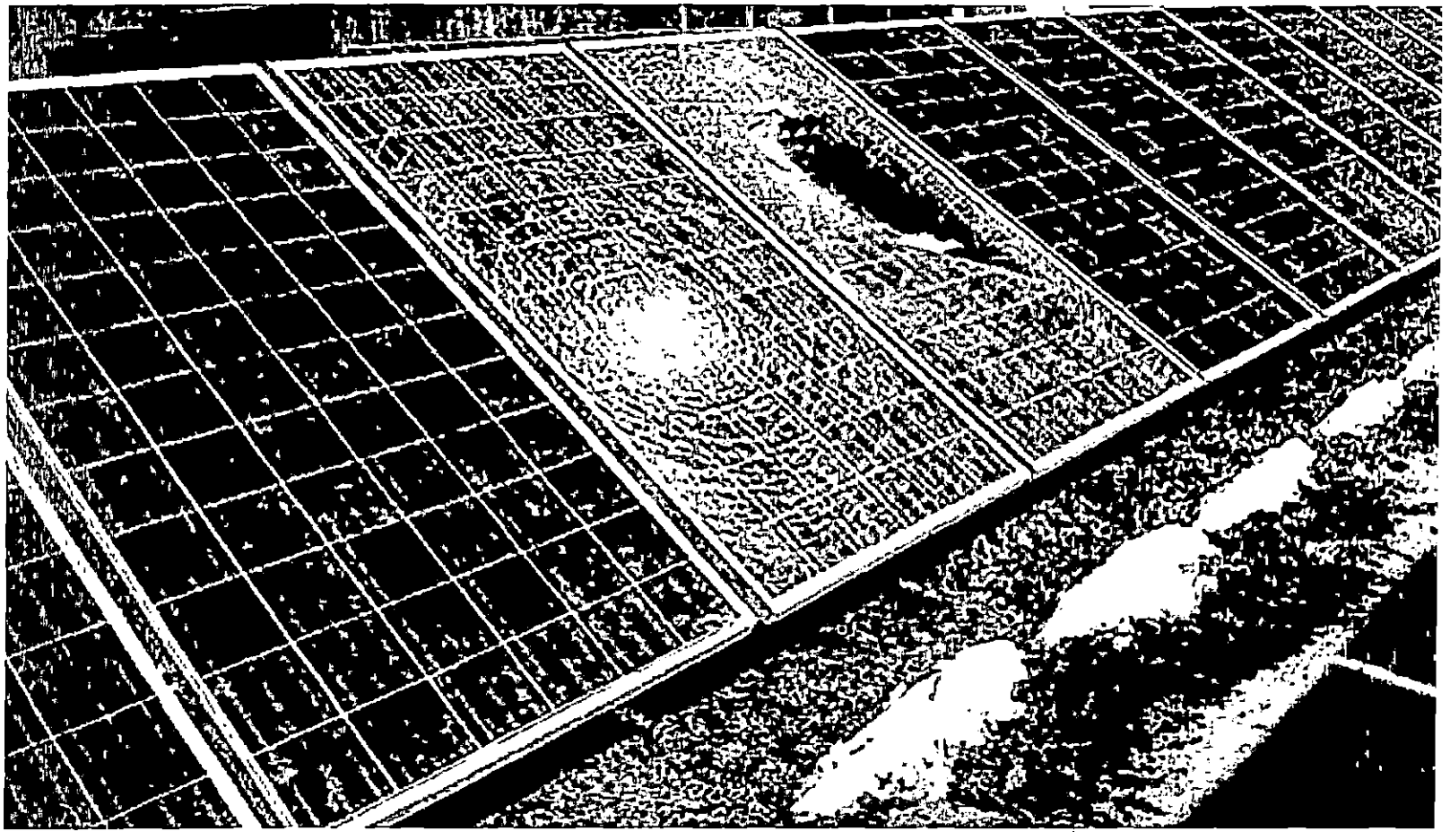
COMMUNITY

EXHIBIT NO. 1









Massive damage at solar 'farm' near Perth

Joanne Schnurr, CTV Ottawa
Published Friday, September 26, 2014 5:43PM EDT
Last Updated Friday, September 26, 2014 6:53PM EDT

Ontario Provincial Police are investigating extensive damage at a solar farm west of Perth. Vandals smashed fifty-five panels at the massive property in Lanark County. The solar project is located on Narrows Lock Road in Tay Valley Township. The panels sit side by side, thousands upon thousands; soaking up the sun on this beautiful fall day and stretching across more than one hundred acres. So it would have taken some time to notice a few dozen of these solar panels had been deliberately smashed.

"I can say they had rocks thrown at them," says Constable David Bird of the Lanark County OPP detachment, "I think that is the knowledge in the area and that is true, I can confirm that."

Police believe sometime around September 7th, one or more people jumped the barbed wire fence, took off to the back of the property and began damaging the panels. The project is large, with between 40 to 50-thousand solar panels. The damage to 55 of those panels amounts to about $50,000.

PHOTOS

North Burgess Solar Project near Perth.

The North Burgess Solar Project, as it is called, started generating solar power this February on property that was formerly a wood lot and farm land. These projects are popping up all over Eastern Ontario, encouraged by the government's subsidies to companies generating green power.

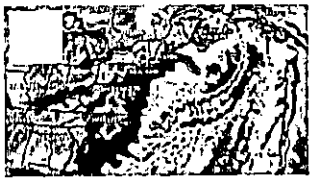
For years, the projects have drawn protests like one near Hawkesbury in 2009.

"We're not against solar energy," said one farmer among many protesting at a farm, "just don't put it on prime farm land."

Northland power who owns the project near Perth responded briefly in an email saying the damage had been done weeks ago and the panels had been replaced. But the OPP says it want to find out who is responsible: whether it was a bunch of kids out to do some damage or a group out to make a political point

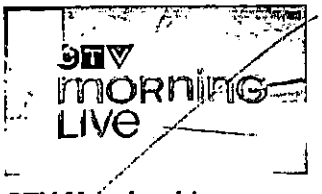
"A crime has been committed and we want to try and solve it," added Cst. Bird.

MOST WATCHED



Ominous winter storm 'Bomb Cyclone'

Worker found 'unresponsive' on job site



CTV Morning Live - Weather Jan 2

DON'T MISS

N.S. triplets born 11 weeks premature celebrate 1st birthday

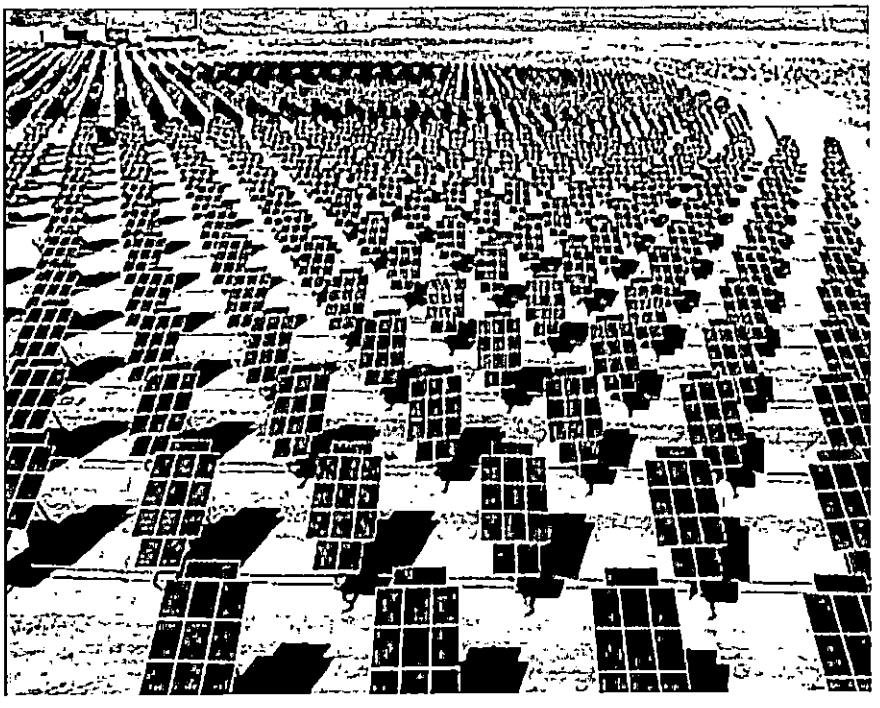
Quick-thinking dad turns laundry room into delivery room

REPLAY: Life of Maple Leaf legend Johnny Bower celebrated

MORE STORIES FROM CTV OTTAWA

15 O&M Issues in Solar Farms

optima
INSURANCE EXPERTS



Perimeter Fence Damage

Damage caused to the perimeter fence can immediately have a negative effect on facility operations. Whether the damage was due to vandals, a storm or even an animal, this is an item that needs immediate attention. Not only can people be injured due to the high voltage produced by the system but the expensive equipment is at risk if intruders enter the area with intent to destroy or steal items. Regular inspection and quick response to this is crucial for all solar farms.

Ground Erosion

A naturally occurring process in nature, soil and ground erosion are caused by water and wind. Expected as a gradual occurrence

and planned for at a certain periodic rate, sudden erosion can have a deleterious effect on a PV plant. Loss of topsoil can lead to reshaping of the ground and the creation of channels, holes and slopes in earth. This could cause racking to shift affecting the ability of panels to generate the energy. It could also lead to flooding and destruction of equipment. Proper and frequent site monitoring will alert asset managers to anything out of the ordinary happening that could put operations at risk.

Transformer Leakage

Routine maintenance that certifies that transformers are in good condition every year helps avoid transformer leakage. A transformer leak can cause land contamination and other safety risks. Knowing if a leak is present and planning for maintenance to repair or replace it can be key in keeping energy generation at a maximum. There several ways to carry out preventive maintenance in transformers. Monitoring transformer oil temperature, pressure and level to prevent a transformer from leaking in the first place is the best way to avoid down time issues. To prevent fatal errors, a parameter range is set and automatic alarms can be issued to check on site before the problem scales.

Various Inverter Damage

Taking the low voltage, high current signals from PV panels and converting into the voltage compatible with the utility grid, inverters are core components of grid-connected systems. Monitoring of inverters is of high importance, since changes to voltage and frequency may occur that affect performance as well as the safety of those in proximity. Inverter damage may lead to the complete failure of the PV plant or

partial string outages as a result of defective inverters. Inverter failures are responsible for roughly 80% of PV system downtime. Clearly a response to any inverter damage must be taken quickly.

Broken Conduit

A broken conduit poses danger of shock as well as chaos on the operating system as charges are uncontained. When the construction of a site is finished and the plant goes into operation, earth movements may happen as the ground stabilizes. These movements can cause broken conduit and other issues with cables. Measuring isolation on cables ensures underground runs are damage free. This is important because broken conduit can cause a cable to break or damage the insulation that can cause a fire and personal hazards.

Combiner Box Damage

With the ability to simplify wiring, combiner boxes combine inputs from multiple strings of solar panels into one output circuit. Normally 4 to 12 strings are connected to a combiner box. If damaged, they pose a safety risk as well as a major decrease in productivity.

Vegetation Overgrowth

Although, majority of the solar projects in India are situated on barren land still vegetation in some cases can transform from a benign nuisance in to a major issue very quickly. In addition to attracting animals that then cause their own brand of destruction, vegetation can shade cells, interfere with wiring and affect structural integrity.

Cell Browning/Discoloring

In addition to providing power, UV radiation will lead to aging in

panel cells, seen as browning and discoloration. This degradation in the film leads to impaired output and productivity.

Panel Shading

When designing a PV plant, it is critical that trees and other obstructions are cleared. PV cell electrical output is very sensitive to shade. If shaded, cells do not add to the power produced by the panel, but they absorb it. A shaded cell has a much greater reverse voltage compared to the forward voltage of an illuminated one, it can absorb the power of many cells in the string and the output will fall drastically. Removal of any trees or structures causing shading will help optimize power output.

Shorted Cell

A shorted cell can impact productivity if not addressed in a timely manner. Production defects in semiconducting material often go undetected before PV cells are put into solar panel assemblies. Identifying these defects through testing via infrared imaging has been used for more than a decade. This efficient, cost-effective test and measurement methods for characterizing a cell's performance and its electronic structure help ensure maximum energy production.

Natural Damage

A hailstorm, sand storm or high velocity winds can wreak havoc on a solar power plant. Damaged panels, or wind torn racking and other equipment can severely decrease output or completely put a system out of commission. Keeping a pulse on the severe weather and inspecting the equipment following a storm is necessary for the overall health of the solar farm.

Vandalism Damage

Vandals pose a major threat to any PV facility. Whether they are stealing or destroying wiring, panels or other equipment, system damage can occur. A solar farm in Uttar Pradesh suffered damages due to vandalism done by some local goons present near the project site. Detecting this damage through the use of solar monitoring equipment minimized outages and losses.

Racking Erosion

Eroding structures can be a nightmare for a PV facility. Once the structural integrity is degraded, risks to proper water and wind flow within the facility are elevated which can gravely impact the functioning of the facility. As racking moves, panels are moved from their optimal positioning and energy generation suffers.

Unclean Panels

Dust, snow, pollen, leaf fragments, and even bird droppings – all can absorb sunlight on the surface of a panel, reducing the light that reaches the cells. Clean surfaces result in increased output performance over the lifespan of the equipment. Routine cleaning should be a part of all O&M plans.

Animal Nuisance

No matter whether an animal burrows under a perimeter fence, jumps over it or goes right through it - animals need to be kept out of a solar farm. Once inside the perimeter, they seem to have a way of finding wires to chew and unknowingly destroy equipment.

Optima Insurance Brokers Pvt. Ltd. is a leading insurance broking company based in Delhi with a pan India presence. We specialize in managing insurance programs for companies in the field of renewable energy.

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Maureen McHale

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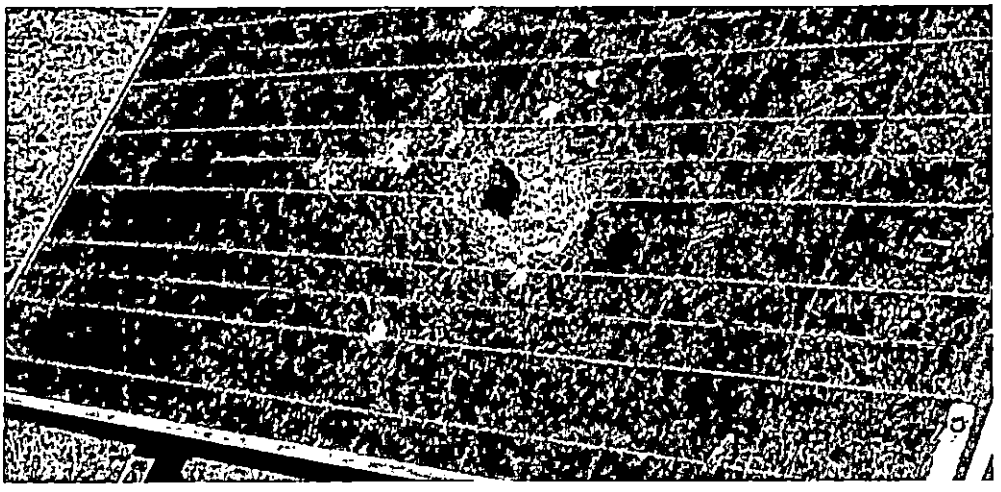


Solar Farm Operations and Maintenance Issues

Published on April 28, 2015

For the operation of commercial and utility scale PV power plants, a critical solar industry sector that needs particular attention is operations and maintenance, usually referred to simply as O&M. The upkeep, performance, and ultimate profitability of a solar installation depend upon the competence and experience of the O&M team.

What Should Be Done

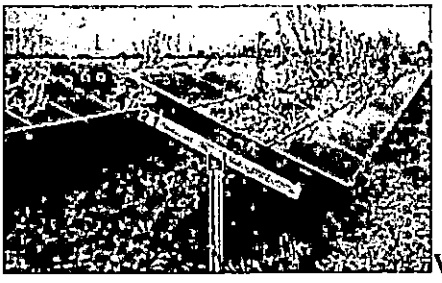
Through a proactive preventative maintenance plan, the O&M team keep tabs on potential issues and are sometimes able to stem off major failures by making smaller repairs keeping a solar installation in good working order.

While it is impossible to prevent all potential failures or damages that can occur on a solar farm, should a solar monitoring system set off an alarm indicating an outage, the response time of the O&M team can impact power generation if failures, damage or other issues are not addressed in a timely manner. As important as a preventative maintenance plan, a well-developed corrective maintenance plan can reduce costly downtime.

Any time a string or entire array is offline or experiencing periods of underperformance due to an O&M issue basically results in energy loss – or to be blunt, money going down the drain.

areas of improvement and correction helps uphold system integrity. Checklists for inspections are used to assure potential issues aren't overlooked including environmental factors, equipment and other general issues. Here are some of the items that are regularly inspected and managed:

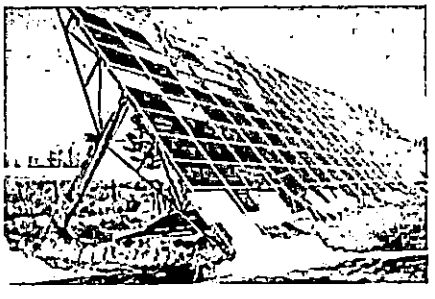
O&M Environmental Inspection



Vegetation Abatement - Vegetation growth under a solar array can range from a slight nuisance to a major issue very quickly. Vegetation can shade cells, interfere with wiring and affect structural integrity. Additionally, wildlife may be attracted to nest, graze or burrow into vegetation causing added potential concerns for system integrity.

Panel Shading - Trees and other obstructions should be cleared during the planning and construction phase of a solar installation; however, not all solar power plant plans are created equally. Therefore, landscape should be accessed regularly and trees that are causing shading should be removed to optimize power output.

PV cell electrical output is very sensitive to shade. Shaded cells absorb power instead of adding to the power produced by a solar panel. A shaded cell has a much greater reverse voltage compared to the forward voltage of an illuminated one, it can absorb the power of many cells in the string and the output will fall drastically.



Natural Damage - A hurricane or hailstorm can destroy the solar panels and equipment on an array. Damaged panels, or wind torn racking and other equipment can severely decrease output or completely take a system offline. Keeping a watchful eye on changing weather conditions and inspecting the equipment following a storm is necessary for the overall health of the solar farm.

optimal positioning and energy generation suffers. Erosion can also lead to flooding and destruction of equipment. Proper and frequent site inspections will alert the O&M team to any erosion that could put operations at risk.

Dirty Panels - Pollen, dust, snow, leaf fragments, and bird droppings can absorb sunlight on the surface of a panel, reducing the light that reaches the cells. Solar panel cleaning helps increase performance over the lifespan of the equipment. Routine cleaning should be a part of all O&M plans.

Animal Abatement - Care should be taken to keep any wildlife out of a solar farm. During an inspection, technicians will look for any signs of animals burrowing under fences, holes in fencing, or even animal droppings on the ground around panels. Once inside the perimeter fence, equipment can be destroyed, wires chewed, holes dug causing racking to shift and countless other destructive behaviors have been recorded as a result of wildlife breaching a solar installation's perimeter.

O&M Equipment Inspection

Shorted Cells - Production defects in semiconducting material often go undetected before PV cells are put into solar panel assemblies. Shorted cells can impact the productivity of a panel if not addressed in a timely fashion. Infrared imaging is used to identify these defects. This type of testing is efficient and cost-effective to test and measure a cell's performance and its electronic structure help ensure maximum energy production.

Cell Browning/Discoloring - Aging panel cells will turn brown and discolor from the UV radiation exposure. This degradation in the film leads to impaired output and productivity. During inspections, cells will be visually inspected on a regular basis.

Defective Trackers - Solar trackers can increase total power produced by about 20-25% for a single axis tracker and about 30% or more for a dual axis tracker. Defective trackers can contribute significantly to lowered performance output and should be serviced as soon as detected.

Transformer Leaks - Preventative maintenance inspections to certify that transformers are in good condition help avoid transformer leakage. Transformer leaks can cause land contamination and other safety risks. There several ways to carry out preventive

Inverter Damage - Inverters are core components of grid-connected solar energy systems converting low voltage, high current signals from PV panels into voltage that is compatible with the utility grid. Regular inspection and monitoring of inverters is very important, since changes to voltage and frequency may occur that affect performance as well as the safety of those in proximity. Eighty percent of PV system downtime, including partial string outages or complete outages, is the result of inverter failures.

Follow

Write an articl

Broken Conduit - Ground movement, vegetation growth, and animal activity can all lead to broken conduit. Regularly measuring isolation on cables ensures underground runs are damage free. This is an important part of any regular preventative maintenance inspection as broken conduits can cause cable breakage or damage, leading to personal and property hazards such as shock and fire.

Combiner Box Damage - With the ability to simplify wiring, combiner boxes combine inputs from multiple strings of solar panels into one output circuit. Normally 4 to 12 strings are connected to a combiner box. If damaged, they pose a safety risk as well as a major decrease in productivity.

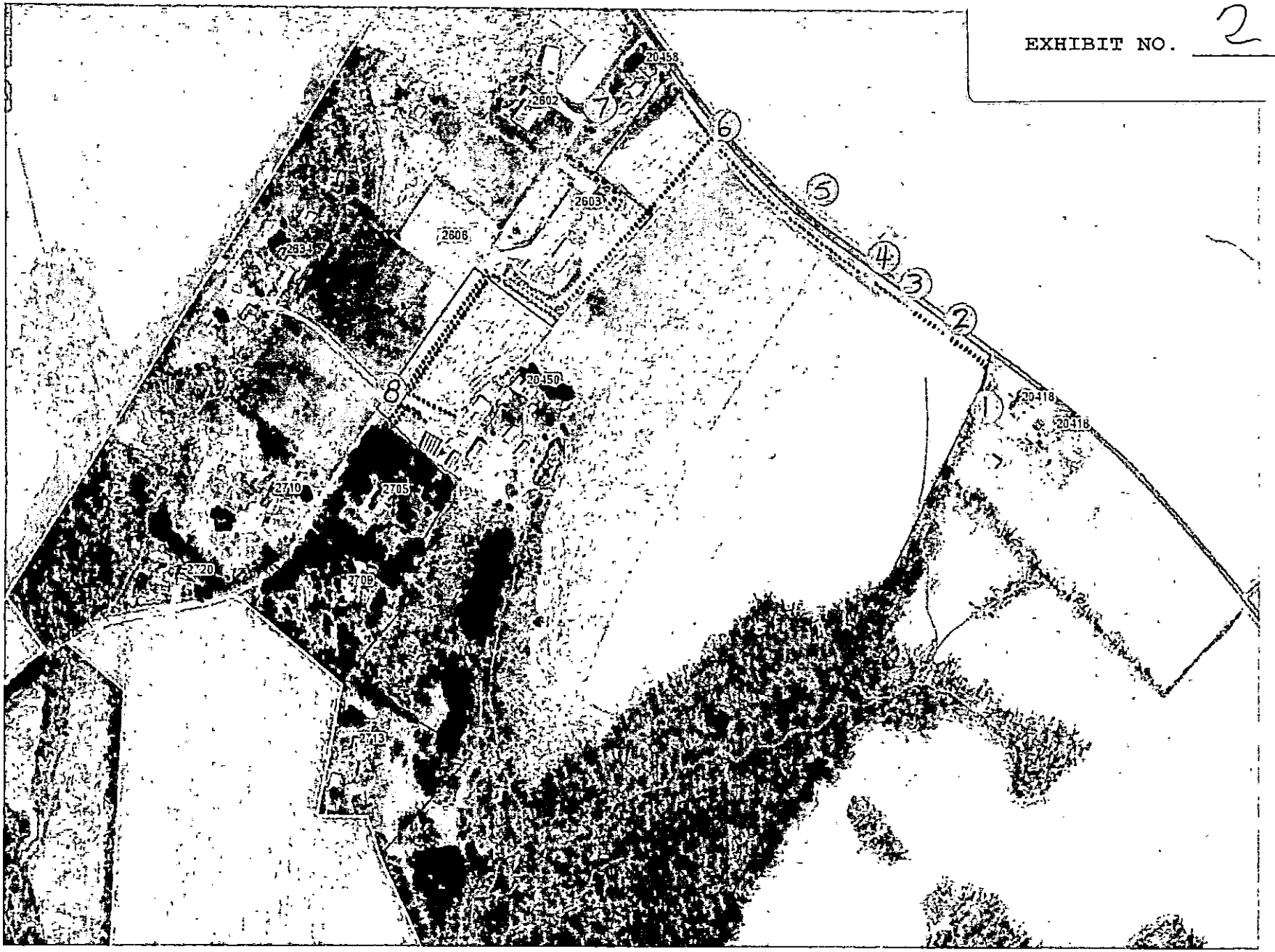
O&M Additional Inspection Items

Vandalism Damage - Vandals pose a major threat to the operation of a solar farm and attending to the business at hand - the generation of energy. Destructive behaviors such as panel and other equipment damage as well as theft can occur. Maintaining perimeter fencing and enlisting security, if vandalism becomes a major issue, is key to maintaining operations.

Perimeter Fence Damage - In addition to deterring vandals from entering a solar installation, perimeter fencing keeps unauthorized personnel and animals away from the solar array and the potential risks of coming in contact with high voltage equipment. Signs of animal activity or other type of perimeter breach during a regular inspection requires quick response for repair to avoid future infringement.

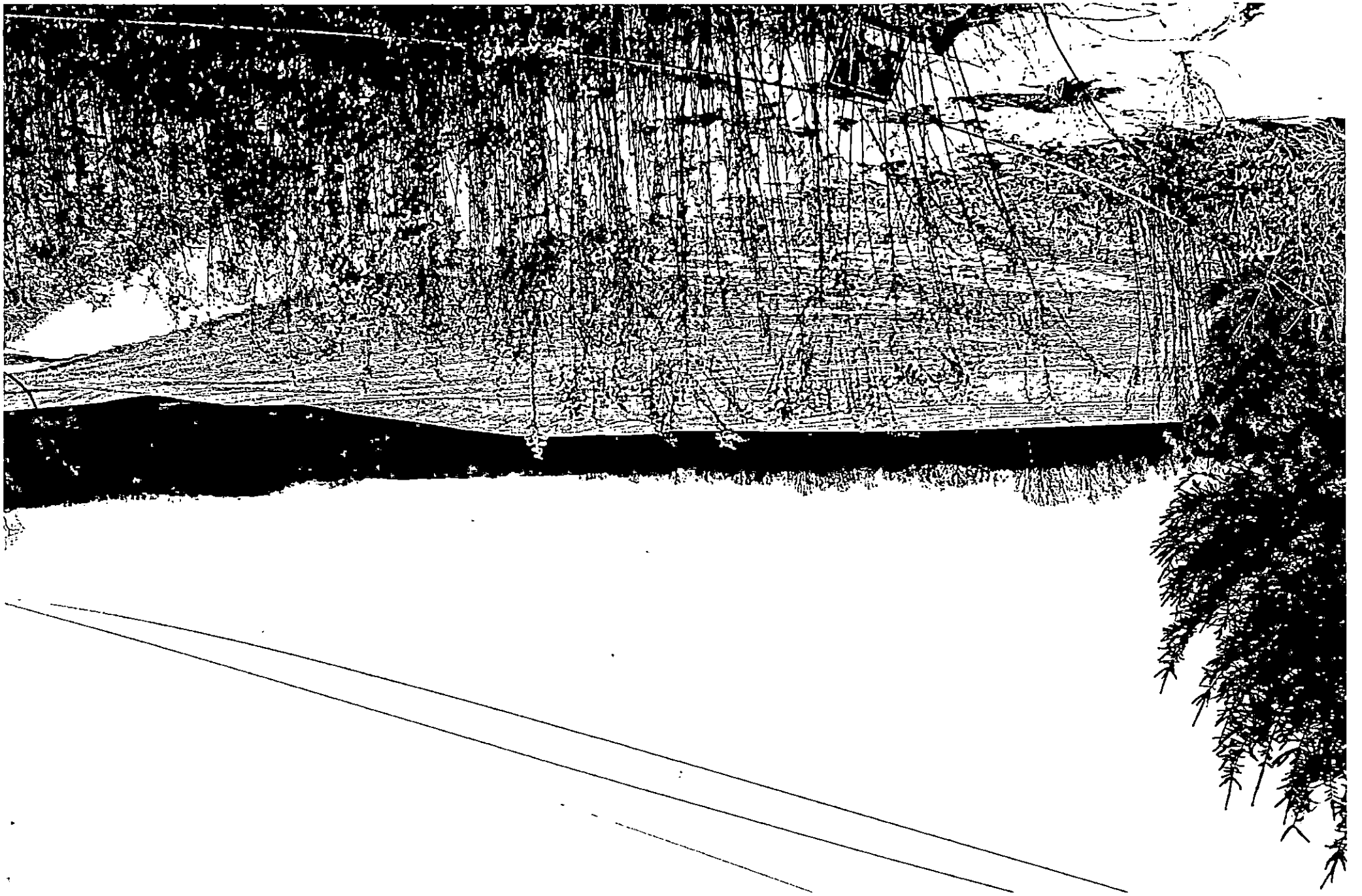
COMMUNITY

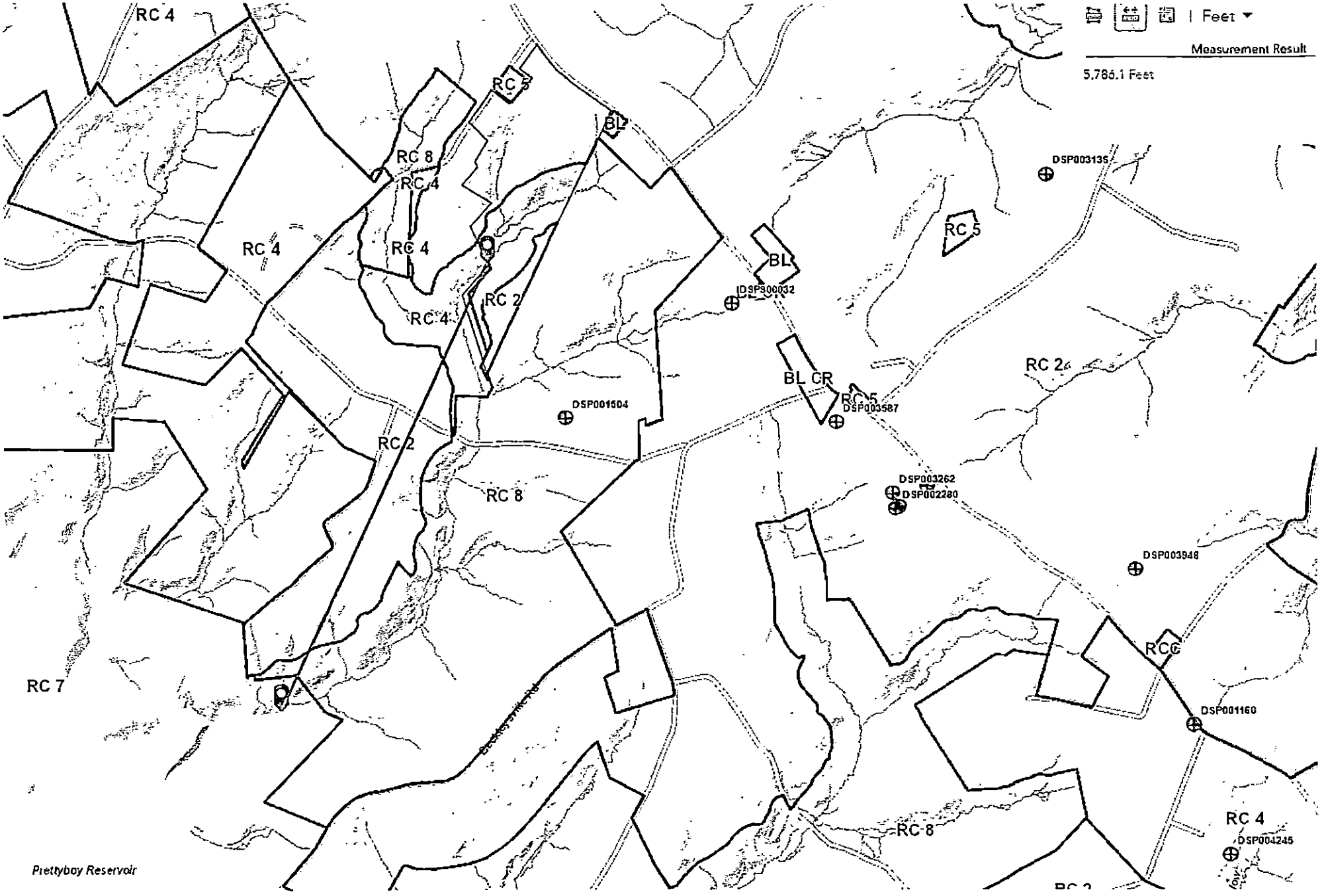
EXHIBIT NO. 2



20450 Middletown Rd property (blue outline). Waterways designated as blue lines. Preserved land easements in green. 'Rural village' in yellow area.

Points where accompanying photos were taken 1/3/2018 by Lynne Jones.



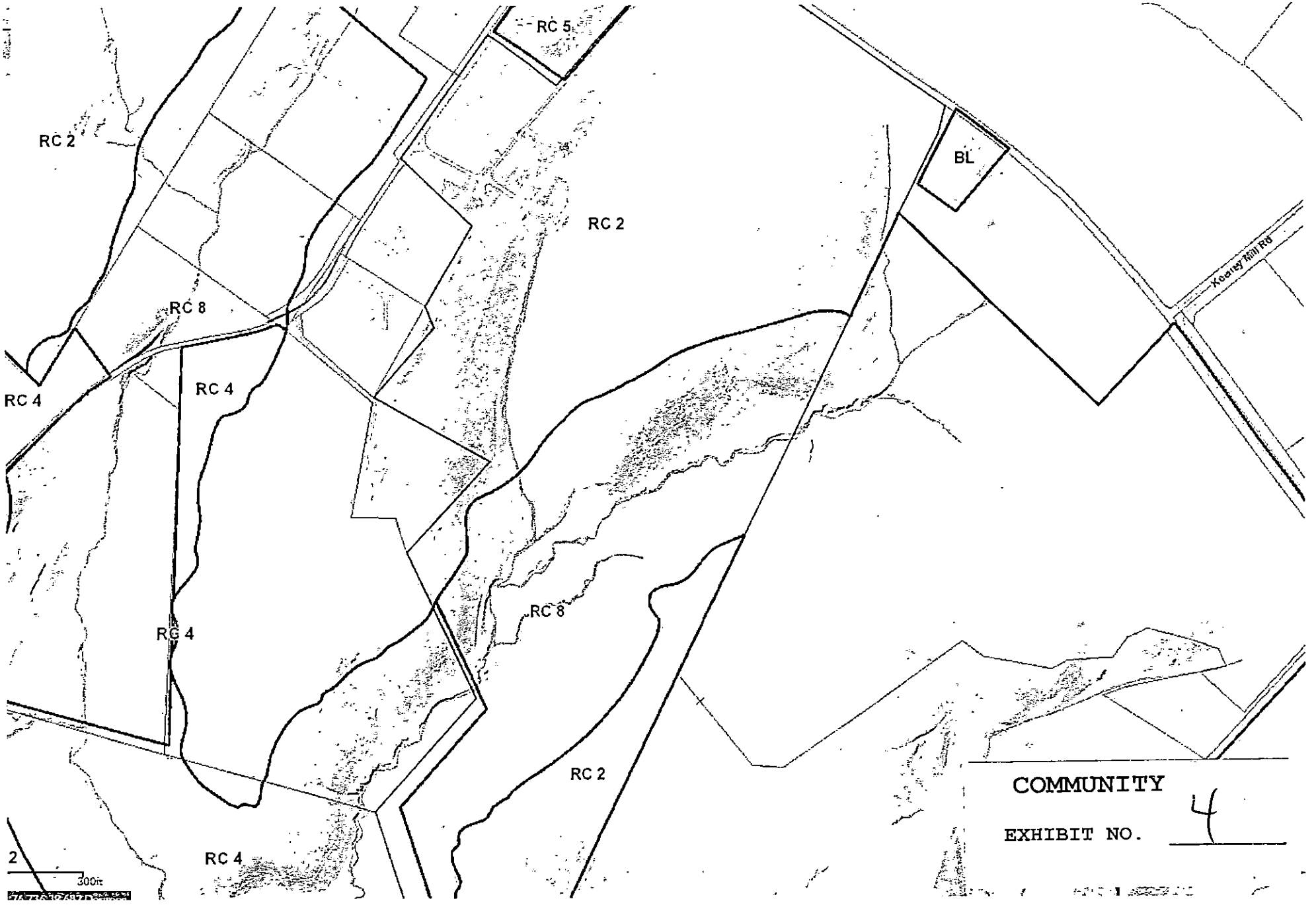


COMMUNITY

EXHIBIT NO. 3

20450 Middletown Road, Freeland
Distance from stream on property to Prettyboy Reservoir: 5,786.1 feet
Map: My Neighborhood

5A



20450 Middletown Rd, Case # 2017-108-X

Note: Pond and streams/springheads on property, which flow into Prettyboy Reservoir. Sites for proposed panels are higher in elevation than waterways. Rain water and snow melt from panels will flow into these streams.

COMMUNITY

EXHIBIT NO. 5

20450 Middletown Road, blue outline. Note farm lands and forests surrounding site area.
roposed panels would cover most of the triangular shape of open land next to Middletown Rd.

Jocelyn Kelley
20458 Middletown Rd
Freeland, MD 21053
January 9, 2018

Administrative Law Judge
Director of Permits, Approvals and Inspections
Baltimore County
Towson, MD 21204

Dear Administrative Law Judge:

I formally object to the request for a Special Exception to the zoning of the property at 20450 Middletown Road. The proposed use of the area for a solar farm array is not desirable as the adjacent property owner. Although I am supportive of solar power as a clean energy alternative, I am not in support of the possible negative effects it will present for my property.

Middletown road is a Baltimore County scenic route. The addition of solar panels reaching 20 feet high would be a detrimental visual impact. In addition to the visual impact, there is the noise. Inverters for larger solar arrays will generate noise. It may be considered a low "hum" but it's still a noise. I would rather hear the sounds of crickets and the occasional motorcycle than a constant hum.

I am concerned about the impact that this solar array will have on my property value. Owning a small home on a one acre lot is unlike most properties in my area. It's hard enough to keep the assessment of my property when compared with the large developments of huge homes. Adding the eye sore of a wall of solar panels to the once beautiful view from my windows is not going to benefit the value of my property.

Please consider this objection before granting the special exception and allowing this solar array to proceed.

Sincerely,

Jocelyn Kelley

Jocelyn Kelley

COMMUNITY
EXHIBIT NO. 6

North County
Community Group

January 5, 2018

The Honorable John E. Beverungen
Administrative Law Judge
The Jefferson Building
105 West Chesapeake Avenue, Suite 103
Towson, MD 21204

Re: Case No. 2017-0108-X
15637 Middletown Road
6th Election District-3rd Councilmatic District
Legal Owner: David William Mathews
Contract Purchaser/Lessee: Bluefin Origination, LLC
Hearing Date: January 9, 2018

Dear Judge Beverungen:

The North County Community Group (NCCG) opposes granting the special exception request referenced above. We believe commercial solar facilities should utilize existing impervious surfaces before using land zoned to protect and foster agriculture. Conversion of farmland to commercial solar facilities adversely impacts Baltimore County's agriculture industry and future land preservation efforts, a legacy we are charged to pass onto future generations.

If a special exception is granted, we respectfully request inclusion of several important requirements that the Administrative Law Judge is authorized to make if *"the special exception will be detrimental to the environment and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains . . . ."*

1) Require high efficiency solar panels be used to minimize loss of farmland. Monocrystalline silicon solar panels are the most energy efficient units available today and produce the most power per square foot. Use of these panels will support the state's commitment to increase the use of renewable energy and minimize the impact on Baltimore County's land use policies and protect our communities, agricultural land, forests, waterways, and other natural resources.

2) Require that the Department of Environmental Protection and Sustainability comment on the above referenced zoning item regarding regulations for the protection of water quality, streams, wetlands and floodplains (sections 33-3-101 through 33-3-120 of the Baltimore County Code) and forest conservation regulations (sections 33-6-101 through 33-6-122 of the Baltimore County Code).

3) Amend bullet point one in the attached memo from Baltimore County Department of Planning, dated 11-28-2017, to prohibit removal of existing trees anywhere on the site in connection with construction or operation of the solar facility. This property lies within an environmentally-sensitive area: the Prettyboy watershed. Prettyboy is the headwater reservoir for Baltimore's drinking water supply. Trees remove or filter pollutants that would otherwise windup in our reservoir and absorb storm water run-off.

4) Require that no weed killers or herbicides be used at the facility to control weed or grass growth. This is consistent with your recent ruling on Case Number: 2018-0047.

Post 7

5) Require that the Baltimore County Fire-Rescue Academy comment on the readiness of our first responders to handle electrical hazards associated with large-scale commercial solar arrays to avoid increased risk during tactical emergency response. For example, in the event of a fire at a commercial solar facility in Emmitsburg, Maryland, first responders are instructed to let it burn until the owner/operator shows up to make it safe.

6) Require that the Baltimore County Office of the Fire Marshal comment on the above referenced zoning item regarding local codes for commercial facilities and the availability of equipment necessary to fight fires within large-scale, ground-mounted solar arrays.

7) Use the future value cost analysis approach when calculating the amount of the financial security required to repair any unsafe or hazardous conditions or to remove the solar facility. Additionally, require the purchase of an irrevocable bond to protect the community and taxpayers in case the LLC initiating the lease is no longer in existence at the end of the lease term.

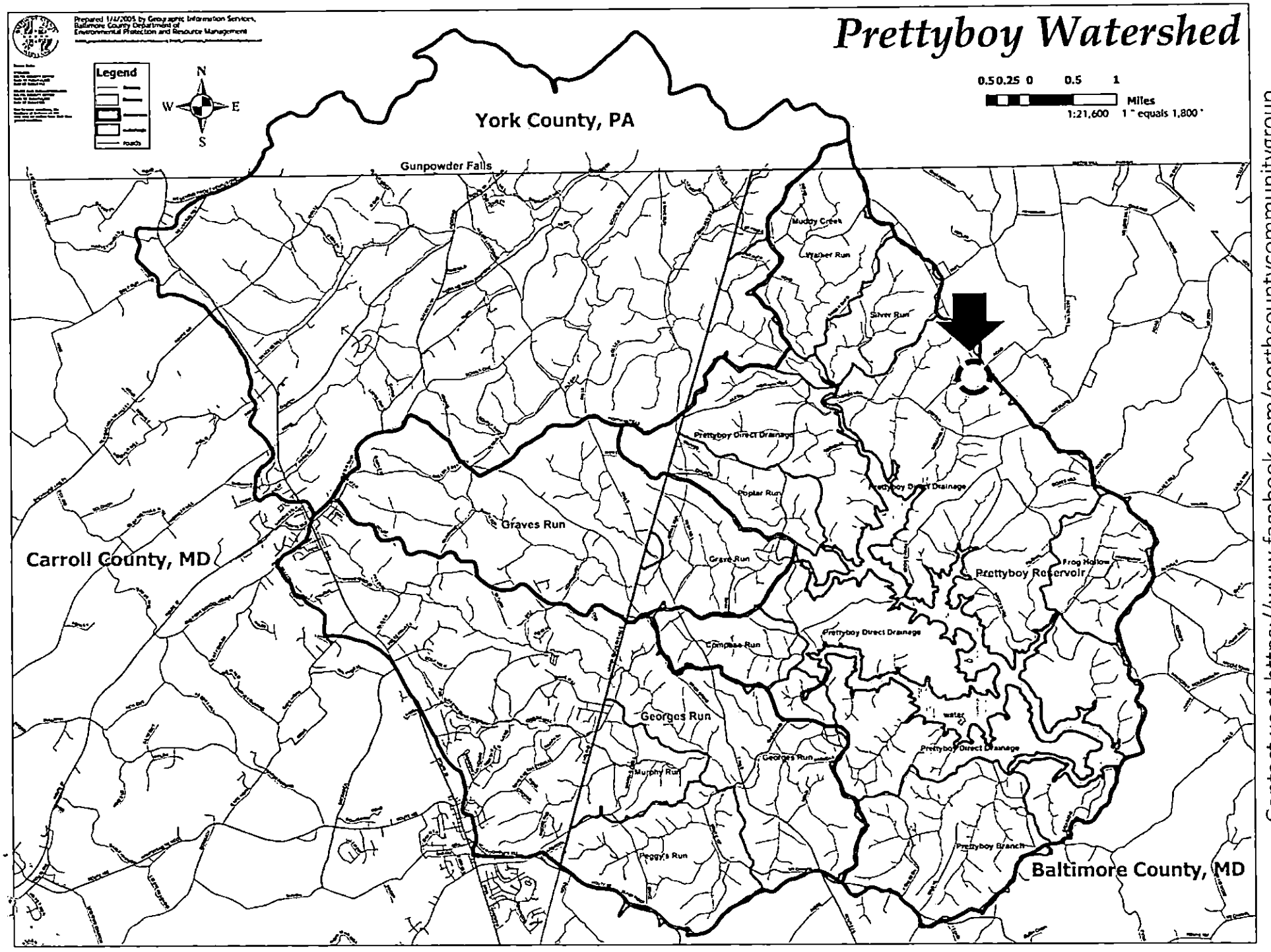
8) Require landscape buffers be maintained for the duration of the entire lease. Heavy salting on Middletown Road represents an ongoing and significant risk to the viability of trees and shrubs in the landscape buffer.

9) Require security fencing be sufficient in height to negate the need for barbed wire and include a top support to cover sharp edges in chain-link to prevent danger to wildlife as illustrated in the attached photos.

Your time and consideration of our community's concerns is greatly appreciated.

Sincerely,

Kathleen A. Pieper, President
North County Community Group, LLC



Contact us at https://www.facebook.com/northcountycommunitygroup

BALTIMORE COUNTY, MARYLAND
INTER-OFFICE MEMORANDUM

DATE: 11/28/2017

TO: Arnold Jablon
Deputy Administrative Officer and
Director of Permits, Approvals and Inspections

FROM: Andrea Van Arsdale
Director, Department of Planning

SUBJECT: ZONING ADVISORY COMMITTEE COMMENTS
Case Number: 17-198 (amended)

INFORMATION:
Property Address: 20450 Middletown Road
Petitioner: David William Matthews
Zoning: RC 2, RC 4, RC 8
Requested Action: Special Exception

The Department of Planning has reviewed the amended petition for a special exception to use the property for a solar facility.

A site visit was conducted on October 26, 2017.

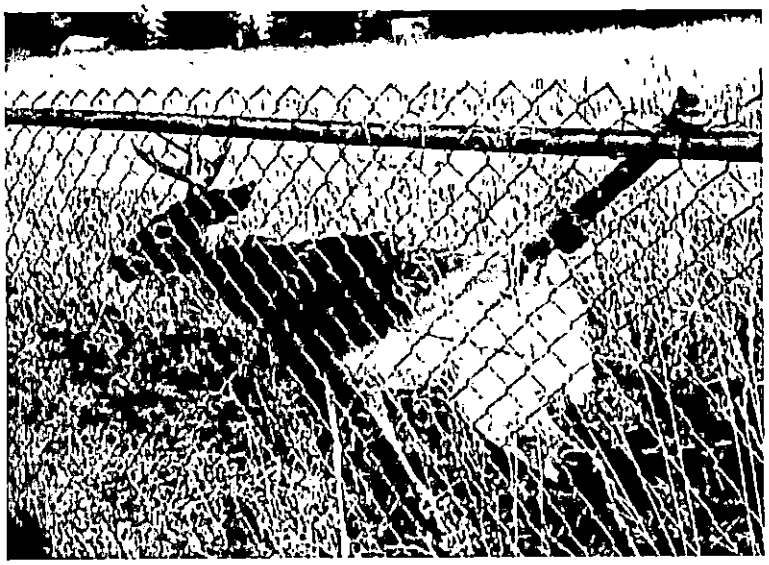
The Department has no objection to granting the petitioned zoning relief conditioned upon the following:

The property is visible from Middletown Road which is a Baltimore County Scenic Route. When developing on a scenic route, the Comprehensive Manual of Development Policies (CMDP) development guidelines instruct one to *"maintain a buffer between the road and the new development"* (CMDP pg. 180).

- The proposal shall minimize grading, tree and vegetation removal along Middletown Rd.
- Any landscape plan submitted to Baltimore County for review and approval shall supplement the existing vegetative screening along Middletown Road. The Department will not support a suburban like, regimented single species planting. The plantings will have a naturalistic arrangement approaching an "enclosed view" as defined in the CMDP with a count and proximity that will not allow an observer from the scenic route to have a sustained view of the solar facility.
- A minimum 30' wide vegetative screen shall be installed along the perimeter of the special exception area adjacent to the properties at 20416, 20450 Middletown Road and 2603 Flintstone Road. Said screening shall be a mix of native deciduous, evergreen and flowering trees with understory shrubs arranged in a natural fashion.
- The Department supports the Baltimore County Landscape Architect in any additional planting requirements.

Additional conditions are as follows:

- Pursuant to BCZR §502.1.A, petitioners shall demonstrate to the satisfaction of the Administrative Law Judge that the facility will not be detrimental to the adjacent residential properties as a result of glare emanating from the facility.



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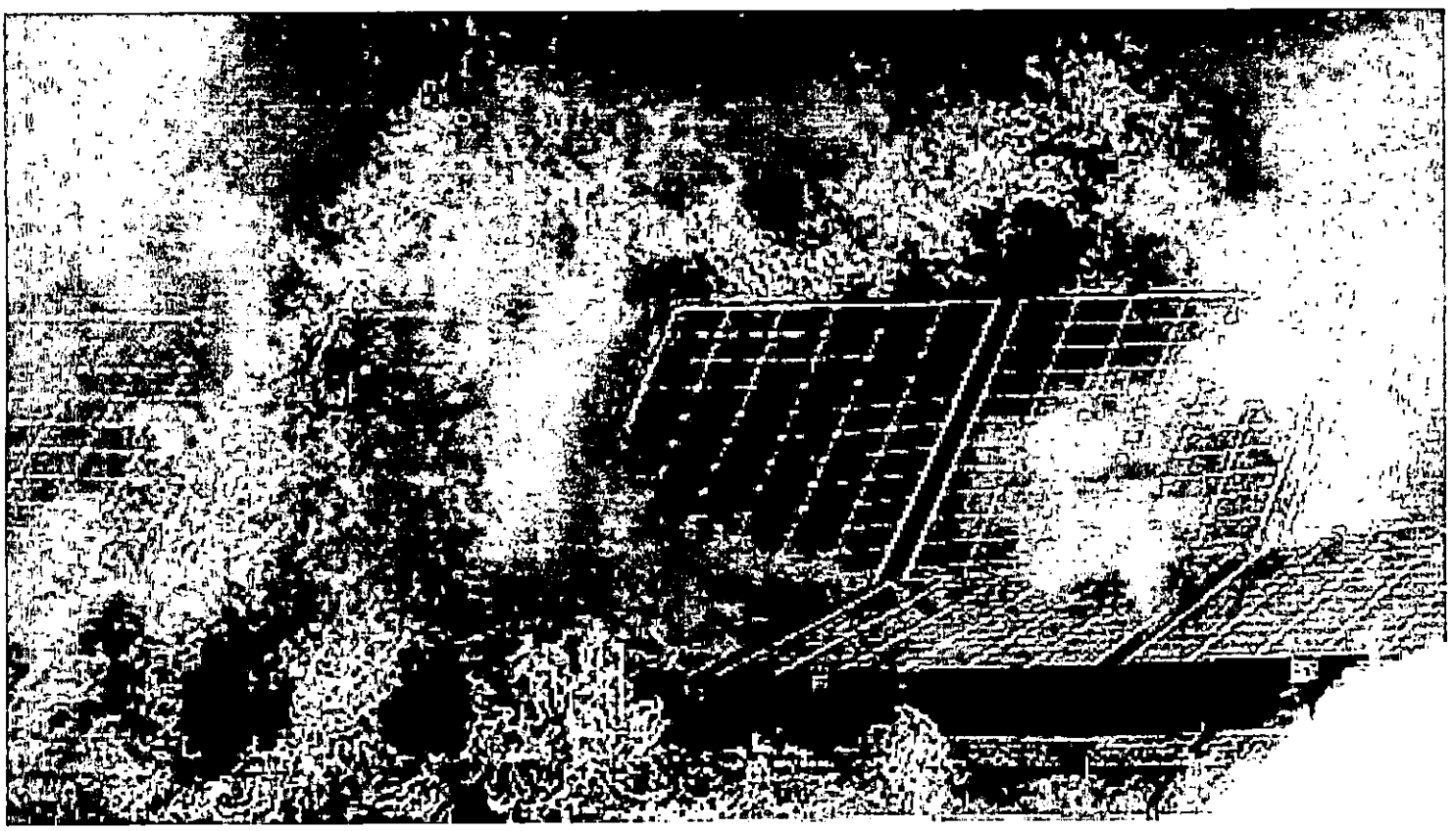

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Board of Appeals

Case No: 17-108x Case Name: David William Matthews

Exhibit List

Party: Protestants Date: 7/12/18

Exhibit No:	10/10/18 Description:
✓ 1	Photo from Dyke Property looking on to subject property
✓ 2	Photo from Dyke Property looking at property (Echlo-Bar in Background)
✓ 3	Photo from Bowden Porch looking at subject property
✓ 4	Statement of Jeane Bowman
✓ 5	Alternate / Slope Percentages
✓ 6	MDE - Stormwater Design Guidance
✓ 7	7/11/14 Letter from Sparks - Glencoe Comm.
✓ 8	Sparks Glencoe / County Rule 8 pgs
✓ 9a-d	My Neighborhood Map / + Key - Photos a-d
✓ 10	32-4-414 - 33-4-415 → 32-4-417
✓ 11	Map - Page from ~~ADC~~ of Scenic Routes
✓ 12	8/1/18 Planning Board Recommendation
✓ 13	Map showing Agricultural Priority ~~Preservation~~ Area
✓ 14	Map of County Wide Agricultural Priority
	VERIFIED BY KC DATE: 10/26/18

KC 10/17/18

Board of Appeals

Case No: 17-108x Case Name: Matthews

Exhibit List

Party: Protestant Date: 10/25/18

Exhibit No:	Description:
✓15	Proposed Solar Array Fields
✓16	My Neighborhood / Waterways / Flood Plain
✓17	My Neighborhood / Streams / Grades / Flood Plain
✓18	Merlin / Maryland's E. Resource Map / T.E.A.'s
✓19	Amend Pet to Zoning / 11/29 2Accounts / Master Plan p 92
✓20	Photos / of Animals + Fencing
✓21	ALJ - Opin + Order
✓22	Development Review Com. ID only
~~25~~	~~- Photo of Simms Road Solar Farm ID only~~
✓23	North County Comm Group.
✓24	Farmland Classification Maps
✓25	Property Line Outline with Soil Classification
✓26	20450 Middletown Road - Farmland Classification
✓27	" " with Blank out Special Exception Area
	VERIFIED BY KC DATE: 10/26/18

Board of Appeals

Case No: 17-108X Case Name: Matthews

Exhibit List

Party: Protestant Date: 10/25/18

Exhibit No:	Description:
✓28	Special Exception Area/ showing tillable acreage
✓29	Prime Soil Percentage on 20450 Middletown Rd
✓30	Balto. County- Solar Projects- Acres
✓31	Bill 37-2017
✓32	Targeted Eco. Areas (TEAs)
✓33	T.E.A- Protected + Unprotected / P.O.S statewide
✓34	Conservation Benefits Assessment
✓35	Potential Alternate Com. Solar Sites
✓36	Photos- From Ms. Kozak- Py/cor 207 Kotter Creek
37	
	VERIFIED BY _____ DATE: _____

10/26/18 KC

Protestant
CBA Exhibit
1
10/16/18
17-101V

17-108 x Prot 10/10/18
Protestant
CBA Exhibit
2

17408 X - Prot. 10/16/18
Protestant
CBA Exhibit
3

20450 Middletown Road, Freeland, Maryland - Proposed Commercial Solar Farm
Middletown Road is posted as part of the Md. Scenic Hwy system.

This property, with farmhouse, includes **the original log cabin** as south side of basement with fireplace. Also, 4 good quality outbuildings and large two level barn w/stalls was purchased by my parents Rose & Woodrow Dykes in 1970. This farm was active, having very productive and positive soil for farming hay, wheat, soybeans and also two large gardens of produce as tomatoes, corn and green beans, and potatoes. My parents, Woodrow passed in 1991 and Rose in 2003. Property sold to Bill Matthews in 2005, ***but no one has ever lived on property to my knowledge as of May 2018***. It appears that Mr. Matthew only used the out buildings for a discard/dump for dishwashers, stoves and refrigerator from other buildings or rentals, numbering in the hundreds of pieces. Warren S. Dykes, my brother and I tried to take care of this wonderful property. We would cut the grass of a large area running along farm service road that connected Flintstone Road and Middletown Road, as an "L". The doors to the outbuildings were many times left swinging in the breeze after a delivery of **discarded appliances**, we would go on property and close and relock the doors, trying to save the buildings. I spoke to Mr. Bill many times, about concerns. In the third year, when Bill Matthews moved **six large commercial type box trailers** onto the property and proceeded to fill them with more discarded appliances & junk, we realized we could not save this beautiful farm, or a barn made from American Chestnut wood and was over a hundred years old. When I spoke with Bill about this situation, he said he would paint the (6) trailers green, so I could not see them!
As of this date the **green commercial trailers** are still setting on this property.

I question what may be inside them ?? A total disregard for this wonderful and productive farm is very sad to me, since I was an active member of many projects as canning and packaging vegetables for the freezer, mowing, and other farm chores that supported our lives well, from 1970 to 2004.

The actions of the past and possibly present owners, of the Matthews family, in my opinion, may continue to deteriorate a productive working farm by turning it into a Commercial Solar Farm by any name. To my knowledge no one lives there now? At least one the out buildings, that housed two tractors has totally collapsed. Many boards from the sides of the barn have been torn away by the wind, since the doors have been left open, which are is very sad for me to see.

Elevation of the original farm is approx. **800** ft at the corner of Middletown Road and Flintstone. This elevation drops quickly over many tillable acres, to the farm pond area at approx **730** ft., a 70 ft drop.

All water continues to flow toward **Prettyboy Water-Shed and Reservoir**, which has a crest overflow height of **520** feet and is within a 2- mile distance south of this
opinion, the same amount of water running directly off large and many solar p
cut and erode good workable farmland adding a real run-off of soil to the rese

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When the actual ***disturbed land*** is measured only by the 4" pole in the ground that the solar panel is mounted on, verse many acres of crops in the fields, I would suggest this project be researched more, because of the erosion of farmland.

A very active natural flow spring at the base of proposed Commercial Solar Farm on this farm would be in jeopardy. As stated before, large amounts of water from the north side of Middletown Rd. and Flintstone would be traveling over open land and solar panels, instead of farm crops. The springhouse, approx. 740 ft. elevation and a block from Middletown Road equates to a drop of 60 ft. in elevation. Storm water from the fields on the north side of Middletown Road, and not part of our farm, because of elevation now flows over the acreage of farm fields of this farm (Dykesfields) adding even more possible erosion, and also large amounts of water also run down (south) Flintstone Road to where the water turns and continues to run down (east) the back driveway/service road of this farm to the Dykes stream that feeds into Prettyboy Reservoir.

This stream has been certified by the Geological Society of Wash D.C. and is officially named Dykes Creek, as my parents requested. Water from this spring was and can be measured as being able to fill a five-gallon bucket to the brim in just six seconds. 6 seconds x 5 gallons = equals one minute and a least 50 gallons a minute of cold very good water. This stream has many native Brown Trout and other native fish, small turtles and crayfish with Cattails filtering the water and providing nesting material for wildlife. Many types of birds stop past for a drink, bath or to nest in the area, while depending on this water source to stay clean and safe from chemicals.

This property at 20450 Middletown Road is part of a large **Forest Conservation project** of approx. 40 acres of woods and streams where Dykes Creek meets other springs and streams and then Prettyboy Watershed. My Mother secured this project before she passed in 2003, with the help of Pat Farr of Baltimore County Planning. .

The farm pond, just south of spring was originally put in by my father and brother as to assist in a **community call from Baltimore County Fire Dept. in the rural areas, if needed.** This pond now seems to need the concrete cylinders of wall put back in place after many years of lack of maintenance and junk weeds removed to bring it back to original goal. This also presents another question. If this property is fenced in as part of the Commercial Solar Farm, the pond will not be accessible, even to Fire Dept! How can this pond support a possible community need, if Fire Dept would NOT have access to the fenced in service road and area, and would otherwise plan to watch the solar area burnout.

Two homes at 2707 and 2709 Flintstone are dependent on this Aquifer/spring-water for the wells and it has never went dry since farm was purchased in 1970. They also have known about the pond project that has not been maintained, which also puts the 40 acres of conservation-wooded land in jeopardy.

The Dykes' deeded a parcel of land approx. 1/8 area to AT& T to set up a junction box and upgrade telephone service to the Freeland area in the 70's. This deeded land from our farm property faces Middletown Road and adjoins property of Eklo Restaurant facing Middletown Road. The Commercial Solar panels would distract from their scenic view as they have outside casual parties, that overlook these fields.

(3)

Two Companies Blue Fin, LLC and Cypress Creek , LLC. presented the request for this solar plant. It is **a plant, not farm** since there will be a 3 prong power pole from system to **BGE**, with cable going under Middletown Road. Their representive stated before in court, there would be a ***light humming noise*** with this solar panel set-up day and night, 24 hours ?? What decibel? Could people at the Eklo Restaurant hear this noise? From my brother's and his neighbors on Flintstone Road, could they possibly hear this 24 hour HUM/noise?

Solar panels planned for this project are known as **Polycrystalline** not the better crystal used in Monocrystalline. Seven - ten years life expectances, and their continued deterioration. Then who is responsible for them? Cypress Creek is a LLC company, can they just walk away, or what liabiliry? See definition below from Webster.

Today, farm still seems to be in the name of Bill Matthews ??? Bill's brother Dennis Matthews and his son David seem to be current owner, did one or both inherit this farm? Who pays the taxes on RC2 land. Is it still RC2, after the panels are installed? Who will be paid lease money for the next twenty five years or more? Are they responsible for panels?

Notes typed by L Jeanne (Dykes) Bowman for Historical interest.
Draft copy 3 7/02/2018

June 2018 Deterioration | Definition of Deterioration by Merriam-Webster
www.merriam-webster.com/dictionary/deterioration
deterioration, degeneration, decadence, decline mean the falling from a higher to a lower level in quality, character, or vitality. deterioration implies generally the impairment of value or usefulness.

AREA 1

770'

736'

34' ELEVATION DIFFERENCE

DISTANCE

390'

$390' \overline{)34.000}$ → .087

100

X .087

8.7% SLOPE

AREA 2

764'

726'

38' ELEVATION DIFFERANCE

DISTANCE

290'

$290' \overline{)38.000}$ → .131

100

X .131

13.1% SLOPE

AREA 3

756'

706'

50' ELEVATION DIFFERANCE

DISTANCE

290'

$290' \overline{)50.00}$ → .17

100

X .17

17% SLOPE

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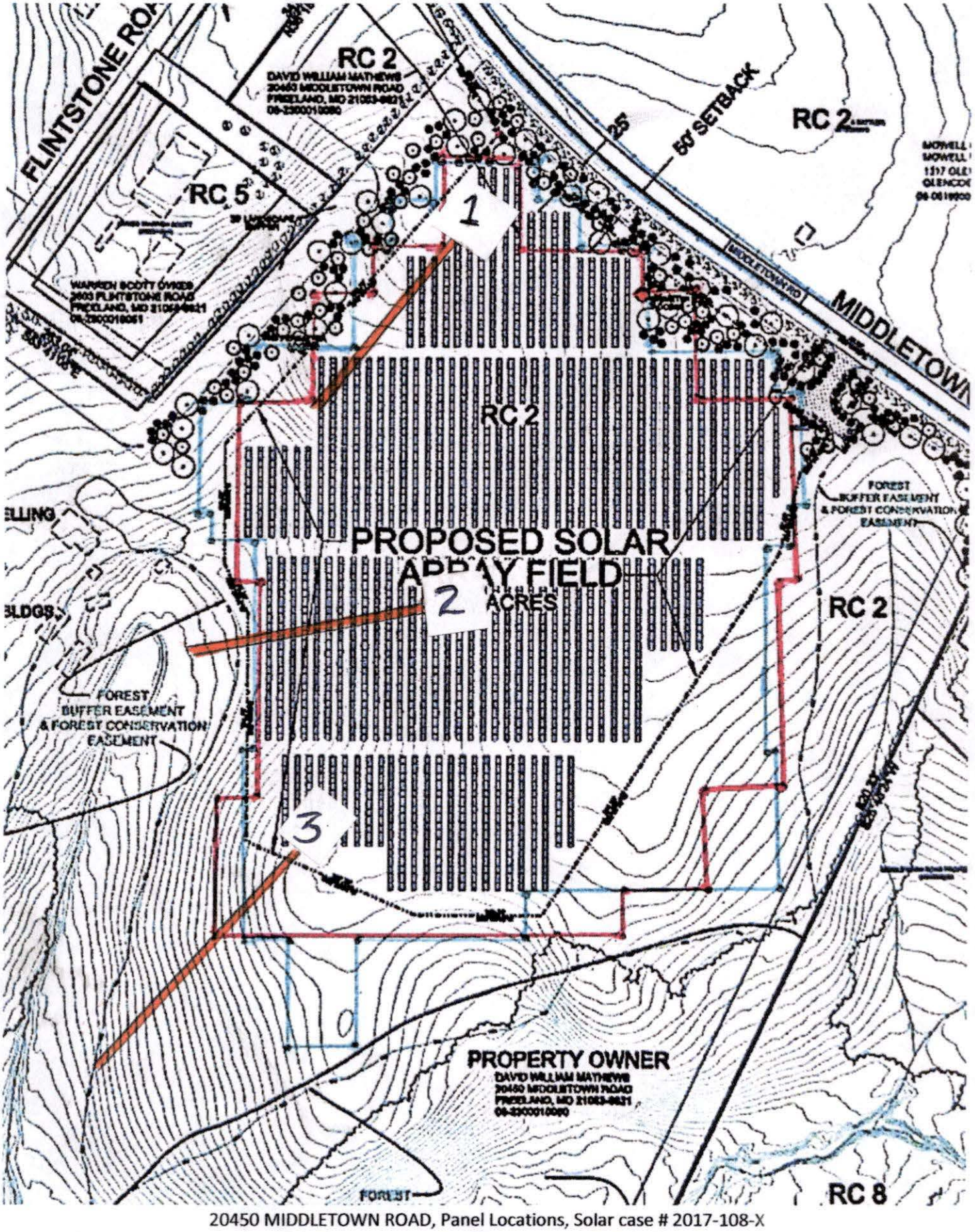

20450 MIDDLETOWN ROAD, Panel Locations, Solar case # 2017-108-X

Plan 1: Blue outline (dated 6 or 8/28/2017)

Plan 2: Background plan (dated 1/31/2018)

Plan 3: Red outline (dated 7/2/2018)

MDE **Maryland Department of the Environment**

Stormwater Design Guidance – Solar Panel Installations

Revisions to Maryland's stormwater management regulations in 2010 require that environmental site design (ESD) be used to the maximum extent practicable (MEP) to mimic natural hydrology, reduce runoff to reflect forested wooded conditions, and minimize the impact of land development on water resources. This applies to any residential, commercial, industrial, or institutional development where more than 5,000 square feet of land area is disturbed. Consequently, stormwater management must be addressed even when permeable features like solar panel installations exceed 5,000 square feet of land disturbance.

Depending on local soil conditions and proposed imperviousness, the amount of rainfall that stormwater requirements are based on varies from 1.0 to 2.6 inches. However, addressing stormwater management does not mean that structural or micro-scale practices must be constructed to capture and treat large volumes of runoff. Using nonstructural techniques like disconnecting impervious cover reduces runoff by promoting overland filtering and infiltration. Commonly used with smaller or narrower impervious areas like driveways or open roads, the Disconnection of Non-Rooftop Runoff technique (see pp. 5.61 to 5.65 of the **2000 Maryland Stormwater Design Manual**[1]) is a low cost alternative for treating runoff in situations like rows of solar panels.

When non-rooftop disconnection is used to treat runoff, the following factors should be considered:

- The vegetated area receiving runoff must be equal to or greater in length than the disconnected surface (e.g., width of the row of solar panels)
- Runoff must sheet flow onto and across vegetated areas to maintain the disconnection
- Disconnections should be located on gradual slopes (≤ 5%) to maintain sheetflow. Level spreaders, terraces, or berms may be used to maintain sheetflow conditions if the average slope is steeper than 5%. However, installations on slopes greater than 10% will require an engineered plan that ensures adequate treatment and the safe and non-erosive conveyance of runoff to the property line or downstream stormwater management practice.
- Disconnecting impervious surfaces works best in undisturbed soils. To minimize disturbance and compaction, construction vehicles and equipment should avoid areas used for disconnection during installation of the solar panels.
- Groundcover vegetation must be maintained in good condition in those areas receiving disconnected runoff. Typically this maintenance is no different than other lawn or landscaped areas. However, areas receiving runoff should be protected (e.g., planting shrubs or trees along the perimeter) from future compaction.

Depending on the layout and number of panels installed, the disconnection of non-rooftop runoff technique may address some or all of the stormwater management requirements for an individual project. Where the imperviousness is high or there is other infrastructure (e.g., access roads, transformers), additional runoff may need to be treated. In these situations, other ESD techniques or micro-scale practices may be needed to provide stormwater management for these features.

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17-108X Prot 10/16/17

Example 1 – Using Non-Rooftop Disconnection Where the Average Slope ≤ 5%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope does not exceed 5%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed according to Figure 1 below. In this scenario, the disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). Therefore, each row of panels is adequately disconnected and the runoff from 1.0 inch of rainfall is treated.

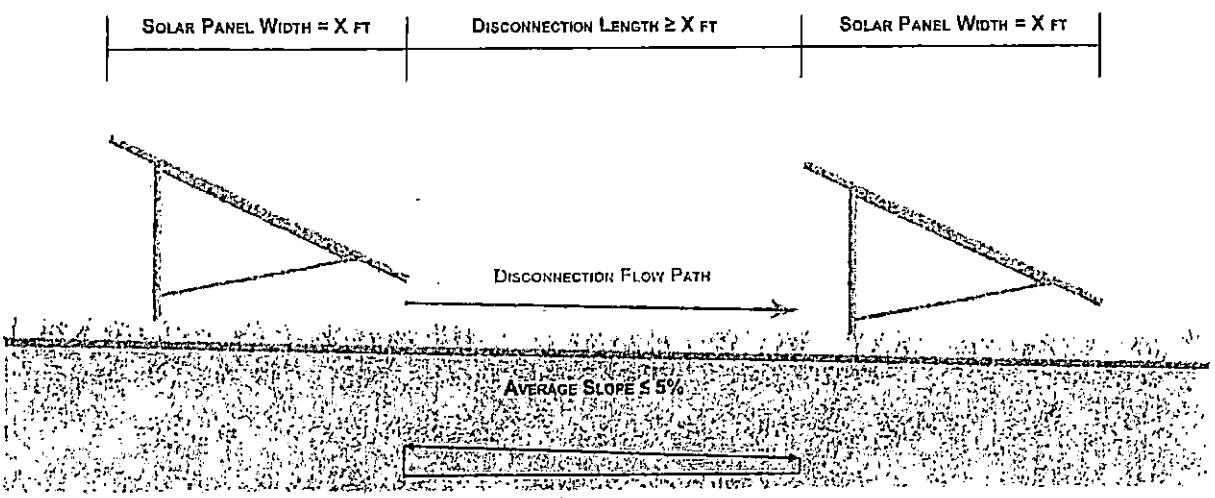

Figure 1. Typical Installation - Slope ≤ 5%

Example 2 – Using Non-Rooftop Disconnection Where the Average Slope ≥ 5% but ≤ 10%

Several rows of solar panels will be installed in an existing meadow. The soils within the meadow are hydrologic soil group (HSG) B and the average slope is greater than 5% but less than 10%. Each row of panels is 10 feet wide and the distance between rows is 20 feet. The rows of solar panels will be installed as shown in Figure 2 below. The disconnection length is the same as the distance between rows (20 feet) and is greater than the width of each row (10 feet). However, in this example, a level spreader (typically 1 to 2-foot wide and 1 foot deep) has been located at the drip edge of each row of panels to dissipate energy and maintain sheetflow.

Discussion

To meet State and local stormwater management requirements, ESD must be used to the MEP to reduce runoff to reflect forested conditions. While all reasonable options for implementing ESD must be investigated, minimally, the runoff from 1 inch of rainfall must be treated. In each of the examples above, there may be additional opportunities to implement ESD techniques or practices and reduce runoff that should be explored. However, simply disconnecting the runoff from the solar panel arrays captures and treats the runoff from 1.0 inch of rainfall. Where imperviousness is low and soil conditions less optimal (e.g., HSG C or D), this may be sufficient to completely address stormwater management requirements. In more dense applications or in sandy soils, additional stormwater management may be required.

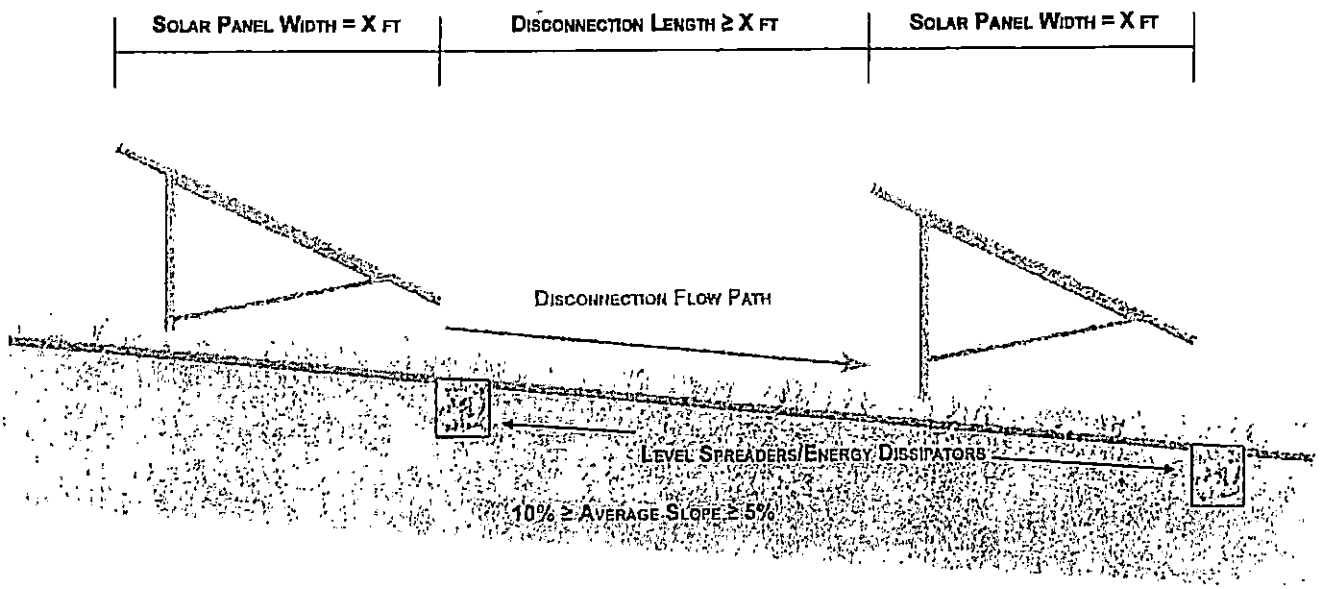

Figure 2. Typical Installation – Slope ≥ 5% but ≤ 10%

Conclusion

The primary purpose of Maryland's stormwater management program is to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources. Any land development project that exceeds 5,000 square feet of disturbance, including solar panel projects, must address stormwater management. However, for solar panels, stormwater management may be provided in a cost-effective manner by disconnecting each row of panels and directing runoff over the vegetated areas between the individual rows.

Resources

[1] 2000 Maryland Stormwater Design Manual, Volumes I and II, MDE, October 2000 (http://www.mde.state.md.us/programs/Water/StormwaterManagementProgram/MarylandStormwaterDesignManual/Pages/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.aspx)

Sparks-Glencoe Community Planning Council
P.O. Box 937, Sparks, MD 21152

July 11, 2018

The Board of Appeals
The Jefferson Building
Second Floor
105 West Chesapeake Avenue, Suite 103
Towson, Maryland 21204

Re: Case # 2017-108-X
20450 Middletown Rd, Freeland
3rd Councilmanic District
Legal Owner: David William Matthews
Contract Purchaser/Lessee: Bluefin Origination 2, LLC
Hearing Date: July 12, 2018

To the Board of Appeals:

While the Sparks-Glencoe Community Planning Council (SGCPC) is not a party to this case, we are submitting a letter in opposition to the special exception for a commercial solar facility on farmland near our boundaries in Northern Baltimore County.

While we favor solar power in general, we do not support placing commercial solar facilities on our precious farmland resource. These facilities remove land from both agricultural production and preservation easements. They also drive up the cost of leased agricultural land; diminish the property values of contiguous landholders; and impair the viewshed. We note that even the Department of Planning is beginning to understand the growing problem for agriculture that this development represents. The final paragraph of its memorandum refers to the Master Plan's warning of "incremental development" as a threat to the agricultural industry. The letter expressly encourages the question of continued viability of commercial agriculture be included in the calculation of any special exception petition. In this regard, it should be noted that there is a dramatically unequal and unfair distribution of these facilities in the rural Third District which is the District with the vast majority of agricultural land in Baltimore County.

The special exception generates several specific concerns. It appears, for example, that the landowner is represented by the same attorneys that represent the solar company. We do not believe the property owner understands the prospective problem of the vanishing corporation. Should such a scenario occur, the costs would fall to the farmer. Accordingly, any special exception should include an irrevocable bond guaranteed to cover the costs of remediation.

Matthews
17-108X

Protestant
CBA Exhibit
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10/25

The SGCPC is also concerned about the impact on neighboring landowners. The prospect of diminished land values for the surrounding area is real. It is certainly foreseeable that the viewshed of the larger resource conservation area will also be significantly impaired. It is for that reason any special exception must include significant natural buffers which not only protect the view from the adjoining roadways, the adjacent property owners, and also the wider vista. It is our suggestion that the landowner and his lessees be required to install buffers which are designed in accordance with the directives of the Baltimore County landscape architect. It would also be appropriate to provide for input from the immediately impacted property owners whose own land values are at issue.

Finally, there is an issue related to **this** special exception which makes it quite unusual. If we read the request correctly, it appears to be for a facility on 20 acres. This is over twice as large as necessary for the 2 megawatt limitation on such facilities. There are no other pending special exception cases in which the request is for anywhere near 20 acres. At the hearing below, it was learned that the reason for the abnormally large amount of acreage desired for this project was because the developer wants to use cheaper hardware, thus requiring almost twice as many acres. All of the problems identified above with commercial development are, in effect, doubled: there is more land removed from production or preservation; there is more disruption to the viewshed; there are more impacted neighbors with diminished property values, and so on.

We have many concerns about the rapid advance of commercial solar facilities in conservation areas without studying the consequences. We believe that this land rush for commercial solar on farmland is ill considered. There is no other Maryland county that permits it. We have made some requests in this letter for conditions on any special exception. By making those suggestions, we do not mean to imply that we think the Board should grant a special exception.

Thank you for your patience and consideration in this matter.

Sincerely,

Lynne Jones

Lynne Jones, President

The SGCPC is also concerned about the impact on neighboring landowners. The prospect of diminished land values for the surrounding area is real. It is certainly foreseeable that the viewshed of the larger resource conservation area will also be significantly impacted. It is for that reason any special exception must include significant natural buffers which not only protect the view from the adjoining roadways, the adjacent property owners, and also the wider vista. It is our suggestion that the landowner and his lessees be required to install buffers which are designed in accordance with the directives of the Baltimore County landscape architect. It would also be appropriate to provide for input from the immediately impacted property owners whose own land values are at issue.

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Thank you for your patience and consideration in this matter.

Sincerely,

Lynne Jones, President

THE SPARKS GLENCOE COMMUNITY PLANNING COUNCIL, INC.

RESOLVED: That the position of the Sparks Glencoe Community Planning Council, Inc. as adopted by the Board of Directors on the zoning matter known as:

Commercial Solar Development -- CBA-17-108-X

The Sparks-Glencoe Community Planning Council ("Sparks-Glencoe" or "SGCPC") is an organization dedicated to preserving the rural character and natural resources of northern Baltimore County.

Sparks-Glencoe is opposed to the special exception in this matter for the following reasons:

1. The development removes prime and productive land from agricultural production and preservation easements; drives up the cost of leased agricultural land; diminishes the property values of contiguous landowners; and impairs the viewshed of the larger resource conservation area.
2. There is no adequate program for remediation of the site at the end of the useful life of the facility.
3. The proposed facility is essentially twice as large as all other similar pending projects because the developer wants to use cheaper hardware thereby requiring a larger facility. To the developer, the land is cheaper than the solar structure.
4. Constructing large commercial energy facilities of any sort in resource conservation areas is inconsistent with the Baltimore County Master Plan goal of maintaining the rural character of the area and is a prime example of "incremental development" which the Master Plan identifies as a threat to the agriculture industry.

Therefore, we ask the Board of Appeals to uphold the spirit and intent of the Zoning Regulations and the Master Plan, which are to protect natural resources and maintain the character of the rural area, by denying this special exception.

THE SPARKS GLENCOE COMMUNITY PLANNING COUNCIL, INC.

BE IT RESOLVED: That at the ANNUAL MEETING of The Sparks Glencoe Community Planning Council, Inc. held on April 18, 2018, it was decided that responsibility for review and action on all zoning and development matters for the period 2018-2019 be placed on the Board of Directors and/or members of the duly elected Zoning Committee.

ATTEST: The Sparks Glencoe Community Planning Council, Inc.

Lynne Jones
President
Lynne Jones

Wendy J. McIver
Reporting Secretary
Wendy McIver

Matthews
17-108X

Protestant
CBA Exhibit
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10/25

AS WITNESS OUR HANDS AND SEAL THIS 10th DAY OF September, 2018.

ATTEST: The Sparks Glencoe Community Planning Council, Inc.

Wendy McIver, Reporting Secretary

Lynne Jones, President

AFFIDAVIT

STATE OF MARYLAND

BALTIMORE COUNTY, SS:

TO WIT:

I hereby swear upon penalty of perjury that I, Lynne Jones, am currently a duly elected member of the Board of Directors of The Sparks Glencoe Community Planning Council, Inc.

AS WITNESS OUR HANDS AND SEAL THIS 10th DAY OF September, 2018.

ATTEST: The Sparks Glencoe Community Planning Council, Inc.

Wendy McIver, Reporting Secretary

Lynne Jones, President

Protestant
CBA Exhibit
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20450 Middletown Road, Solar Case # 2017-108-X

Numbered dots correspond to photos taken by Lynne Jones and Kathie Pieper, 1/3/2018 and 6/22/2018

Map: My Neighborhood Light Blue Outlined Area: Proposed Solar Facility Site

Light Green shaded areas: Preserved Agricultural Land Yellow area: Rural Village Center

View facing East towards Mathews property (lane, barn & field), taken from Flintstone Rd. Field in background is proposed site, visible from this country road, also.

1.

Corner of Middletown and Flintstone Rds, facing SE. According to My Neighborhood map this area has historical significance, as it's listed as a 'Village Center'. Row of trees planted to 'shield' field is visible in front and to right of red roofed building in background.

2.

View opposite proposed site, including Middletown Rd, which is preserved farmland. Commercial solar arrays would not be in keeping with the rural character of this Agricultural Priority Preservation Area, from the county Master Plan 2020 (see Zoning Advisory Committee comments for this case, dated 11/28/2017).

View facing South with farm driveway leading to existing farmhouse at 20450 Middletown Rd. The field, to left of driveway, is proposed solar site, which can be easily viewed from Middletown Rd.

A view of proposed field from Middletown Rd, facing South. Trees are missing and/or have stunted growth possibly due to winter salt applied to road or other natural causes.

Top: View from Middletown Rd, facing south. Bottom: Close-up of Pond, on right side of top photo, near tree line.

Another visual between row of trees that were planted along Middletown Rd; multiple mature trees are missing along this row. Note the close proximity of homes to this proposed field; [redacted]

View of preserved farmland opposite the proposed solar field; all adjoining land on NE side of Middletown Rd is preserved along length of proposed field.

8.

View from Middletown Rd of site field, facing SW. Note residential homes adjoining field.

A view from Middletown Rd, proposed field is visible between trees. According to neighbors these trees were planted about 18 years ago and still do not shield this field from the scenic route.

View from road, facing south. Note highest ground of proposed field is closest to Middletown Rd, which would be visible to motorists.

11.

Facing south at 20450 Middletown Rd, proposed commercial solar facility field. The site is visible from this Scenic Road; the highest area of this field is near road.

13.

Photo shows tree height relative to person standing next to it; facing South towards proposed field.

View from East point of property, facing West. Note differing heights of approximately 18 year-old trees and gaps between trees.

View from adjoining property, facing West.

§ 32-4-414. - FLOODPLAIN AND WETLAND PROTECTION.

(a) *Definitions.* In this section, "base flood", "development", "flood insurance rate map", "flooding", "floodway" and "riverine floodplain" have the meanings stated in Title 8 of this article.

(b) *Purpose.* The purpose of this section to:

(1) Reduce loss of life and property from flooding;

(2) Avoid the need for public expenditures for flood protection; and

(3) Protect or enhance the environmental quality of watersheds.

(c) *Development in floodplain prohibited; exceptions.* The county may not permit development in a riverine floodplain except for:

(1) The establishment of property subdivision lines; and

(2) The installation of a pond, culvert, bridge, street, utility, or drainage facility that the county finds is not detrimental to floodplain management programs.

(d) *Base flood elevation.*

(1) Except as provided in paragraph (2) of this subsection, if the floodplain is shown on the flood insurance rate map, the county shall limit any increase in the existing base flood elevation to a maximum of 1 foot.

(2) The county may not allow encroachment in the floodway causing an increase in the existing base flood elevation.

(3) In areas where the base flood elevation has not been established, the county shall determine the riverine floodplain and flood elevation by means of a flood study prepared in accordance with the requirements of the Department of Public Works Design Manual and sealed by a registered professional engineer before the issuance of a permit or the recording of a subdivision plat.

(e) *Wetlands.*

(1) The county may not permit dredging, filling, or construction in any nontidal wetland or tidal wetland.

(2) The county shall require adequate protection of nontidal wetlands or tidal wetlands from contamination.

(1988 Code, § 26-276) (Bill No. 173-93, § 3, 11-17-1993; Bill No. 79-01, § 2, 7-1-2004; Bill No. 75-03, § 27, 7-1-2004)

§ 32-4-415. - SLOPE PROTECTION AND SOILS.

(a) *Development Plan or plat approval; slope protection required.* The county may not approve a Development Plan or plat unless the county finds that the proposed development:

(1) Includes protective measures adequate to prevent erosion or sloughing of any steep slope or unstable slope; and

(2) Promotes the preservation of the natural topographic features of the steep slope or unstable slope.

(b) *Same; soil limitation.* The county may not approve a Development Plan or plat on soils that present a severe or moderate limitation to development unless the county finds that adequate measures have been taken to mitigate the effects of the limitation.

(c) *Same; prime and productive soils.* On prime and productive soils within the RC-2 zone, the county may not approve a Development Plan or plat unless the county finds that construction, excavations, buildings, structures, pavements, grading, clearing, or other disturbances of the soils will be limited or restricted in accordance with policies established by the Department of Environmental Protec
promote agricultural uses and protect the county's soil resources.

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Northern 17-108X 10/25

(1988 Code, § 26-277) (Bill No. 18, 1990, § 2, 3-30-1990; Bill No. 113, 1992, § 5, 7-1-1992; Bill No. 79-01, § 2, 7-1-2004; Bill No. 122-10, § 12, 1-16-2011)

§ 32-4-416. - PRESERVATION OF NATURAL FEATURES.

(a) *Preservation of features.* Each Development Plan shall preserve natural features, including watercourses, waterfalls, beaches, and significant vegetation.

(b) *Duty to protect habitats.* The county shall require adequate protection of any known habitat of an endangered species.

(1988 Code, § 26-278) (Bill No. 29-95, § 1, 5-21-1995; Bill No. 79-01, § 2, 7-1-2004; Bill No. 75-03, § 27, 7-1-2004; Bill No. 26-07, § 1, 4-29-2007)

§ 32-4-417. - SCENIC VIEWSHEDS.

The Planning Board shall:

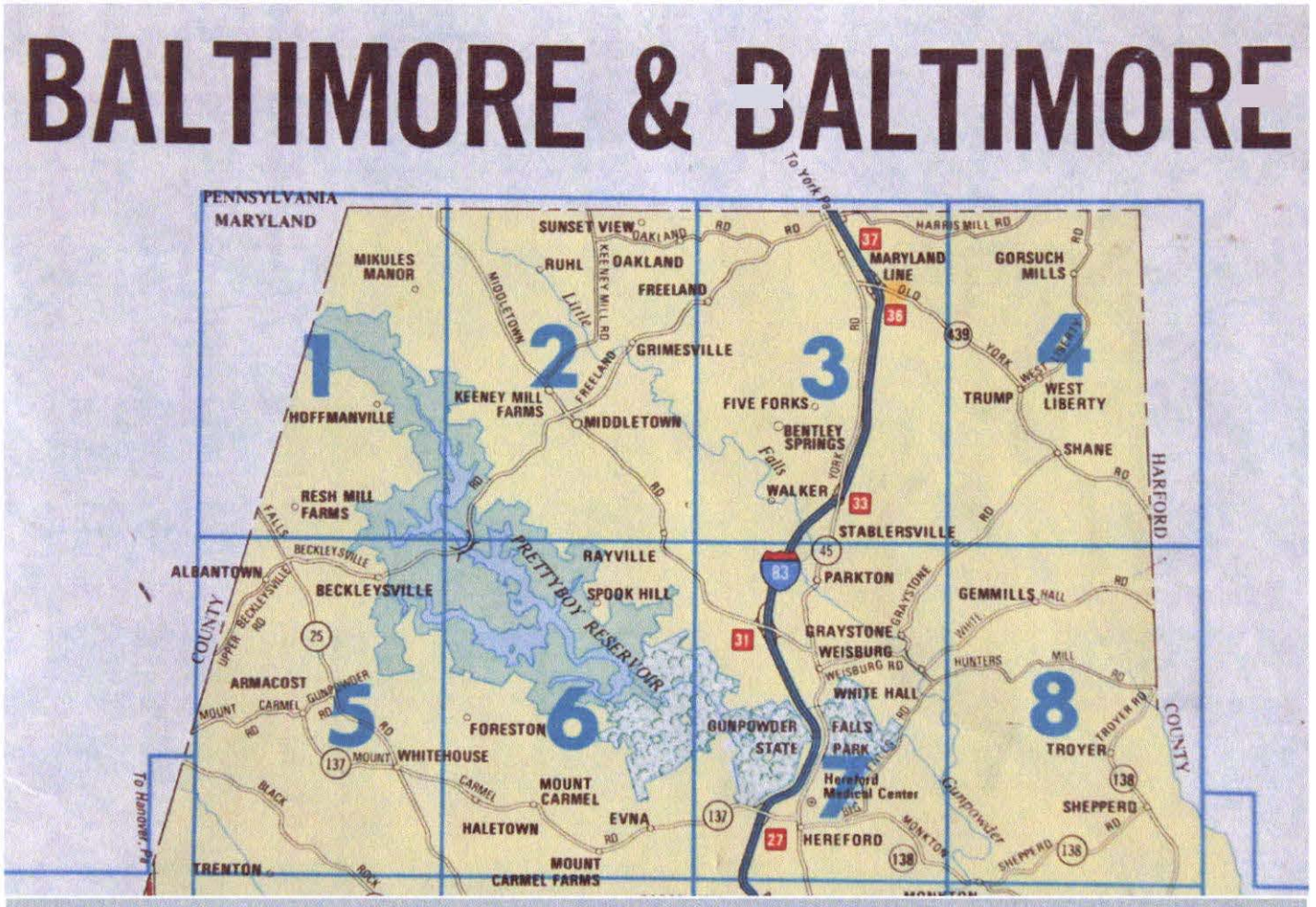
(1) Provide to the Zoning Commissioner a catalogue of the elements for each scenic viewshed in the Master Plan;

(2) Identify the scenic route or view, as designated in the Baltimore County Master Plan as either enclosed, expansive, focused or a combination; and

(3) Identify the aspects of the visual quality, unity of the elements, and integrity of the elements.

(1988 Code, § 26-284) (Bill No. 121-01, § 3, 1-29-2002; Bill No. 75-03, § 28, 7-1-2004)

BALTIMORE & BALTIMORE



Number of roads in North Balto County compared to number of Scenic Routes using ADC mapbook and Scenic Routes SHA listing (area north of Mt Carmel Rd).

Approximate # of roads at least 1 mile in length (does not include smaller development lanes and roads): 130

Approximate # of Scenic Routes within the same area: 31

Approximate % of Roads in North County that are scenic: 23%

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DONALD I. MOHLER III
County Executive

ANDREA VAN ARSDALE, *Director*
Department of Planning

August 1, 2018

The Honorable Julian E. Jones, Jr.
Chairman, Baltimore County Council
Historic Courthouse
400 Washington Avenue
Towson, MD 21204

RE: County Council Bill 37-17: Solar Facilities

Dear Chairman Jones:

At the May 17, 2018 meeting of the Baltimore County Planning Board, an evaluation of the impacts of solar facilities in Baltimore County pursuant to County Council Bill 37-17 was presented by Department of Planning staff. A Public Hearing followed on June 7, 2018 and was well attended by the community. At its July 19, 2018 meeting, the Planning Board voted to forward these recommendations on solar facilities to the Baltimore County Council and to the County Executive.

The following recommendations are now offered by the Planning Board:

The Planning Board recognizes that the development of solar power and other renewable sources of energy is critical for our future, however;

- Solar facilities should not be permitted on prime and productive soils;
- Solar facilities should be directed into business and manufacturing zones, brownfields, rooftops and parking lots where financially feasible;
- Further in-depth study of how other similar jurisdictions have responded to the use should be considered in a review of the current law;
- The feasibility of establishing locational criteria to determine appropriate siting of solar facilities should be investigated;
- Solar facilities should not be detrimental to scenic views or routes; and
- Participation in future studies should be broadened to include stakeholders from each Councilmanic District.

105 West Chesapeake Avenue, Suite 101 | Towson, Maryland 21204 | Phone: 410-887-3211 | Fax: 410-887-58
planning@baltimorecountymd.gov | www.baltimorecountymd.gov/planning

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If you have any questions regarding these recommendations please contact me at 410-887-3211.

Sincerely,

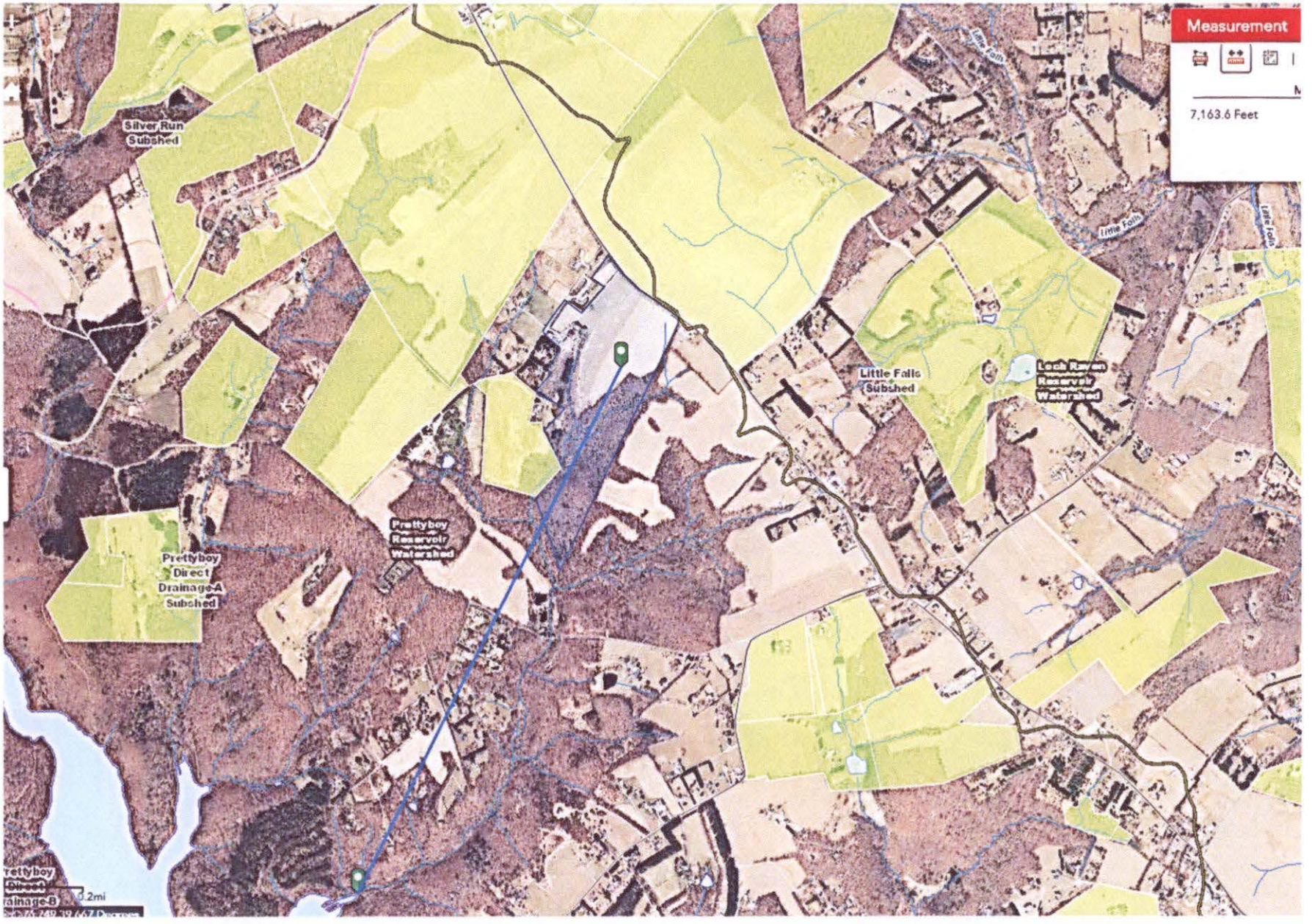
Andrea J. Van Arsdale

Andrea Van Arsdale
Secretary to the Planning Board

AVA:jdd

Enclosures

c: Members, Baltimore County Council
Members, Baltimore County Planning Board
Thomas Peddicord, Jr., Legislative Counsel/Secretary
Lauren M. Smelkinson, County Auditor
Fred Homan, Administrative Officer
Arnold Jablon, Deputy Administrative Officer and Director, Permits, Approvals, and Inspections
Donna Morrison, Deputy Administrative Officer
Mike Field, County Attorney



20450 Middletown Rd is within an Agricultural Priority Preservation Area: see Dept of Planning notes, dated 11/28/2017.

(Green areas: preserved land)

Distance from array site to Prettyboy Reservoir: 7,163' (from myneighborhood.com)

~~2/16/18~~ 10/25/11 Mathews

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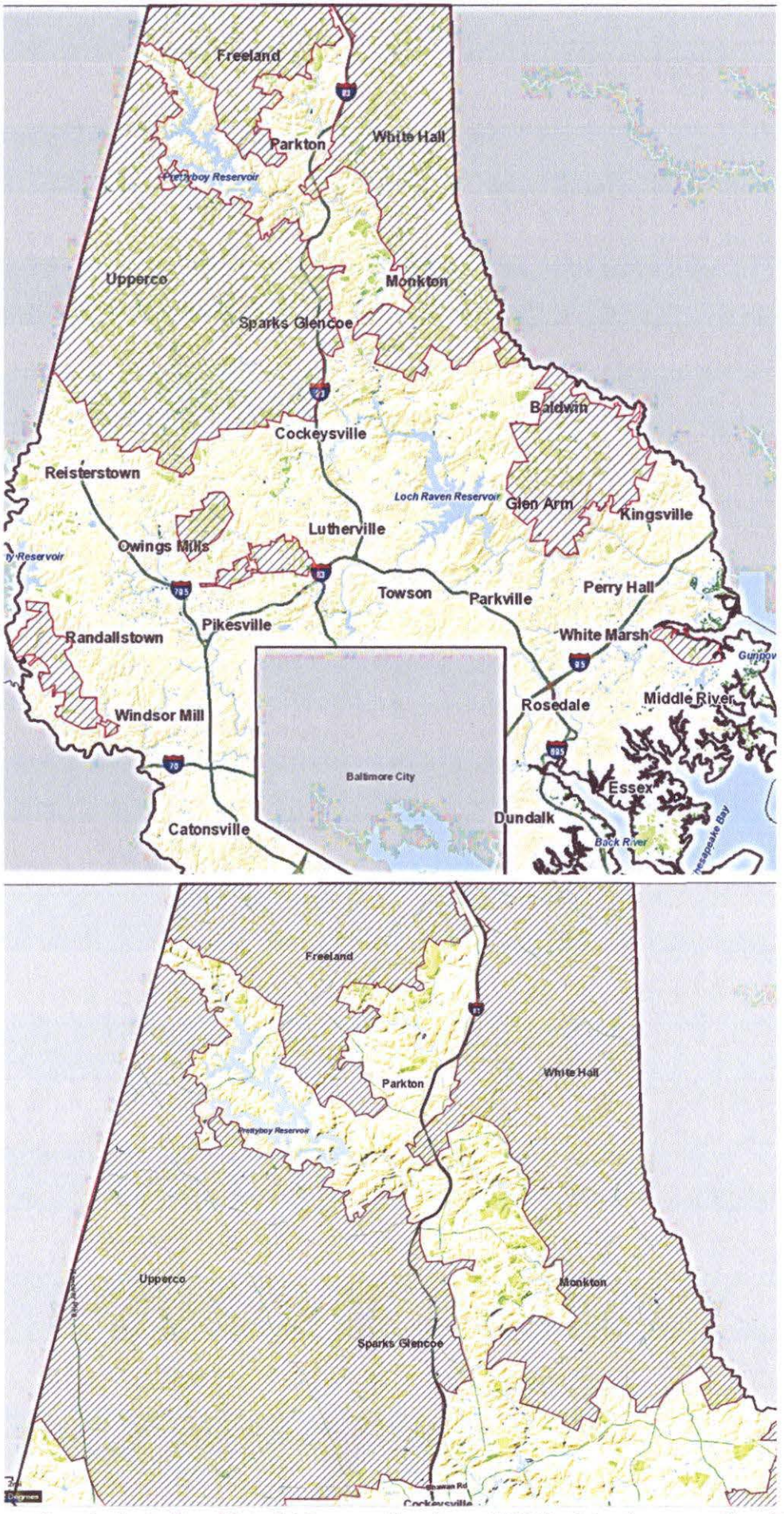

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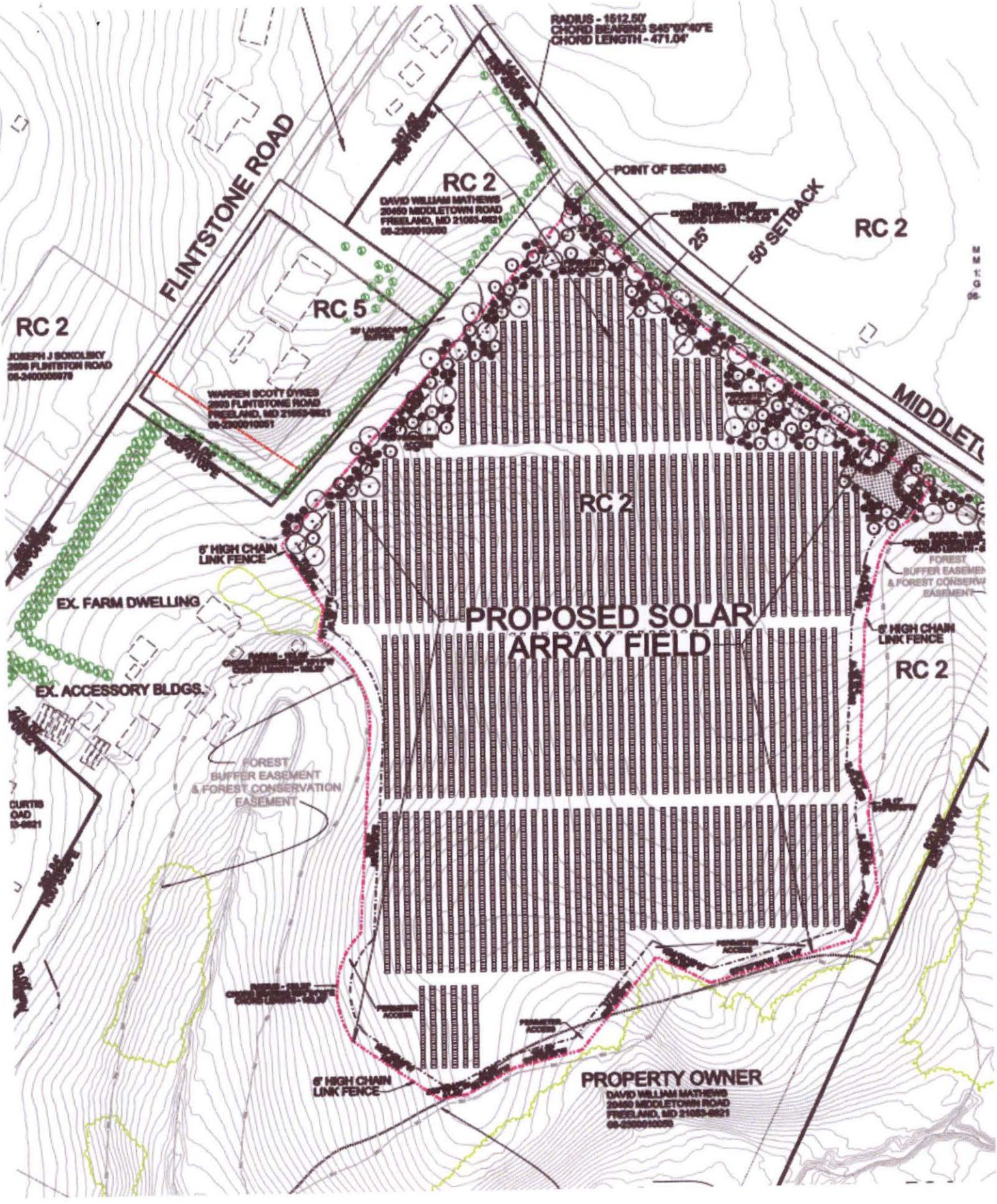
Baltimore County Agricultural Priority Preservation Areas (APPA): striped areas outlined in red.
Preserved Agricultural Farmlands shaded in green. Bottom image: Detail of Map, Northern section of Balto. County.
http://bcgis.baltimorecountymd.gov/myneighborhood



Middletown Rd Solar Site Plan #1, dated 6 or 8/28/2017.
Sp Ex area: 18.73 ac.

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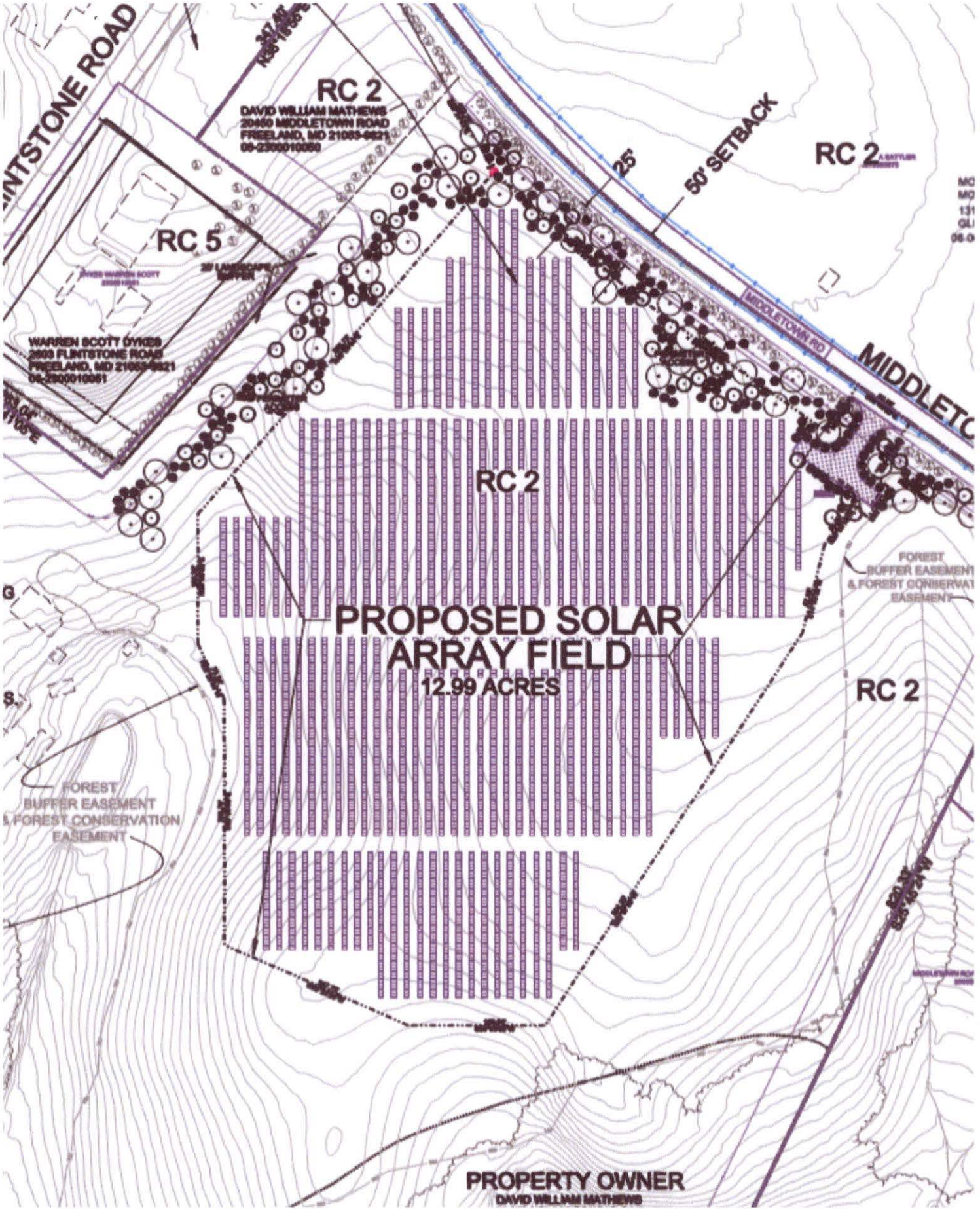
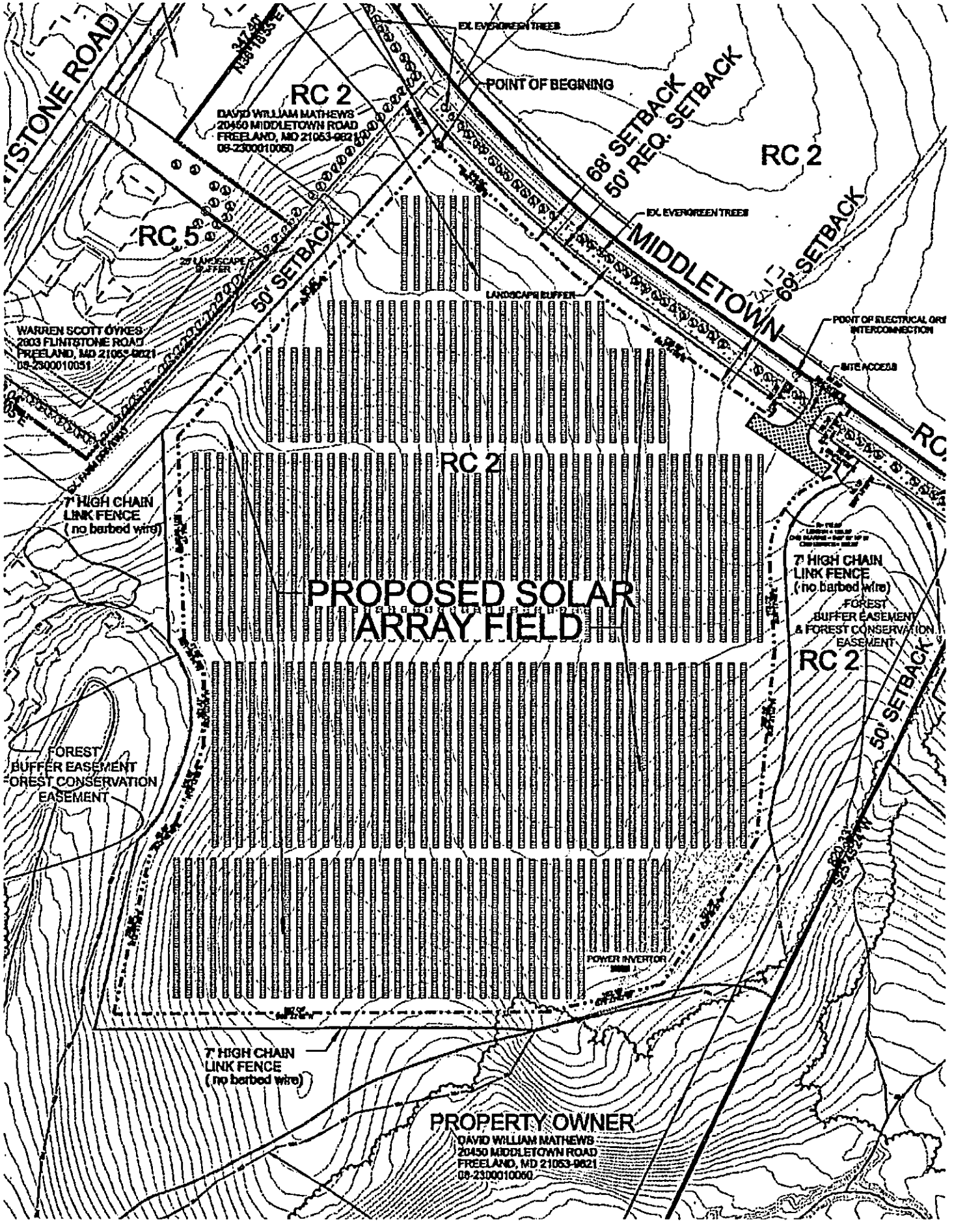
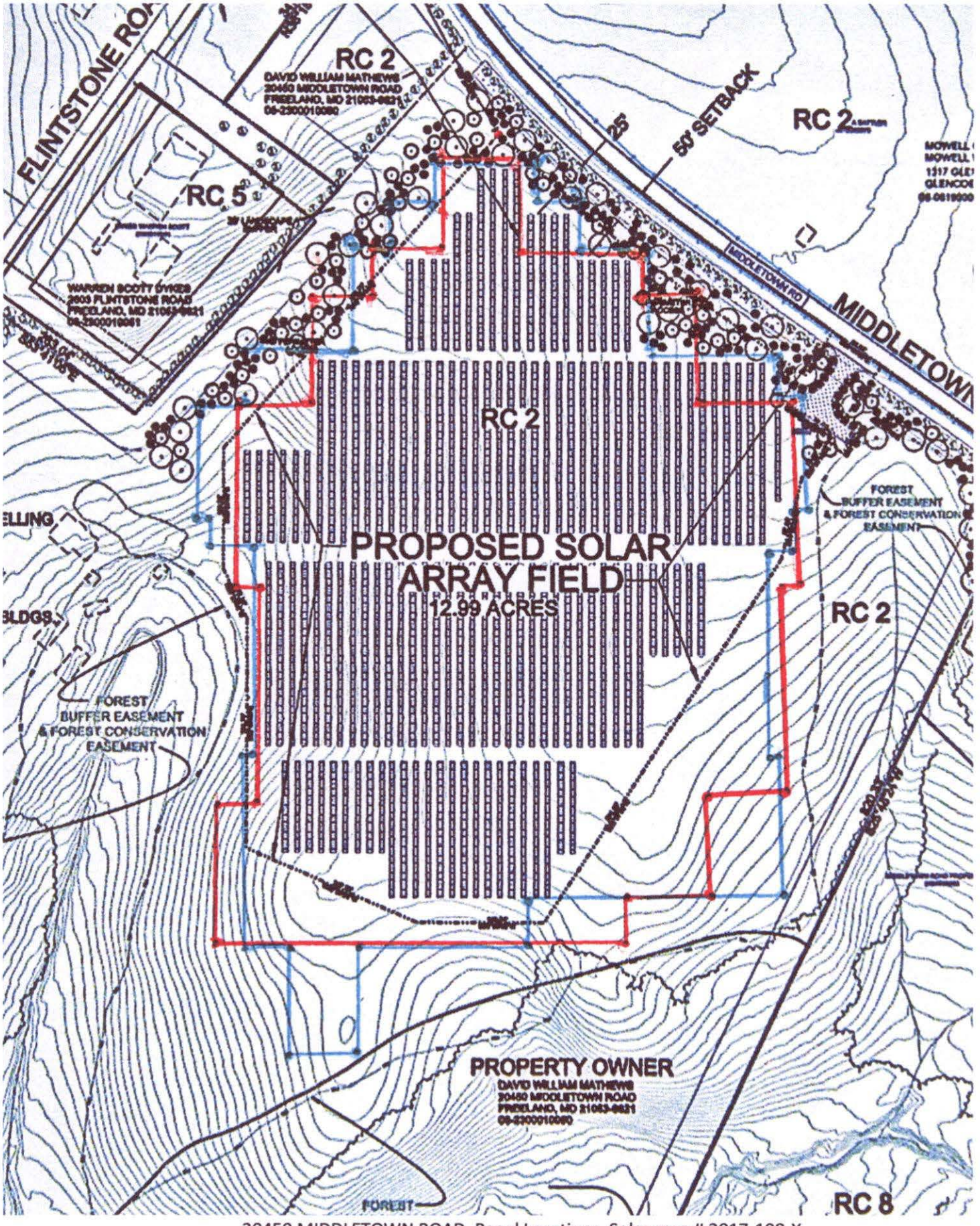


Middletown Rd Solar Site Plan #2, dated 1/31/2018.
Sp Ex area 12.99 ac.



Middletown Rd Solar Site plan #3, 7/2/2018

Sp Ex area 16.71 ac

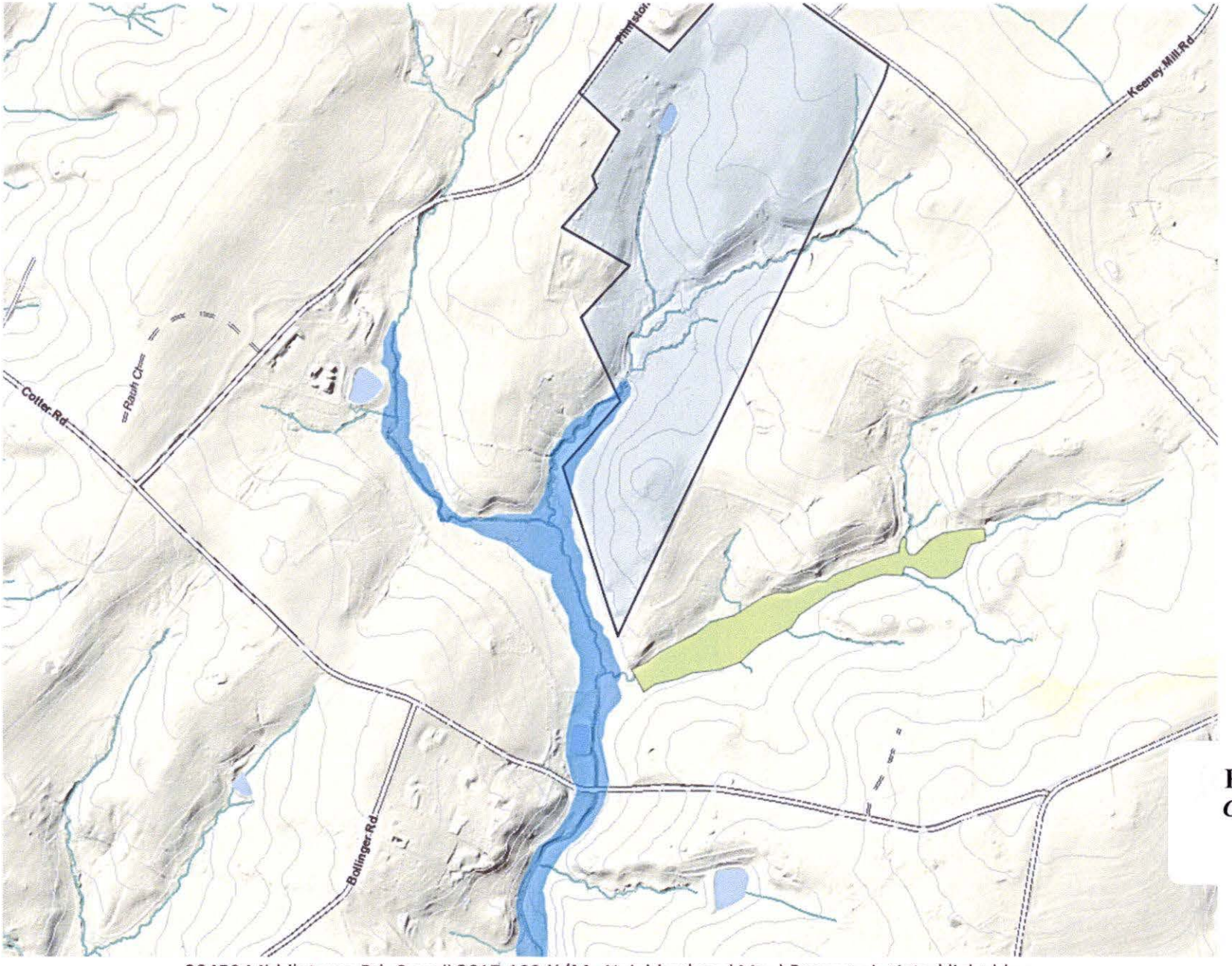


20450 MIDDLETOWN ROAD, Panel Locations, Solar case # 2017-108-X

Plan 1: Blue outline (dated 6 or 8/28/2017)

Plan 2: Background plan (dated 1/31/2018)

Plan 3: Red outline (dated 7/2/2018)



17-108-X

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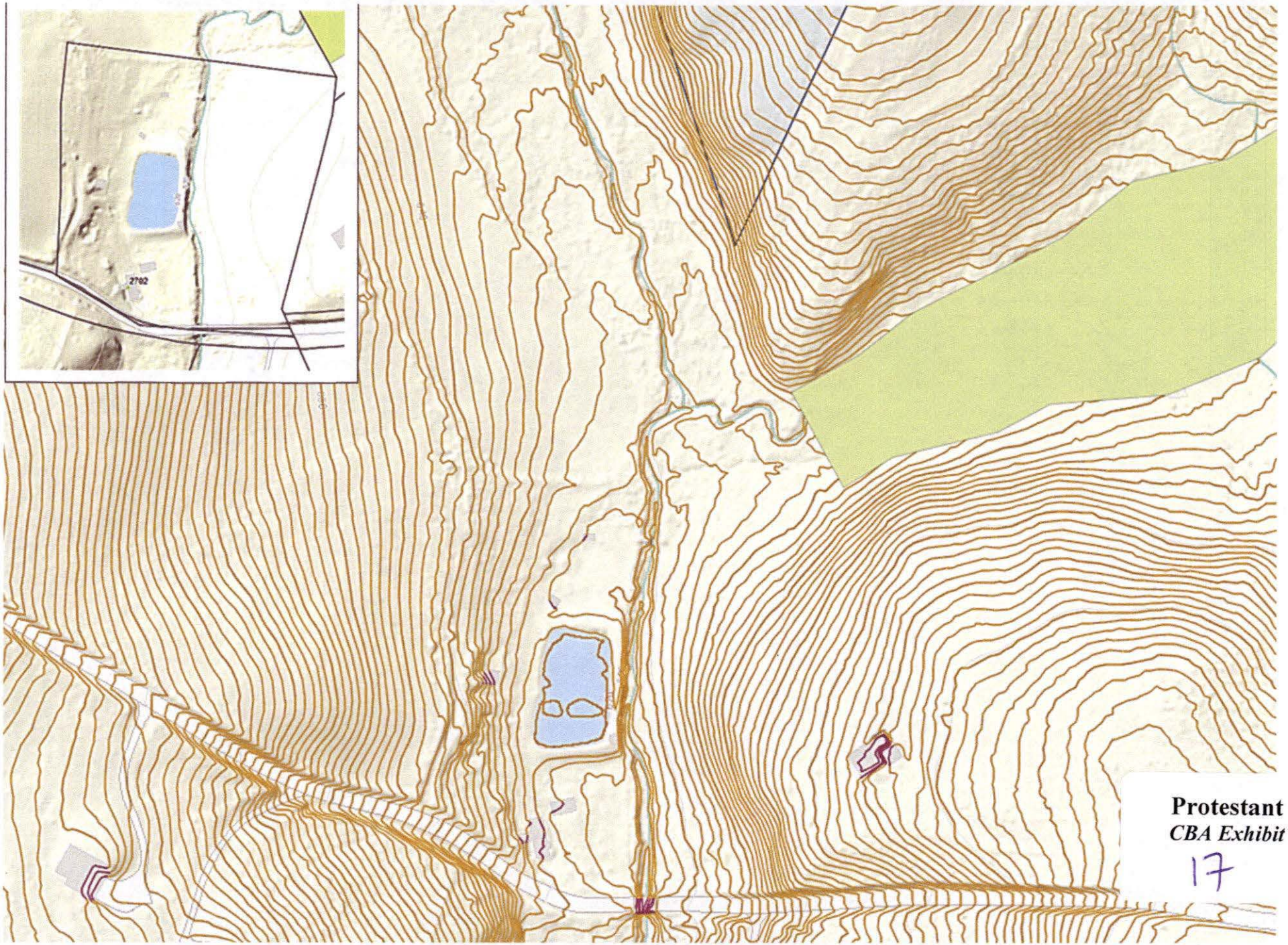
20450 Middletown Rd, Case # 2017-108-X (My Neighborhood Map) Property is tinted light blue.

Turquoise Area: FEMA Floodplain. Light Green Area: Floodplain Easement ('A floodplain easement is a legally enforceable agreement between the landowner and the County for the purpose of conservation of the floodplain. Floodplain easement polygons must not overlap and can exist over more than one parcel': myneighborhood).

Note: Pond and streams/springheads/hydro eroded channels on property, which flow into Prettyboy Reservoir. Several other ponds are in the area.

Sites for proposed panels are higher in elevation than surrounding waterways: highest point of property 810', lowest on property 640'; difference 170'.



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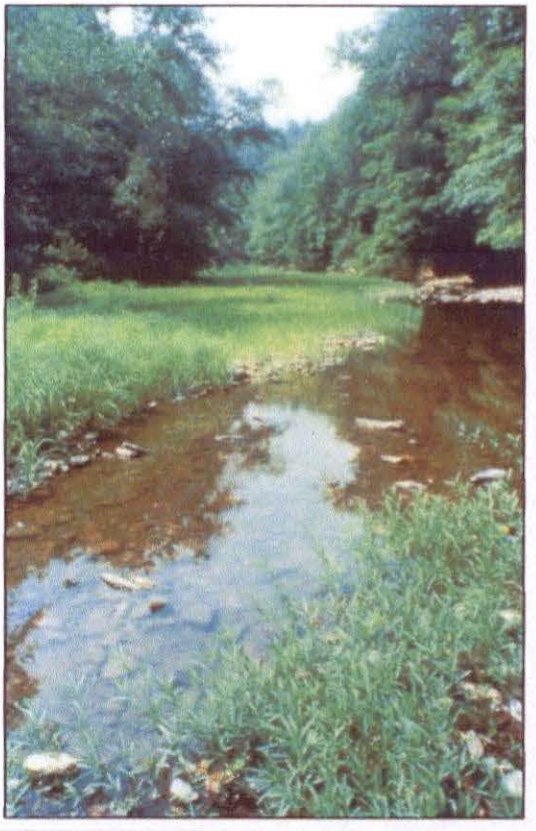
2702 Cotter Rd, downstream from stream coming off 20450 Middletown Rd (stream in center of image). Insert shows property lines of 2702 Cotter)
Green shaded area to right in image is a floodplain easement.
Pond and stream are noted at 620' elevation.

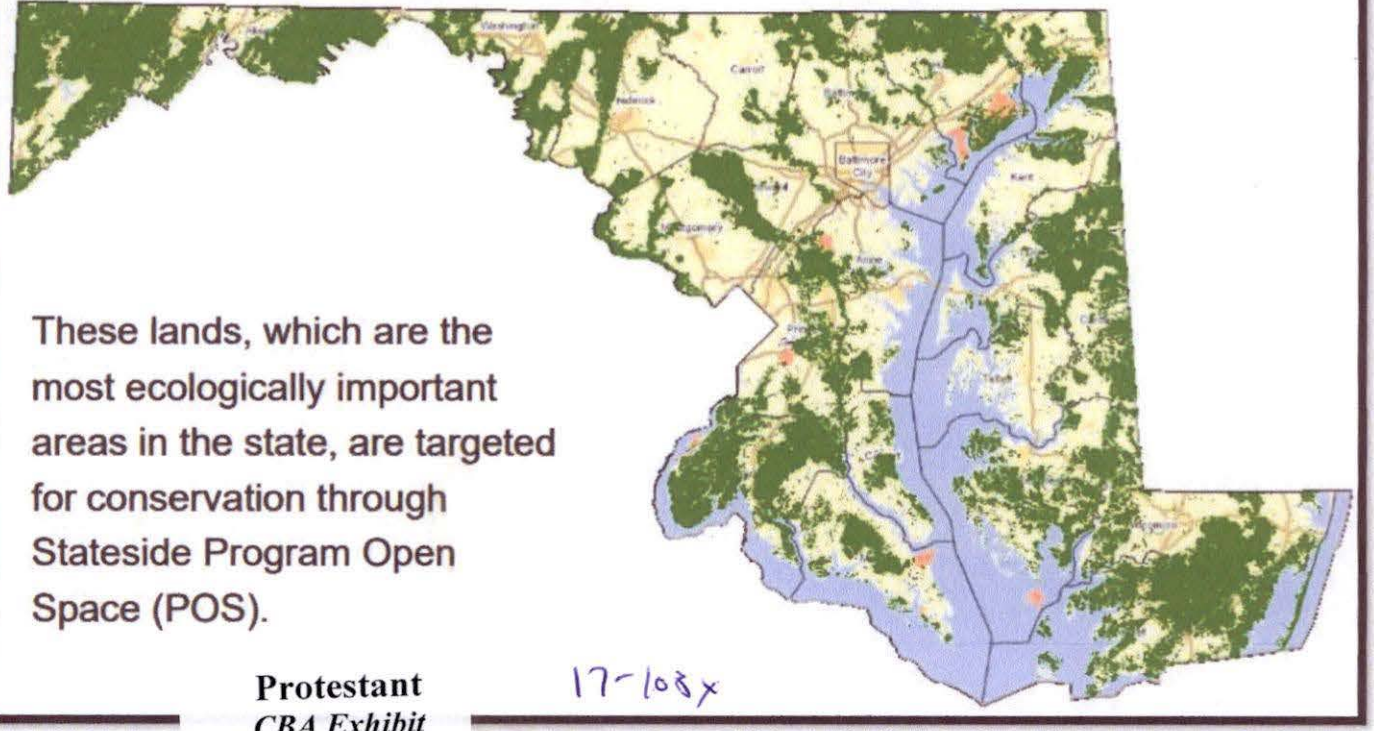
Matthews 17-108X
10/25

What are Targeted Ecological Areas?

- Targeted Ecological Areas (TEAs) are lands and watersheds identified by the Maryland Department of Natural Resources as the most ecologically valuable areas in the State
- They are the "Best of the Best"
- TEAs are preferred for conservation funding through Stateside Program Open Space



2011 Targeted Ecological Areas



These lands, which are the most ecologically important areas in the state, are targeted for conservation through Stateside Program Open Space (POS).

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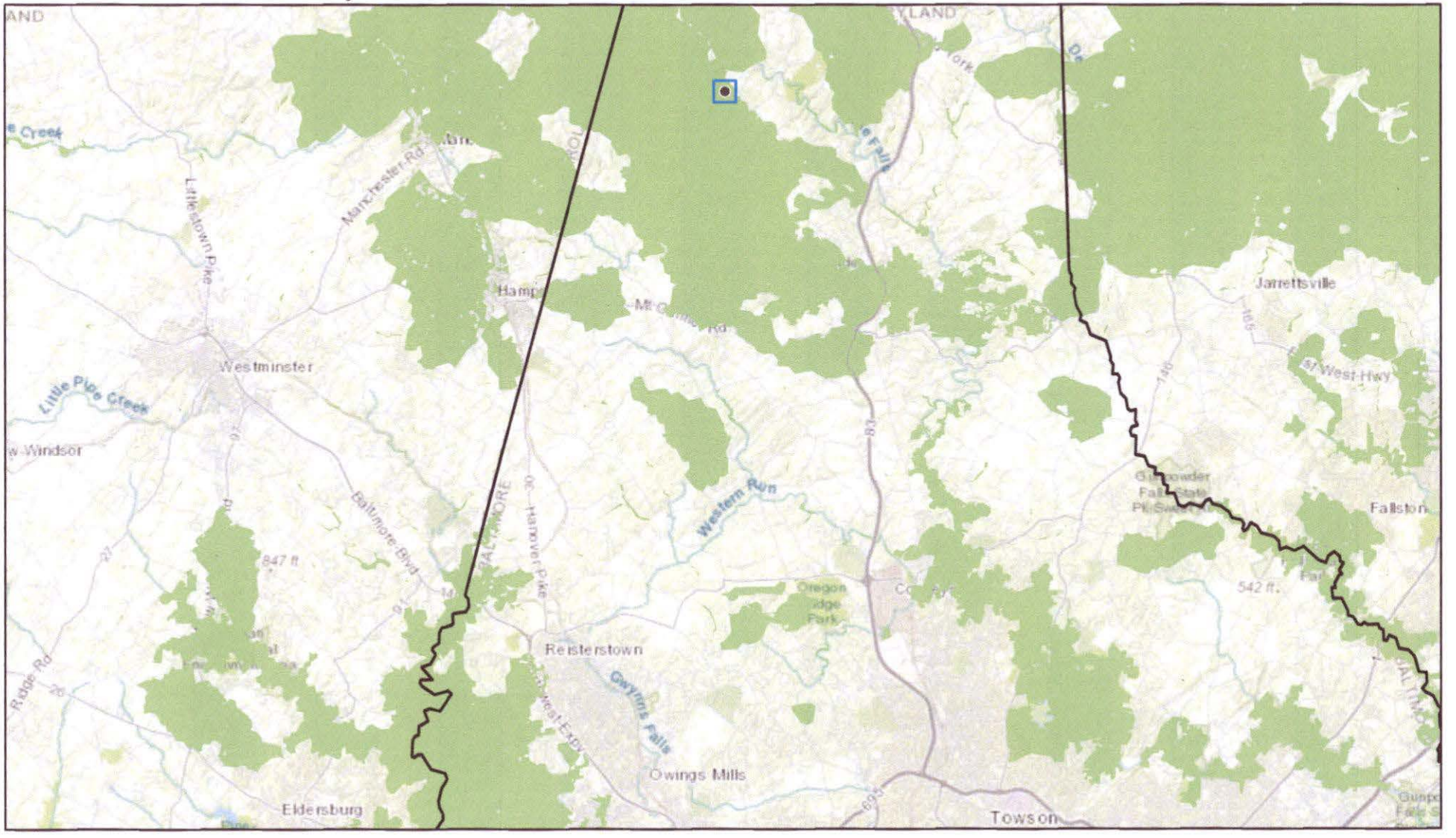
MD DNR Matthews 10/25

MERLIN Maryland's Environmental Resources and Land Information Network



July 10, 2018

County Boundary

Maryland Focal Areas - Targeted Ecological Areas - Targeted Ecological Areas

State Boundary Mask

1:288,895

0 1.75 3.5 7 mi

0 3 6 12 km

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community, MD iMAP, ESRI

Maryland Department of Natural Resources

rine Sciences, Worcester Regional GIS Program, Sarbanes Cooperative Oxford Laboratory | MD iMAP, DNR | MD iMAP, MDOT, MDOT SHA, DoIT, MDP | MD iMAP, MDP, SDAT | MD iMAP, SHA, DoIT | MD iMAP, MHEC, PSCP, MSDE, MDP, DoIT | MD iMAP, ESRI | MD iMAP, SDAT, MDP | Esri, HERE |

20450 MIDDLETOWN RD 21053 - SOLAR
2017-0108-X

2018-0108X

WD P42

Amended PETITION FOR ZONING HEARING(S)

To be filed with the Department of Permits, Approvals and Inspections

To the Office of Administrative Law of Baltimore County for the property located at:

address 20450 Middletown Road which is presently zoned RC-2, RC-4, RC-5, RC-8

Deed Reference 33873 / 119 10 Digit Tax Account # 2 3 0 0 0 1 0 0 5 0

Property Owner(s) Printed Name(s) David William Mathews

CASE NUMBER 2017-0108-X Filing Date 10/17/2016 Estimated Posting Date / / Reviewer LW

(SELECT THE HEARING(S) BY MARKING X AT THE APPROPRIATE SELECTION AND PRINT OR TYPE THE PETITION REQUEST)

The undersigned legal owner(s) of the property situate in Baltimore County and which is described in the description and plan attached hereto and made a part hereof, hereby petition for:

1. ____ **a Special Hearing** under Section 500.7 of the Zoning Regulations of Baltimore County, to determine whether or not the Zoning Commissioner should approve

2. X **a Special Exception** under the Zoning Regulations of Baltimore County to use the herein described property for

See Attachment No. 1

3. ____ **a Variance** from Section(s)

of the zoning regulations of Baltimore County, to the zoning law of Baltimore County, for the following reasons: **(Indicate below your hardship or practical difficulty or indicate below "To Be Presented At Hearing". If you need additional space, you may add an attachment to this petition)**

To be presented at the hearing.

Property is to be posted and advertised as prescribed by the zoning regulations.
I, or we, agree to pay expenses of above petition(s), advertising, posting, etc. and further agree to and are to be bounded by the zoning regulations and restrictions of Baltimore County adopted pursuant to the zoning law for Baltimore County.
Legal Owner(s) Affirmation: I / we do so solemnly declare and affirm, under the penalties of perjury, that I / We are the legal owner(s) of the property which is the subject of this / these Petition(s).

Contract Purchaser/Lessee:

See Attachment No. 2
Name- Type or Print

Signature

Mailing Address City State

Zip Code Telephone # Email Address

Legal Owners:

See Attachment No. 3
Name #1 – Type or Print Name #2 – Type or Print

Signature #1 Signature # 2

Mailing Address City State

Zip Code Telephone # Email Address

Attorney for Petitioner:

Patricia A. Malone
Name- Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

Representative to be contacted:

Patricia A. Malone
Name – Type or Print

Signature

210 W. Pennsylvania Avenue, Towson MD
Mailing Address City State

21204 / 410-494-6206 / pamalone@venable.com
Zip Code Telephone # Email Address

REV. 2/23/11

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10/25

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BALTIMORE COUNTY, MARYLAND
INTER-OFFICE MEMORANDUM

TO: Arnold Jablon
Deputy Administrative Officer and
Director of Permits, Approvals and Inspections

DATE: 11/28/2017

FROM: Andrea Van Arsdale
Director, Department of Planning

SUBJECT: **ZONING ADVISORY COMMITTEE COMMENTS**
Case Number: 17-108 (amended)

INFORMATION:

Property Address:	20450 Middletown Road
Petitioner:	David William Matthews
Zoning:	RC 2, RC 4, RC 8
Requested Action:	Special Exception

The Department of Planning has reviewed the amended petition for a special exception to use the property for a solar facility.

A site visit was conducted on October 26, 2017.

The Department has no objection to granting the petitioned zoning relief conditioned upon the following:

The property is visible from Middletown Road which is a Baltimore County Scenic Route. When developing on a scenic route, the Comprehensive Manual of Development Policies (CMDP) development guidelines instructs one to *"maintain a buffer between the road and the new development"* (CMDP pg. 180).

- The proposal shall minimize grading, tree and vegetation removal along Middletown Rd.
- Any landscape plan submitted to Baltimore County for review and approval shall supplement the existing vegetative screening along Middletown Road. The Department will not support a suburban like, regimented single species planting. The plantings will have a naturalistic arrangement approaching an "enclosed view" as defined in the CMDP with a count and proximity that will not allow an observer from the scenic route to have a sustained view of the solar facility.
- A minimum 50' wide vegetative screen shall be installed along the perimeter of the special exception area adjacent to the properties at 20416, 20450 Middletown Road and 2603 Flintstone Road. Said screening shall be a mix of native deciduous, evergreen and flowering trees with understory shrubs arranged in a natural fashion.
- The Department supports the Baltimore County Landscape Architect in any additional planting requirements.

Additional conditions are as follows:

- Pursuant to BCZR §502.1.A, petitioners shall demonstrate to the satisfaction of the Administrative Law Judge that the facility will not be detrimental to the adjacent residential properties as a result of glare emanating from the facility.

- The plan submitted in support of the petition does not indicate the finished height of the solar panels. Pursuant to BCZR 4E-104.5, the photovoltaic arrays may not exceed 20 feet in height without variance relief. Petitioners shall amend the plan to show a typical array structure detail at no more than 20 feet above the natural finished grade.
- Petitioners shall note on the plan that the proposed solar facility will produce not more than 2 megawatts of alternating current.
- Petitioners shall note on the plan that the proposed solar facility will be subject to BCZR §4E-107.
- Petitioners shall certify by note on the plan that the proposed solar facility will not exceed the maximum permitted number of facilities allowed in its respective councilmanic district. If approved, Petitioners shall submit to this Department at the time of building permit application the final fixed location and area of the facility by coordinate data so that an inventory may be kept.
- Lighting shall be limited to what is required for security purposes only and will be sited in such a way as to have minimal spillage onto neighboring properties.
- Signage shall be limited to that which is necessary for safety and security purposes.
- No deliveries or outdoor maintenance which may generate excessive noise may occur on-site between the hours of 6 P.M. through 6 A.M.

Be advised that the site is within an Agricultural Priority Preservation Area as designated in the Baltimore County Master Plan 2020 (MP2020). Said plan warns that *"incremental development continues to threaten the protection of resources and the viability of the agricultural industry."* (MP2020 pg.92). The Department recommends that the future viability of commercial agricultural in Baltimore County be weighed when considering this special exception proposal within the context of 502.1.G.

For further information concerning the matters stated herein, please contact Joseph Wiley at 410-887-3480.

Prepared by:

Lloyd T. Moxley

Deputy Director:

Jeff Mayhew

AVA/KS/LTM/ka

c: Joseph Wiley
James Hermann, R.L.A., Department of Permits, Approvals and Inspections
Patricia A. Malone, Esquire
Office of the Administrative Hearings
People's Counsel for Baltimore County

not increase development densities in the reservoir watersheds.

(2) Complete detailed studies to determine the existing and potential residential densities in resource preservation areas.

(3) Consider limiting residential densities to one dwelling unit per 25-50 acres. Consider limiting density calculation to net density for resource zones.

(4) Delineate and coordinate the public use of resource preservation areas for recreational benefits.

(5) Protect and foster forests and stream systems through conservation easements that prevent the continued fragmentation of these critical resources.

(6) Continue to support State and County programs that encourage sustainable forest management and initiatives to retain forestlands for multiple ecological and economic benefits.

Agricultural Priority Preservation Areas

(Note: Policies and Actions to foster a sustainable agricultural industry may be found in the Economic Vitality section. Preservation of the agricultural land is discussed in the Land Resources section.)

While the County is a national leader for the use of restrictive agricultural zoning and planning for agriculture, there are threats to its continued success. Despite the diligent efforts to maintain and expand the agricultural zoning, incremental development continues to threaten the protection of resources and the viability of the agricultural industry. Zoning and development controls need to be reviewed and strengthened to assure that the goals of the Master Plan and the Baltimore County Zoning Regulations are being achieved.

Policy: Manage land development to limit conflicts with the agricultural industry to safeguard lands preserved through easements.

Actions:

(1) Continue to enforce local policies, ordinances, regulations and procedures that stabilize the agricultural and forest land base.

(2) Review and, if necessary, revise zoning and development standards to promote conditions suitable for production, processing and sale of agricultural products.

(3) Include prime and productive soil standards and a maximum lot size to ensure that large parcels are not split to create large residential lots.

(4) Evaluate increasing the minimum acreage for subdivisions in the RC 2 zone to reduce environmental impacts and development pressure on agricultural resources.

(5) Evaluate regulations to eliminate resubdivision of lots created between 1975 and 1979 in the RC 2 zone.

(6) Require that placement of State agricultural or conservation easements shall not result in an increase in density over that permitted without the easements.

https://www.ecode360.com/12103862?highlight=502.1#12103862

SECTION 502: Special Exceptions

[BCZR 1955]

(See Section 270, Schedule of Special Exceptions.)

NOTE: Certain types of uses are required to secure a permit to allow them to be placed in one or more zones in which their uncontrolled occurrence might cause unsatisfactory results of one kind or another. A few uses, such as dumps and junkyards, are inherently so objectionable as to make extra regulations and controls advisable even in the M.H. Zone, to which they are restricted. Others, like a cemetery, do not fit into any of the zone categories, that is, residential, business and industrial, and therefore must be located with discrimination in relation to their surroundings. All the items listed are proper uses of land, but have certain aspects which call for special consideration of each proposal. Because under certain conditions they could be detrimental to the health, safety or general welfare of the public, the uses listed as special exceptions are permitted only if granted by the Zoning Commissioner, and subject to an appeal to the County Board of Appeals.

In granting any special exception, the Zoning Commissioner and the County Board of Appeals, upon appeal, shall be governed by the following principles and conditions.

☐ § 502.1 Conditions determining granting of special exception.

Before any special exception may be granted, it must appear that the use for which the special exception is requested will not:

A. Be detrimental to the health, safety or general welfare of the locality involved;

B. Tend to create congestion in roads, streets or alleys therein;

C. Create a potential hazard from fire, panic or other danger;

D. Tend to overcrowd land and cause undue concentration of population;

E. Interfere with adequate provisions for schools, parks, water, sewerage, transportation or other public requirements, conveniences or improvements;

F. Interfere with adequate light and air;
[Bill No. 45-1982]

G. Be inconsistent with the purposes of the property's zoning classification nor in any other way inconsistent with the spirit and intent of these Zoning Regulations;
[Bill No. 45-1982]

H. Be inconsistent with the impermeable surface and vegetative retention provisions of these Zoning Regulations; nor
[Bill No. 45-1982]

I. Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5 or R.C.7 Zone, and for consideration of a solar facility use under Article 4F, the inclusion of the R.C. 3, R.C. 6, and R.C. 8 Zones.
[Bill Nos. 74-2000; 37-2017]

Erecting a chain link fence in open agricultural areas has a damaging impact on wildlife. Barbed wire should never be considered an acc deer have been known to jump up to 15'. Birds and other animals are accustomed to certain flyways and migratory paths which include especially surrounded by relatively unfractured landscapes such as this property on Middletown Rd.

All these creatures are indigenous to Baltimore County.

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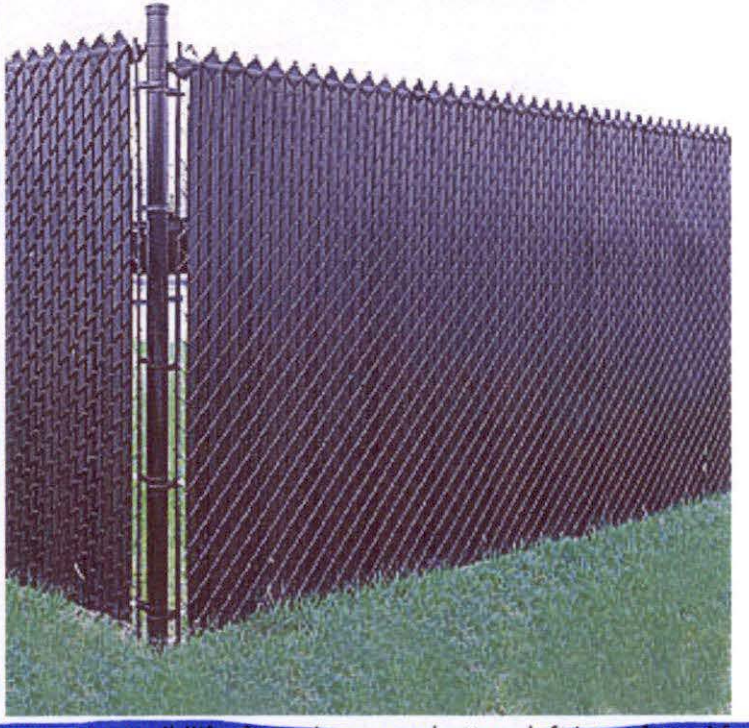
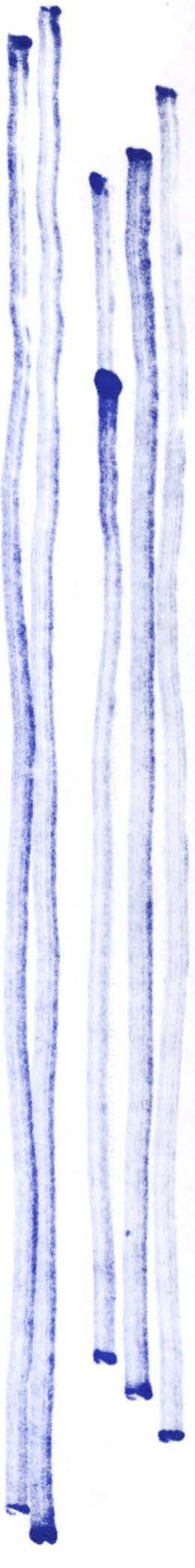


Images of chain link fencing. The 3 black fences have exposed ends of wire at top. In order to protect wildlife, fence image on bottom left is preferred for rural environments for top of fencing. Not only are ends of wire bent to avoid exposed raw ends, but positioning bar at top of fence adds an additional layer of protection.

Both images on right include plastic strips for concealing purposes, which would look industrial, not natural in this rural setting. None of these fences would enhance or promote a scenic vista at this site, rather they would change the appearance of and promote a commercial environment that does not exist in this specific agricultural community, especially on this scenic route and view from Middletown Rd.



Fencing around Electrical Station in Oregon Ridge Park; photos taken 10/2/2018.

Top photo: Beaver Dam Rd in front of metal fence, approx. 615' L, 130' W = approx. 80,000 sq. feet of contained area.

Bottom: Rear of Electrical Station which faces Oregon Ridge's nature trails and open fields. See landscaping plantings. It will take several decades of tree growth to hide view of fence from surrounding scenic views.

IN RE: PETITION FOR SPECIAL EXCEPTION (20450 Middletown Road) 6th Election District 3rd Council District David William Matthews *Legal Owner* Bluefin Origination 2 LLC *Lessee* Petitioners	*	BEFORE THE OFFICE OF ADMINISTRATIVE HEARINGS FOR BALTIMORE COUNTY Case No. 2017-0108-X

* * * * * * * * * * *

OPINION AND ORDER

This matter comes before the Office of Administrative Hearings ("OAH") for consideration of a Petition for Special Exception filed on behalf of David William Matthews, legal owner and Bluefin Origination 2, LLC, lessee ("Petitioners"). The Petition for Special Exception pursuant to Section 4E-102 of the Baltimore County Zoning Regulations ("B.C.Z.R.") seeks approval to operate a solar facility at the subject property.

Jeffrey S. Webber and Parker Sloan with Cypress Creek Renewables, Tim Dertebaugh, Brian Conlon, and David L. Martin, L.A. with Martin & Phillips Design Associates, Inc., the firm that prepared the site plan, appeared in support of the petition. Christopher D. Mudd, Esq. and Patricia A. Malone, Esq. represented the Petitioners. Numerous citizens attended the hearing to express opposition to the request. Substantive Zoning Advisory Committee ("ZAC") comments were received from the Department of Planning ("DOP") and the Bureau of Development Plans Review ("DPR"). Neither agency opposed the requests.

The subject property is approximately 70.979 acres and is split-zoned RC-2, RC-4, RC-5 and RC-8. The property is on Middletown Road, which is designated as a scenic route. The property was previously a farm, although with the exception of a small area there are no farming activities at the property presently. Petitioners propose to utilize 18.73 acres of the tract for a solar facility. Petitioners would install between 8,500 to 9,000 solar panels, which would generate approximately 1.9 Mw of AC electricity.

The Lessee's zoning manager, Parker Sloane, testified his company is one of the largest solar providers in the United States, with projects in 12 states. Mr. Sloane testified the panels will be approximately 9 to 10 ft. in height and will rotate throughout the day to face the sun, although he noted the movement would be imperceptible. Like other solar proposals in Baltimore County, this facility would be unmanned and the operator will perform routine inspections 1 to 2 times per year.

Mr. Sloan stated the company had an alert system that would provide immediate notification of any problem or malfunction at the site. The witness testified his company used an "industry standard tool" and determined that there will be no concern with glare from the panels. Mr. Sloane indicated that only the inverter would generate noise, which he likened to a hair dryer. But given its location on the site he stated no noise at all would be heard from outside the property boundaries. In response to questions on cross-examination, Mr. Sloane testified Cypress Creek has completed over 200 projects since 2006, and that based on reports of appraisers hired by the company they have determined solar facilities do not have an adverse impact upon property values.

Many of the citizens had questions concerning the safety of the panels, and to address these issues the Petitioners presented testimony from Jeff Webber, an engineer employed by Cypress Creek. Mr. Webber, who was accepted as an expert, described the different types of silicon used in solar panels, and the attributes of each. He testified silicon is not a hazardous material and that the modules and the racks in which they are located are made of sand, aluminum, copper wire and steel. Mr. Webber stated only the transformer could "leak", and that if that occurred only mineral oil would be discharged. He said there was only an "extremely small risk" such a leak would

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occur, and he said the hardwired monitoring system would alert the company immediately if that happened.

With regard to safety, Mr. Webber testified if the electric grid went down, the solar facility would immediately shut down. The witness stated the inverter would shut off within 2 seconds in such a scenario, and that while the panels would continue to function there would not be a current of electricity flowing and there would be no danger of electrocution. In response to questions on cross examination, Mr. Webber conceded economics drives how a facility is designed. He said while it might be possible (i.e., through use of higher efficiency panels) to generate 1.9Mw of electricity on less than 18 acres, the company would incur higher costs in doing so, which would make the project less profitable and/or economically unfeasible.

The final witness was David Martin, a registered landscape architect accepted as an expert. Mr. Martin prepared both the site plan (Exhibit 1) and the schematic landscape plan (Exhibit 8) for the project. He described the project and reviewed each of the requirements of B.C.Z.R. Article 4E, which he stated Petitioners satisfied. Mr. Martin opined the use proposed was "benign," and he testified Petitioners satisfied all requirements for a special exception. He also indicated that in connection with a zoning case (No. 2000-0342-SPH) involving this property - - - which permitted the construction of a dwelling on an undersized parcel, environmental buffers were provided to Baltimore County to protect the water and forest resources on the site.

Special Exception

Under Maryland law, a special exception use enjoys a presumption that it is in the interest of the general welfare, and therefore, valid. *Schultz v. Pritts*, 291 Md. 1 (1981). The *Schultz* standard was revisited in *Attar v. DMS Tollgate, LLC*, 451 Md. 272 (2017), where the court of appeals discussed the nature of the evidentiary presumption in special exception cases. The court

again emphasized a special exception is properly denied only when there are facts and circumstances showing that the adverse impacts of the use at the particular location in question would be above and beyond those inherently associated with the special exception use.

Mr. Martin opined Petitioners satisfied the requirements of B.C.Z.R. § 502.1 and applicable case law, which under *Attar* and similar cases established a *prima facie* case entitling them to the special exception. While the neighbors expressed many valid concerns with the facility, the issues they identified are inherent in the operation of a solar facility. As such, I do not believe that testimony can rebut the presumption provided by Maryland law that special exception uses are in the public interest.

Having said that, I believe the community raised one issue in particular which warrants further discussion; i.e., the size of the special exception area. The law states that the "maximum area permitted for a single solar facility is the amount of acreage that produces no more than two megawatts . . . of electricity." B.C.Z.R. §102.A.1. Based on Mr. Webber's testimony, there appears to be numerous variables involved in determining the appropriate size and design of a solar facility. As the witness noted, economics is certainly an important consideration. These facilities are operated by for-profit ventures, and Petitioners are entitled to maximize the return they receive on their land and investments.

But in this scenario, they must do so in keeping with the above-quoted provision. Similar solar facilities have been approved in several recent cases. What follows is the case #, special exception area and electricity generated:

2018-0047 (9 acres; 2Mw)
2018-0052 (6.4 acres; 1Mw)
2018-0072 (6 acres; 840Kw)
2018-0078 (9.8 acres; 2Mw)
2018-0095 (16 acres; 2Mw)

While the community opposed the request in each of the above cases (with the exception of No. 2018-0095, which was unopposed), this is the first case in which this issue has arisen. Each of the Petitioners in the above cases was (like Petitioner here) a for-profit entity, which means it is safe to assume the projects proposed were economically viable. I certainly understand there are a variety of factors which inform the design and layout of a solar facility, but based on the foregoing I believe a 13 acre special exception area would be sufficient to allow for the production of 2Mw of electricity, and such a restriction will be included below.

THEREFORE, IT IS ORDERED this 22nd day of January, 2018, by this Administrative Law Judge, that the Petition for Special Exception pursuant to Section 4E-102 of the Baltimore County Zoning Regulations ("B.C.Z.R.") for a Solar Facility, be and is hereby GRANTED.

The relief granted herein shall be subject to the following:

1. Petitioners may apply for necessary permits and/or licenses upon receipt of this Order. However, Petitioners are hereby made aware that proceeding at this time is at their own risk until 30 days from the date hereof, during which time an appeal can be filed by any party. If for whatever reason this Order is reversed, Petitioners would be required to return the subject property to its original condition.

2. Petitioners must submit for approval by Baltimore County a landscape plan for the site demonstrating, among other things, appropriate screening and vegetation is provided along the scenic route, as required, by the Landscape Manual.

3. Petitioners shall install a fence of sufficient height which will, per the electric code, prevent the need for barbed wire.

4. No weed killers or herbicides shall be used to control weed or grass growth at the facility.

5. Prior to issuance of permits, Petitioners must satisfy the environmental regulations set forth in Article 33 of the Baltimore County Code, pertaining to the protection of water quality, streams, wetlands and floodplains.

6. No trees shall be removed from the special exception area shown on the site plan in connection with the construction and/or operation of the solar facility.

7. Petitioners shall within 30 days of the date hereof submit to the OAH a redlined site plan showing a "special exception area" for the solar facility of no more than 13 acres.

Any appeal of this decision must be made within thirty (30) days of the date of this Order.

Signed
JOHN E. BEVERUNGEN
Administrative Law Judge
for Baltimore County

JEB/sln

OK JMC

BALTIMORE COUNTY
DEPARTMENT OF PERMITS APPROVALS AND INSPECTIONS
DEVELOPMENT REVIEW COMMITTEE (DRC) APPLICATION

DRC# 032018B (County Use Only) /Tracking# DRC-2018-00029 (County Use Only)

This application must be accompanied by the following:

1. One copy of the completed DRC checklist.
2. Three copies of this DRC application, completed in full.
3. Three copies of a letter of request (attach one to each DRC application).
4. Nine copies of the plan folded to 8 ½ x 11 inches.
5. $100 fee for limited exemption request; $375 for waiver request (check made payable to Baltimore County, MD and are non-refundable; Applicant shall deliver check to County Finance Office cashier. Submit paid receipt w/package.

Filing Date: _____ Stamp in w/PAI date stamp here

Project Name: Bluefin Origination 2, LLC PAI File No.: 00030M / 06-0230

Project Address: 20450 Middletown Road, Freeland, MD Zip Code: 21053 ADC Map #: 2-D-7

Councilmanic District: 03 Election District: 06 Project Acreage: 12.98 (Solar Facility Area)

Tax Account No(s): 06-2300010050 Zoning: RC-2

Engineer: Martin & Phillips Design Associates, Inc. N/A: ____ Engineer's Phone No.: 410-321-8444

Address: 222 Bosley Avenue, Ste. B1, Towson Zip 21204 Email: dmartin@martinandphillips.com
(City)

Applicant: Bluefin Origination 2, LLC Applicant's Phone No.: _____

Address: 3250 Ocean Park Blvd., Santa Monoca, CA Zip 90405 Email: _____
(City)

Attorney: Venable, LLP, Chris Mudd N/A: ____ Attorney's Phone No.: 410-494-6365

Address: 210 W. Pennsylvania Avenue, Suite 500 Zip 21204 Email: CDMudd@Venable.com
(City)

Is this a tower? ___ Yes X No If "Yes" check one of the following: Cellular ___ (CAC) Water Tower ___ (WTC) MonoPole ___ (CPC)

REQUESTED ACTION (TO BE COMPLETED BY THE APPLICANT)

(X) Limited Exemption under Section 32-4-106 (a) (1) (vi)
( ) Plan Refinement
( ) Planned Shopping Center Designation under Section 101 of BCZR
( ) Waiver under Section 32-4-107 (____) (____) (____)
( ) Requires a Zoning ( ) Special Hearing; ( ) Special Exception; ( ) Variance
( ) Lot Line Adjustment (LLA)
( ) Other _____

(County Use only) Action: _____ B-2 Minor

This application must be accompanied by a written request. That request must be in the form of a letter, legibly printed or typed, and signed by the applicant. The letter must contain the name, address and telephone number of the applicant and must provide details of the request. A copy of the checklist must be completed and included along with this DRC application. Please note that a DRC application form and checklist is available in room 123 of the County Office Building and on the County web site www.baltimorecountymd.gov/Agencies/permits/pdm_devmanage/pdmfdmgt.html
Please see page 2 for the checklist of complete submittal requirements

c: Council, Planning, DEPS, Zoning

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DEPARTMENT OF PERMITS
APPROVALS AND INSPECTIONS

17-108-X

10/25

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"A" Exemptions

- "A" exemptions are exempt from the development review and approval process as provided for in the Baltimore County Code, Article 32, Title 4, Subtitle 4.
- A project meeting these requirements does not require a concept plan, community input meeting, development plan and an Administrative Law Judge hearing.
- Applicants who meet one or more of the criteria for an "A" exemption, described below, may apply directly for a building permit, or recording in the land records.

A-1-i-1- The building or preparation of land for building a dwelling for one or two families on a single lot or tract that is not part of a recorded plat.

A-1-i-2 - The building or preparation of land for building a dwelling for one or two families on a lot or lots exempt from the lapse provisions of § 32-4-273 of this title.

A-1-ii - The building or preparation of land for building on a lot of record lawfully in effect at the time of the building or preparation of the land for building, provided the lot of record did not result from a subdivision of land exempt under § 32-4-105 of this subtitle.

A-1-iii - The construction of one tenant house or the location of one trailer on a farm tract.

A-1-iv - The subdivision of property in accordance with a court order, a will, or the laws of intestate succession.

A-1-v - The resubdivision or lot line adjustment of industrially zoned or commercially zoned parcels of land that have been the subject of a previously approved Development Plan and recorded plat.

A-1-vi - The construction of residential accessory structures or minor commercial structures.

A-1-vii-1 - The construction of a building owned and operated by a county volunteer fire, ambulance, or rescue company that is used primarily for storage or training purposes.

A-1-vii-2 - The construction of a building owned and operated by a county volunteer fire, ambulance, or rescue company that is used primarily for fund-raising activities.

North County Community Group

THE NORTH COUNTY COMMUNITY GROUP, LLC

RESOLVED: That the ANNUAL MEETING of the North County Community Group, LLC held on January 23, 2018, it was decided that responsibility for review and action on all zoning and development matters for the period 2018-2019 be placed on Kathleen Pieper, Wanda Lehman and Mary Petrucci.

ATTEST: The North County Community Group, LLC

President
Kathleen Pieper

Treasurer
Wanda Lehman

Protestant
CBA Exhibit
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North County
Community Group

AFFIDAVIT

STATE OF MARYLAND
BALTIMORE COUNTY

TO WIT:

I hereby swear upon penalty of perjury that I, Wanda Lehman, am currently a duly elected member of the Board of Directors of The North County Community Group, LLC.

AS WITNESS OUR HANDS AND SEAL THIS 23rd DAY OF January 2018.

ATTEST: The North County Community Group, LLC

President
Kathleen Pieper

Treasurer
Wanda Lehman

North County Community Group

NORTH COUNTY COMMUNITY GROUP, LLC.

A grassroots, all-volunteer organization, formed to protect the quality of life, resources, rural landscape, scenic byways and property values in northern Baltimore County.

Resolved: That the position of the North County Community Group as adopted by the Board of Directors on the zoning matter known as: 20450 Middletown Road Special Exception Request for a Solar Facility (Case Number 2017-0108-X) is OPPOSED.

The North County Community Group believes that 20450 Middletown Road is a particularly problematic location for an industrial solar facility, and that there are other sites which do not have such prime soils or scenic and environmental qualities which could potentially be suitable for solar facilities. We feel there are facts and circumstances regarding this case that show adverse effects above and beyond those inherently associated with such a special exception use, and that the use is inconsistent with the Baltimore County Master Plan and certain conditions contained in Section 502.1 of the Baltimore County Zoning Regulations:

(A) Be detrimental to the general welfare of the locality involved

Adjacent neighbors and all northern Baltimore County Community groups oppose this request because of the detrimental impacts to the community and agricultural economy. The farm is currently planted in soybeans and has been used to raise hay and small grains for over 50 years. Utilization of this site for industrial solar generation would reduce the tenant farmer's tillable land base, be obtrusive and detrimentally impact property values for surrounding residents.

(G) Be inconsistent with the purposes of the property's zoning classification nor in any other way inconsistent with the spirit and intent of these Zoning Regulations

The RC 2 (agricultural) zone was designed to protect soils and farms. Prime farmland is a natural and finite resource that is rapidly being depleted. The proposed solar facility would be on the RC 2-zoned portion of 20450 Middletown Road, which includes superior quality, prime farmland. Utilization of this site for industrial solar generation would convert all important farmland on 20450 Middletown Road to a nonagricultural use – inconsistent with the Farmland Protection Policy Act (FPPA).

Middletown Road is a designated scenic route. Views from Middletown Road and adjoining properties would be significantly impaired by thousands of solar panels over the rolling terrain, and metal security fencing that would surround the paneled area.

BCZR 32-4-417 requires *"The Planning Board to identify the scenic route or view, as designated in the Baltimore County Master Plan as either enclosed, expansive, focused or a combination; and identify the aspects of the visual quality, unity of the elements, and integrity of the elements."* This information has not been provided. Furthermore, *"For properties along scenic routes or within watersheds, variances,*

amendments and special exceptions should be granted sparingly." (Baltimore County Master Plan 2020, page 101.)

(I) Be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in an R.C.2, R.C.4, R.C.5 or R.C.7 Zone, and for consideration of a solar facility use under Article 4F, the inclusion of the R.C. 3, R.C. 6, and R.C. 8 Zones.

Supportive evidence that an industrial solar facility on 20450 Middletown Road would not be detrimental to the environmental and natural resources of the site and vicinity including forests, streams, wetlands, aquifers and floodplains in all resource conservation zones is required before a special exception may be granted. No supportive evidence has been provided for the following sections of the BCZR:

32-4-414. – FLOODPLAIN AND WETLAND PROTECTION
"Protect or enhance the environmental quality of watersheds."

32-4-415. - SLOPE PROTECTION AND SOILS
"On prime and productive soils within the RC-2 zone, the county may not approve a Development Plan or plat unless the county finds that construction, excavations, buildings, structures, pavements, grading, clearing, or other disturbances of the soils will be limited or restricted in accordance with policies established by the Department of Environmental Protection and Sustainability to promote agricultural uses and protect the county's soil resources."

The proposed site is located within the Prettyboy watershed, the headwater drinking water source for the Baltimore metropolitan area. All groundwater from the site flows into Dykes Creek. Dykes Creek carries a water use designation of IIIP and flows directly into Prettyboy Reservoir, less than one mile away. *"Land use activities within watersheds affect the water quality of streams and downstream water bodies."* (Code of Maryland Regulations (COMAR) 26.08.02.07).

The Department of Natural Resources has identified this property as an unprotected Targeted Ecological Area (TEA) for rating among the "Best of the Best" in ecological value to the state of Maryland. It is a top priority for Project Open Space funding. Placing thousands of solar panels at the highest elevation of the property will increase runoff through the forest buffer and stress the watershed ecosystem.

We therefore recommend that the special exception request for a solar facility at 20450 Middletown Road be DENIED.

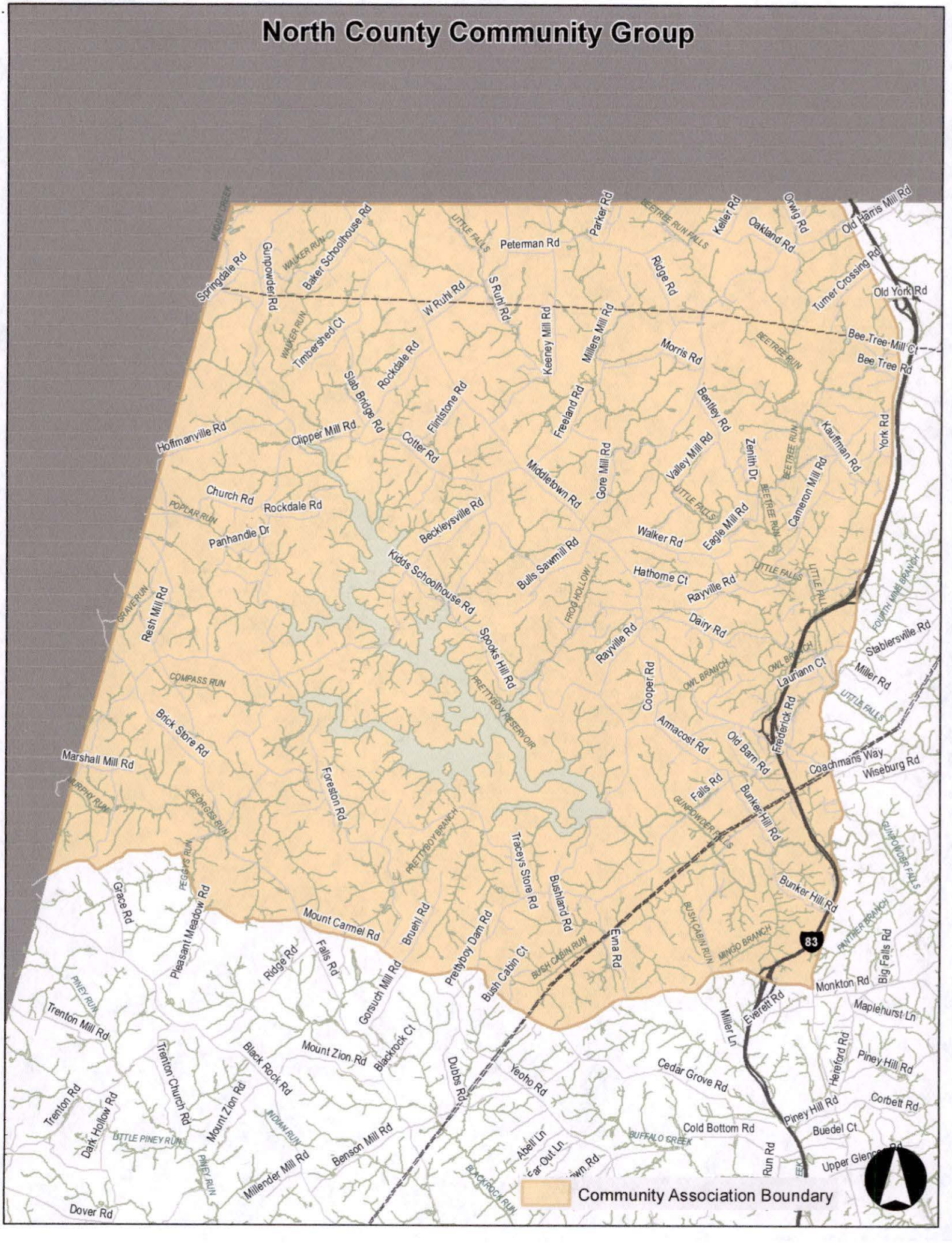
As witness our hands and seal this October 20, 2018.

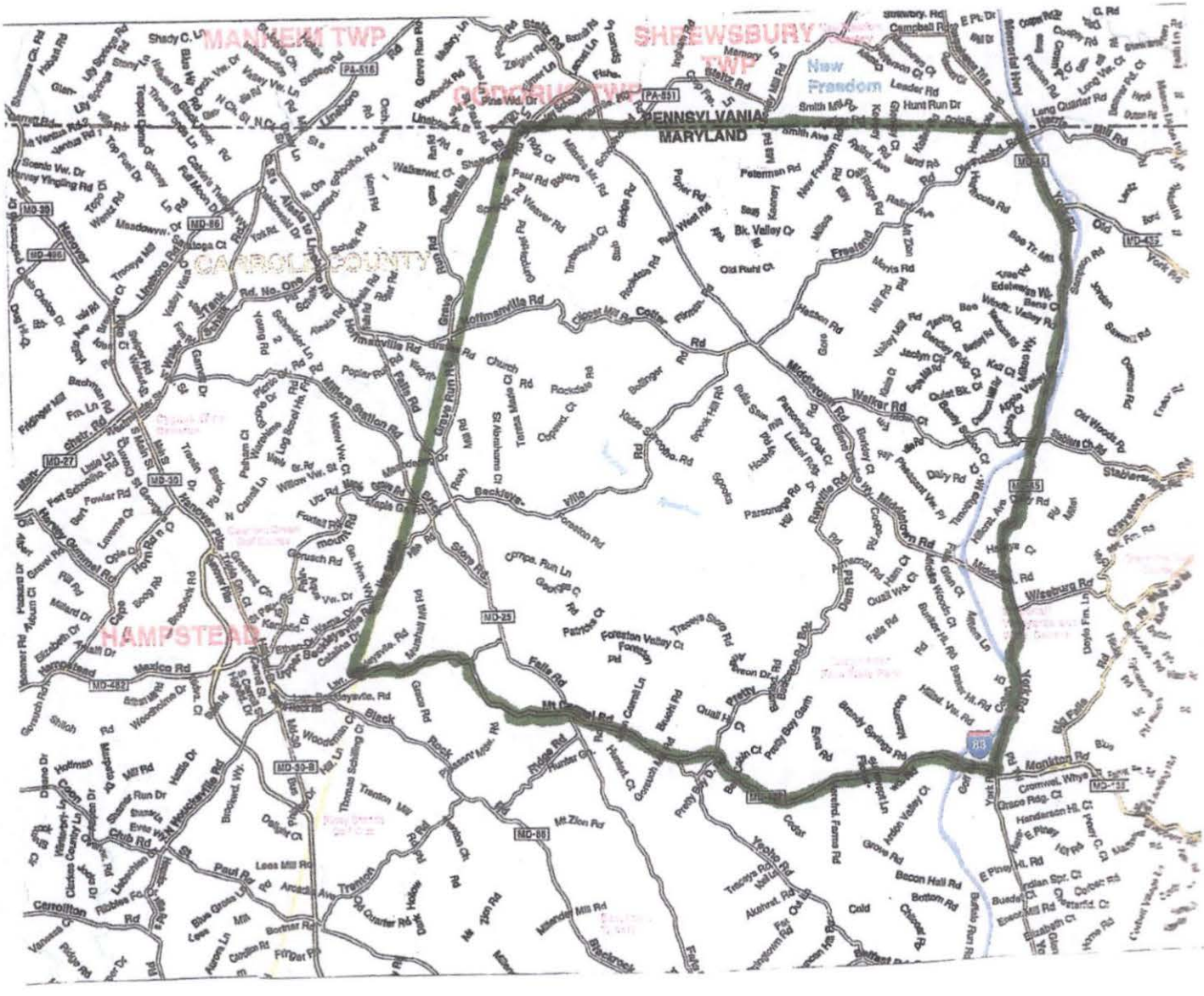
ATTEST: North County Community Group, LLC.

Wanda Lehman
Treasurer

President

North County Community Group




MANHEIM TWP
SHREWSBURY TWP
PENNSYLVANIA
MARYLAND
New Freedom
CARROLL COUNTY
HAMPSTEAD
Westminster
Manchester
Hanover
Littlestown
Taneytown
Union Mills
Finksburg
Reisterstown
Cockeysville
Parkton
Glen Rock
Stewartstown
Delta
Fawn Grove
Jacksonville
Dover
Carlisle
Harrisburg
Lancaster
Baltimore
Washington
Frederick
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York
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Reading
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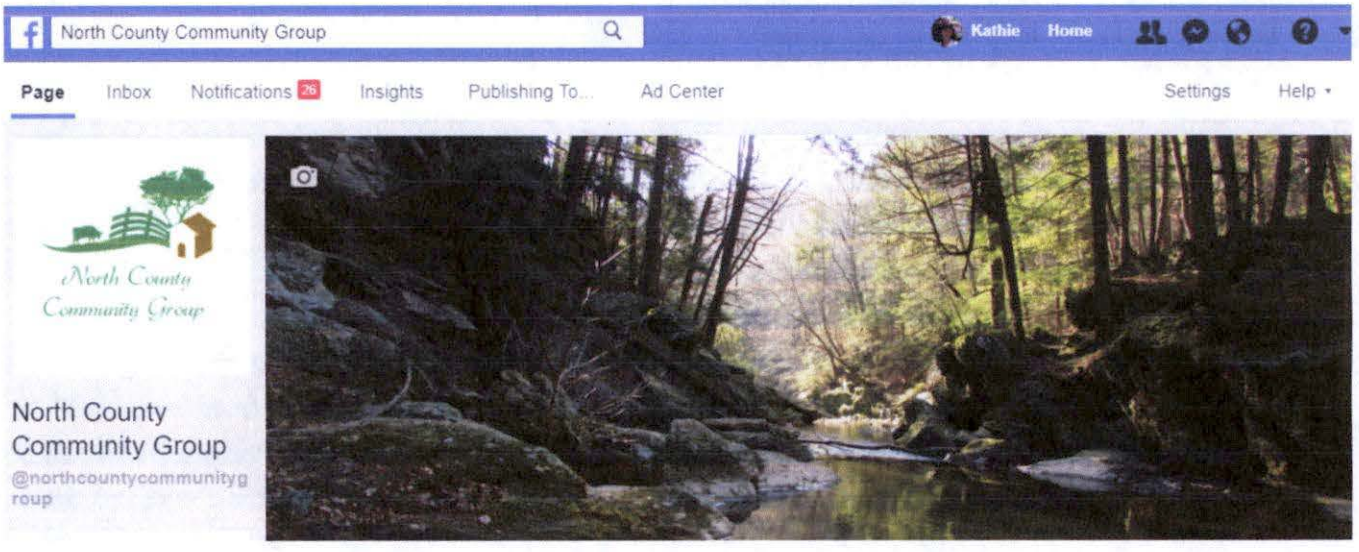
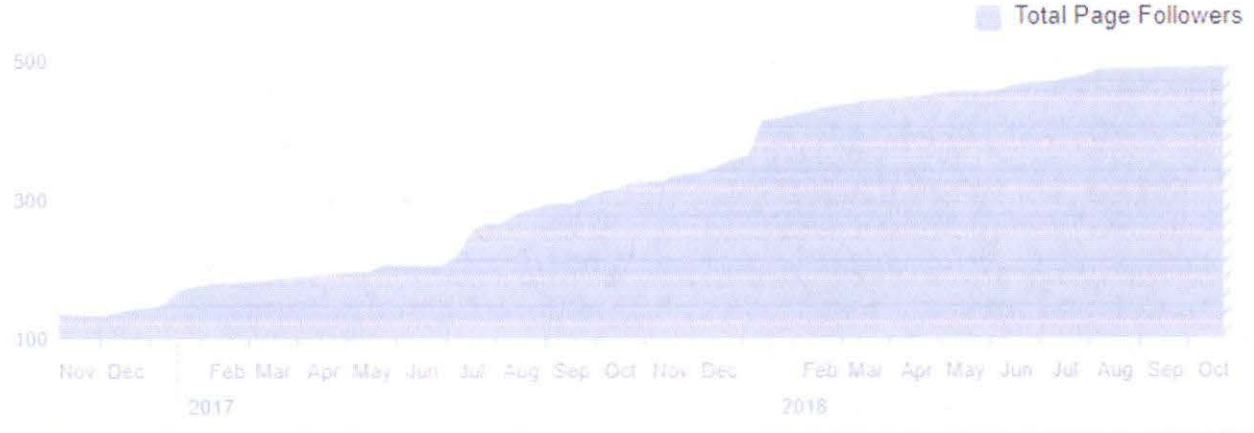
Hagerstown
Martinsburg
Winchester
Charlottesville
Roanoke
Virginia Beach
Norfolk
Atlantic City
Trenton
New York
Boston
Hershey
Gettysburg
Lancaster
Harrisburg
Carlisle
Chambersburg
Waynesboro
Shippensburg
Mechanicsburg
Camp Hill
Lemoyne
New Cumberland
Wormleysburg
Enola
Mount Joy
Elizabethtown
Middletown
Hummelstown
Palmyra
Annville
Lebanon
Cornwall
Mount Gretna
Campbelltown
Myerstown
Jonestown
Bethel
Fredericksburg
Tulpehocken
Womelsdorf
Robesonia
Wernersville
Sinking Spring
Wyomissing
Reading
Shillington
Lyons
Hamburg
Kutztown
Fleetwood
Topton
Boyertown
Douglassville
Pottstown
Limerick
Royersford
Phoenixville
Valley Forge
King of Prussia
Norristown
Conshohocken
West Conshohocken
Bala Cynwyd
Ardmore
Haverford
Upper Darby
Drexel Hill
Clifton Heights
Aldan
Darby
Sharon Hill
Folcroft
Norwood
Glenolden
Prospect Park
Ridley Park
Eddystone
Chester
Marcus Hook
Trainer
Linwood
Upper Chichester
Boothwyn
Brookhaven
Media
Rose Valley
Moylan
Rutledge
Swarthmore
Wallingford
Nether Providence
Aldan
Upper Darby
Havertown
Newtown Square
Broomall
Springfield
Drexel Hill
Secane
Clifton Heights

North County Community Group



Total Page Followers as of Today: 496

October 20, 2018

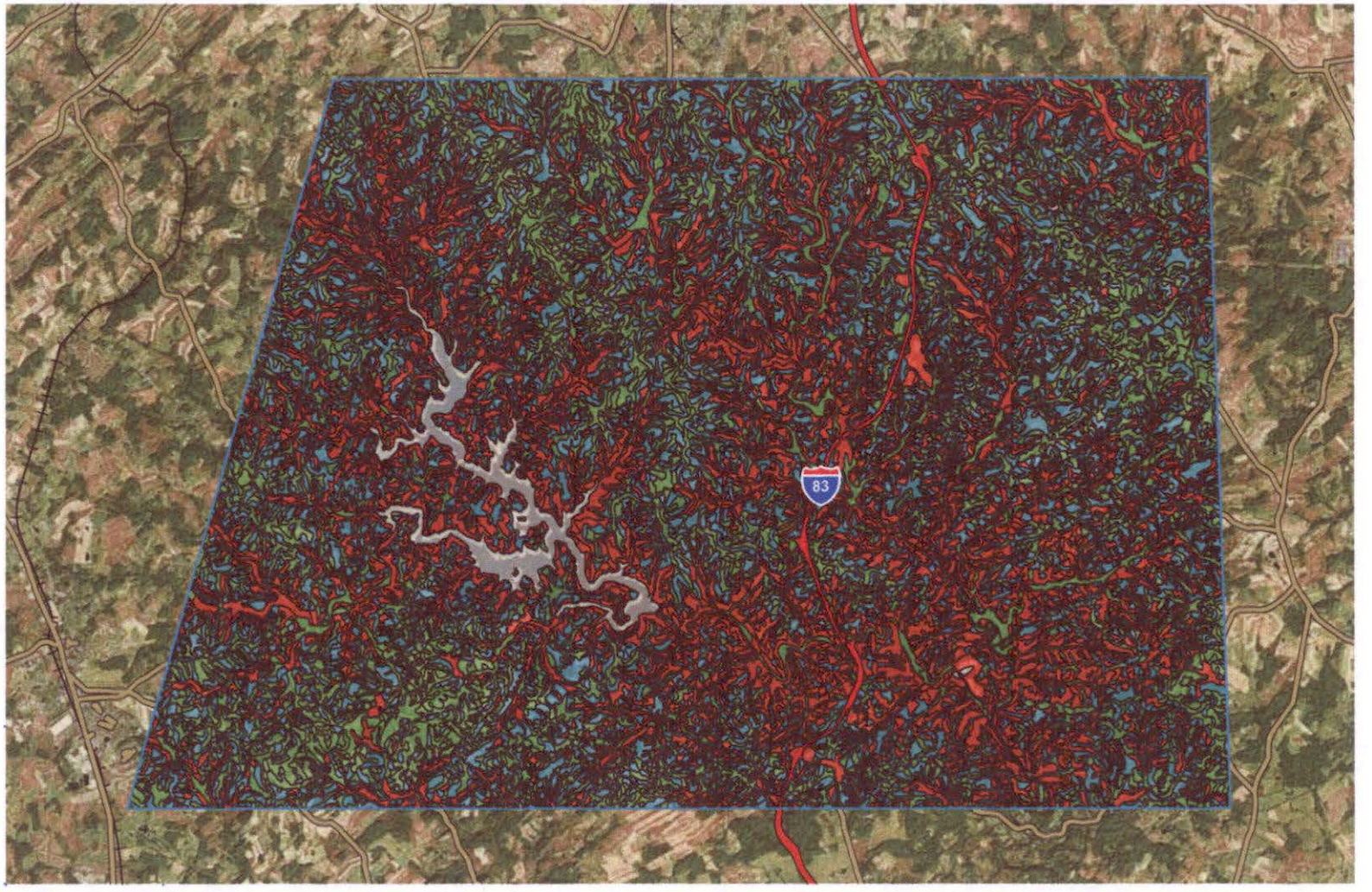


Farmland Classification—Baltimore County, Maryland
(Northern Baltimore County)

76° 51' 58" W

76° 44' 32" W

39° 44' 0" N



39° 34' 7" N

Map Scale: 1:129,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 1500 3000 6000 9000

Feet
0 5000 10000 20000 30000

Map projection: Web Mercator Corner coordinates: WGS84

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

10/8/2018
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MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

Soil Survey Area: Baltimore County, Maryland
Survey Area Data: Version 13, Sep 10, 2018

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

Date(s) aerial images were photographed: Aug 23, 2013—Oct 20, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaA	Baile silt loam, 0 to 3 percent slopes	Not prime farmland	225.8	0.3%
BaB	Baile silt loam, 3 to 8 percent slopes	Not prime farmland	392.5	0.5%
BhB	Brinklow channery loam, 3 to 8 percent slopes	All areas are prime farmland	2,554.1	3.3%
BhC	Brinklow channery loam, 8 to 15 percent slopes	Farmland of statewide importance	3,633.3	4.6%
BhD	Brinklow channery loam, 15 to 25 percent slopes	Not prime farmland	11,168.5	14.3%
CfA	Codorus silt loams, 0 to 3 percent slopes	All areas are prime farmland	3,443.6	4.4%
CgA	Comus silt loam, 0 to 3 percent slopes	All areas are prime farmland	52.0	0.1%
DAM	Dams	Not prime farmland	2.2	0.0%
DbB	Delanco silt loam, 3 to 8 percent slopes	All areas are prime farmland	31.9	0.0%
EcC	Elioak silt loam, 8 to 15 percent slopes	Farmland of statewide importance	15.9	0.0%
GaB	Gaila loam, 3 to 8 percent slopes	All areas are prime farmland	605.8	0.8%
GaC	Gaila loam, 8 to 15 percent slopes	Farmland of statewide importance	585.3	0.7%
GdA	Glenelg loam, 0 to 3 percent slopes	All areas are prime farmland	3,154.8	4.0%
GdB	Glenelg loam, 3 to 8 percent slopes	All areas are prime farmland	7,951.8	10.2%
GdC	Glenelg loam, 8 to 15 percent slopes	Farmland of statewide importance	4,389.0	5.6%
GeA	Glenelg channery loam, 0 to 3 percent slopes	All areas are prime farmland	77.4	0.1%
GeB	Glenelg channery loam, 3 to 8 percent slopes	All areas are prime farmland	1,410.4	1.8%
GeC	Glenelg channery loam, 8 to 15 percent slopes	Farmland of statewide importance	9,403.5	12.0%
GfB	Glenelg-Urban land complex, 0 to 8 percent slopes	Not prime farmland	56.6	0.1%
GhA	Glenville silt loam, 0 to 3 percent slopes	All areas are prime farmland	527.3	0.7%
GhB	Glenville silt loam, 3 to 8 percent slopes	All areas are prime farmland	5,335.0	6.8%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
GhC	Glenville silt loam, 8 to 15 percent slopes	Farmland of statewide importance	3,198.6	4.1%
HbA	Hatboro silt loams, 0 to 3 percent slopes	Not prime farmland	1,575.1	2.0%
MaB	Manor loam, 3 to 8 percent slopes	All areas are prime farmland	115.8	0.1%
MaC	Manor loam, 8 to 15 percent slopes	Farmland of statewide importance	1,628.0	2.1%
MaD	Manor loam, 15 to 25 percent slopes	Not prime farmland	993.5	1.3%
MbB	Manor channery loam, 3 to 8 percent slopes	All areas are prime farmland	6.8	0.0%
MbC	Manor channery loam, 8 to 15 percent slopes	Farmland of statewide importance	513.7	0.7%
MbD	Manor channery loam, 15 to 25 percent slopes	Not prime farmland	2,005.6	2.6%
MbE	Manor channery loam, 25 to 45 percent slopes	Not prime farmland	16.7	0.0%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Not prime farmland	9,238.2	11.8%
MdF	Manor-Brinklow complex, 45 to 65 percent slopes, very rocky	Not prime farmland	1,432.9	1.8%
QS	Quarries, schist/gneiss	Not prime farmland	85.1	0.1%
UcF	Udorthents, highway, 0 to 65 percent slopes	Not prime farmland	428.3	0.5%
UfE	Udorthents, refuse, 3 to 45 percent slopes	Not prime farmland	96.9	0.1%
UuB	Urban land-Udorthents complex, 0 to 8 percent	Not prime farmland	78.9	0.1%
W	Water		1,629.5	2.1%
WgB	Wheaton-Glenelg complex, 0 to 8 percent slopes	Not prime farmland	48.2	0.1%
WgC	Wheaton-Glenelg complex, 8 to 15 percent	Not prime farmland	49.8	0.1%
Totals for Area of Interest			78,158.7	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

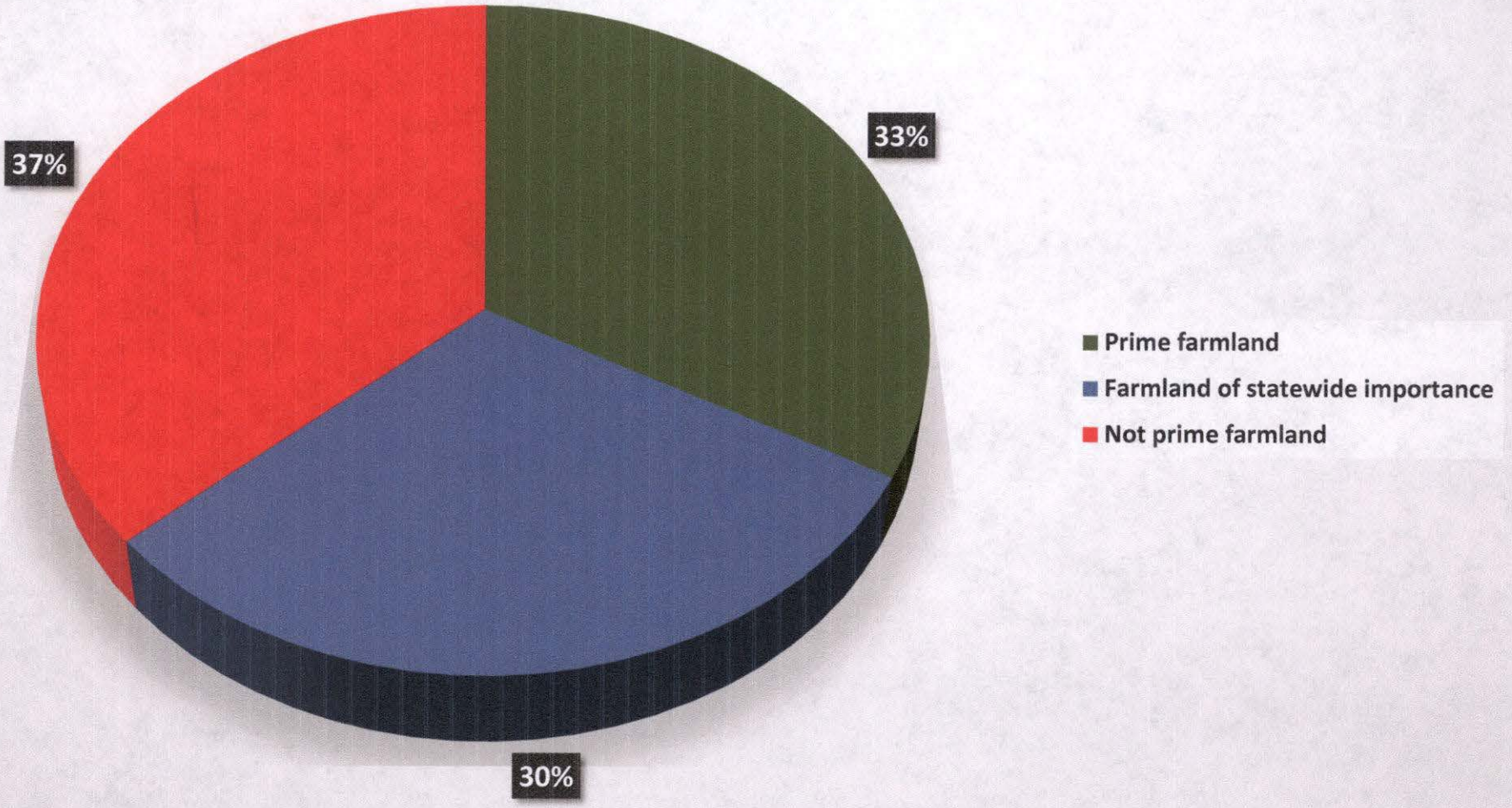
Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

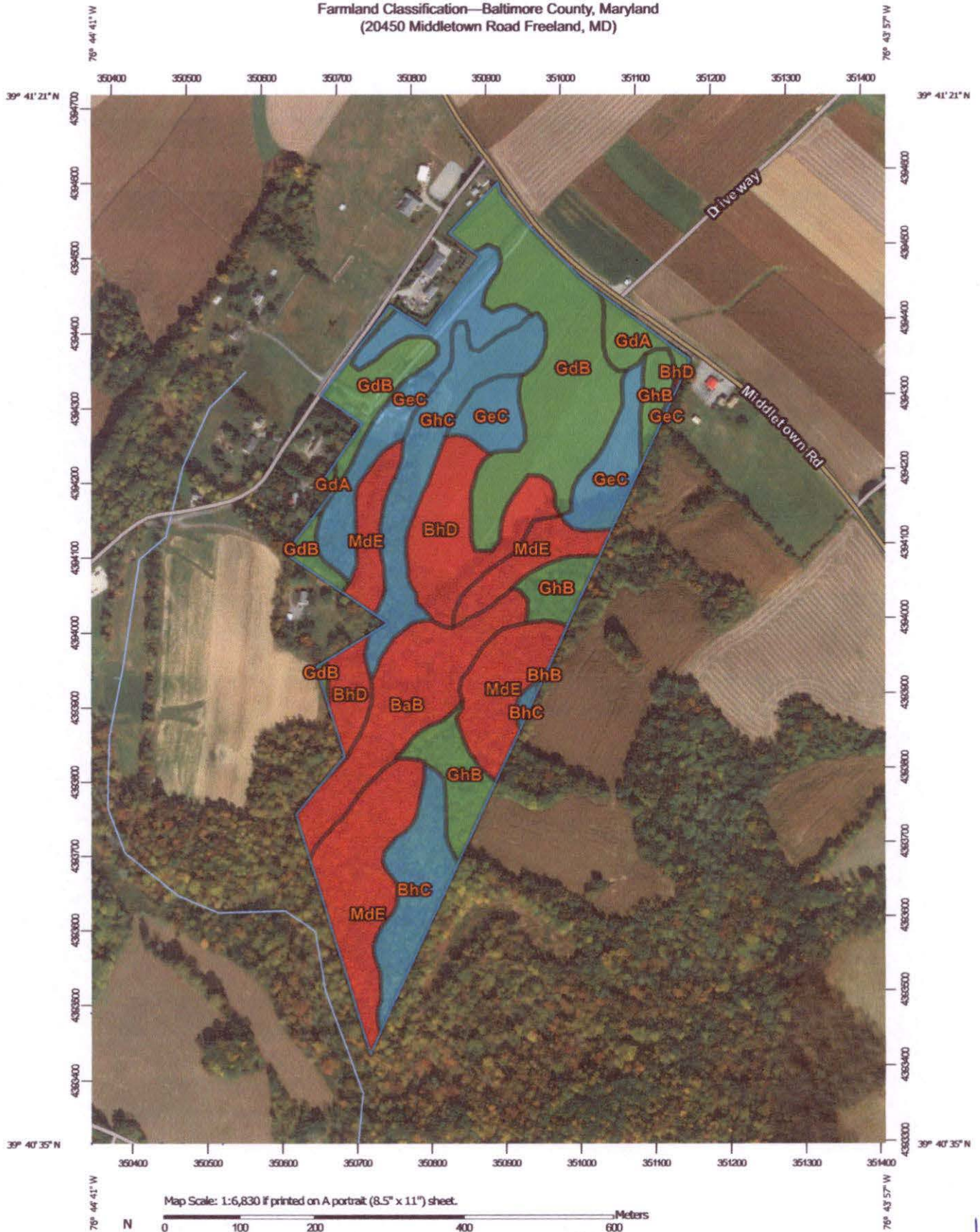
Northern Baltimore County Farm Soil Classification

(Reference Web Soil Survey 10/8/2018)



Kathleen Pieper 10-10-2018

Farmland Classification—Baltimore County, Maryland
(20450 Middletown Road Freeland, MD)



Map Scale: 1:6,830 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 100, 200, 400, 600

Feet: 0, 300, 600, 1200, 1800

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

USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

Protestant
CBA Exhibit

10/11/2018
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Matthew

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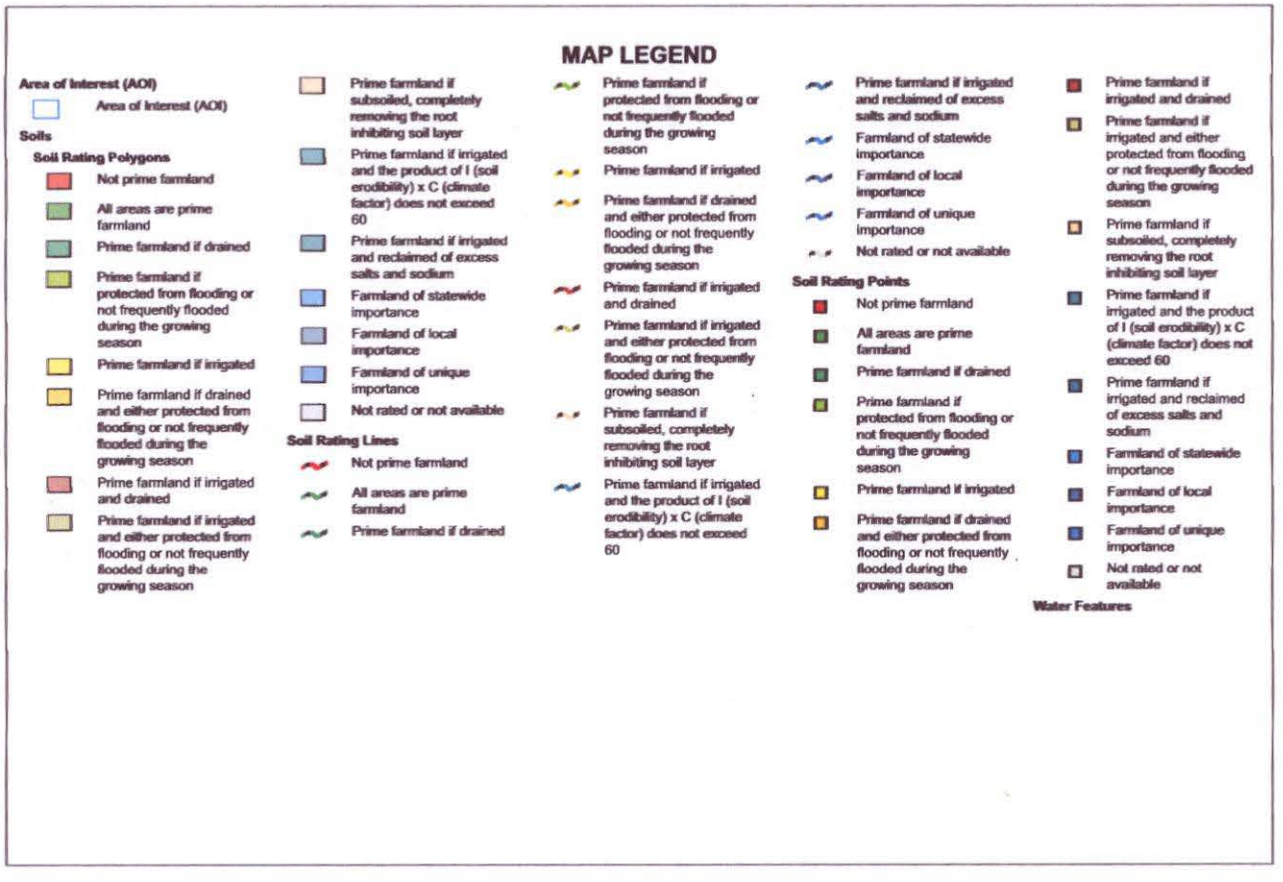
Farmland Classification—Baltimore County, Maryland
(20450 Middletown Road Freeland, MD)



MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

Soil Survey Area: Baltimore County, Maryland
Survey Area Data: Version 13, Sep 10, 2018

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

Date(s) aerial images were photographed: Aug 23, 2013—Feb 22, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	Not prime farmland	7.2	9.9%
BhB	Brinklow channery loam, 3 to 8 percent slopes	All areas are prime farmland	0.0	0.0%
BhC	Brinklow channery loam, 8 to 15 percent slopes	Farmland of statewide importance	4.5	6.2%
BhD	Brinklow channery loam, 15 to 25 percent slopes	Not prime farmland	7.4	10.3%
GdA	Glenelg loam, 0 to 3 percent slopes	All areas are prime farmland	1.4	2.0%
GdB	Glenelg loam, 3 to 8 percent slopes	All areas are prime farmland	15.2	21.0%
GeC	Glenelg channery loam, 8 to 15 percent slopes	Farmland of statewide importance	10.4	14.4%
GhB	Glenville silt loam, 3 to 8 percent slopes	All areas are prime farmland	5.2	7.2%
GhC	Glenville silt loam, 8 to 15 percent slopes	Farmland of statewide importance	6.1	8.4%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Not prime farmland	14.9	20.7%
Totals for Area of Interest			**72.2**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Baltimore County, Maryland
(20450 Middletown Road Freeland, MD Plan)

Map Scale: 1:2,240 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

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

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

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MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12,000.

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: Baltimore County, Maryland
Survey Area Data: Version 13, Sep 10, 2018

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

Date(s) aerial images were photographed: Aug 23, 2013—Feb 22, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BhD	Brinklow channery loam, 15 to 25 percent slopes	Not prime farmland	0.9	5.2%
GdA	Glenelg loam, 0 to 3 percent slopes	All areas are prime farmland	0.9	5.3%
GdB	Glenelg loam, 3 to 8 percent slopes	All areas are prime farmland	9.1	54.6%
GeC	Glenelg channery loam, 8 to 15 percent slopes	Farmland of statewide importance	4.0	23.8%
GhC	Glenville silt loam, 8 to 15 percent slopes	Farmland of statewide importance	1.9	11.2%
Totals for Area of Interest			16.7	100.0%

Description

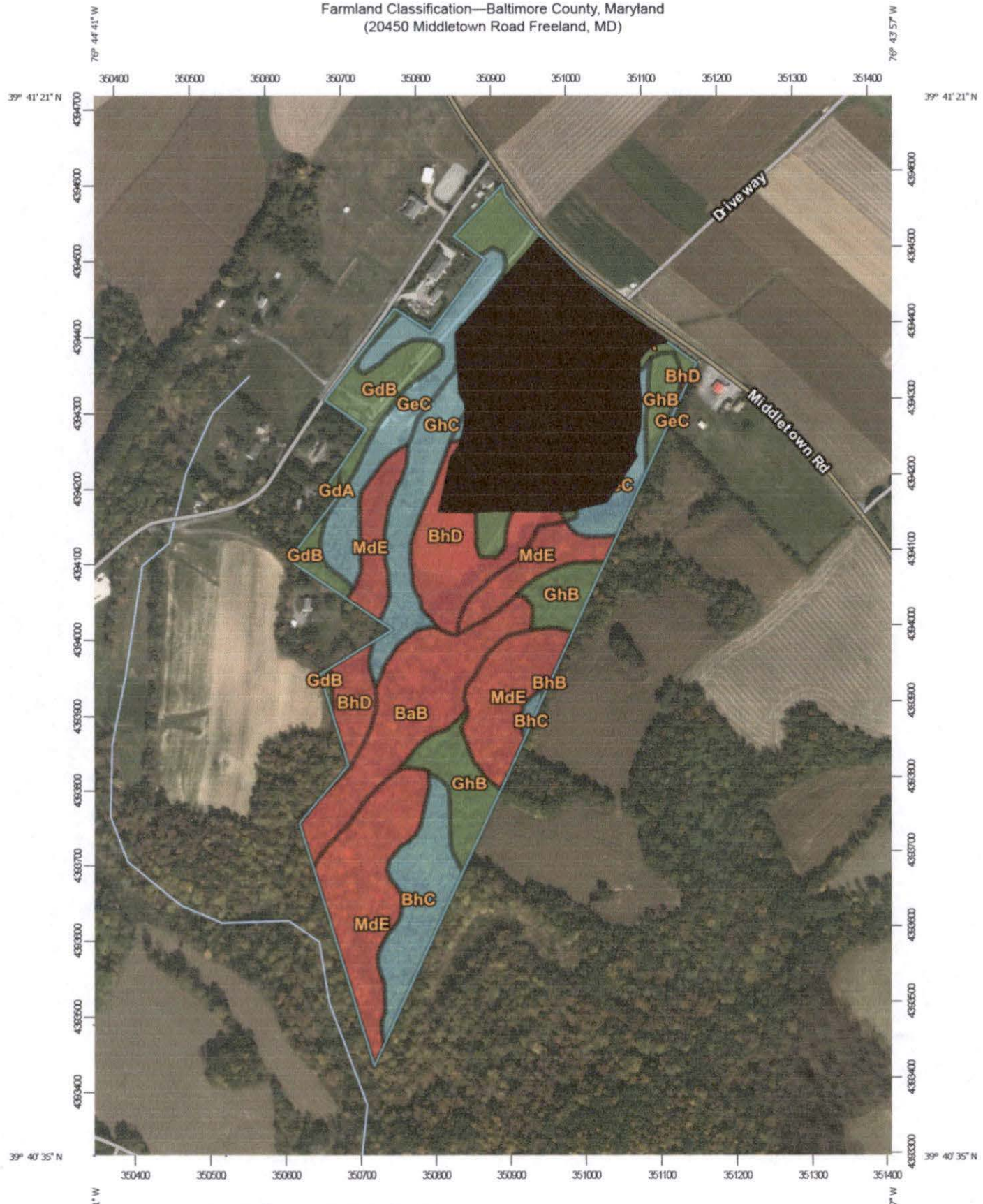
Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Baltimore County, Maryland
(20450 Middletown Road Freeland, MD)



Map Scale: 1:6,830 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0, 100, 200, 400, 600

Feet: 0, 300, 600, 1200, 1800

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

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USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

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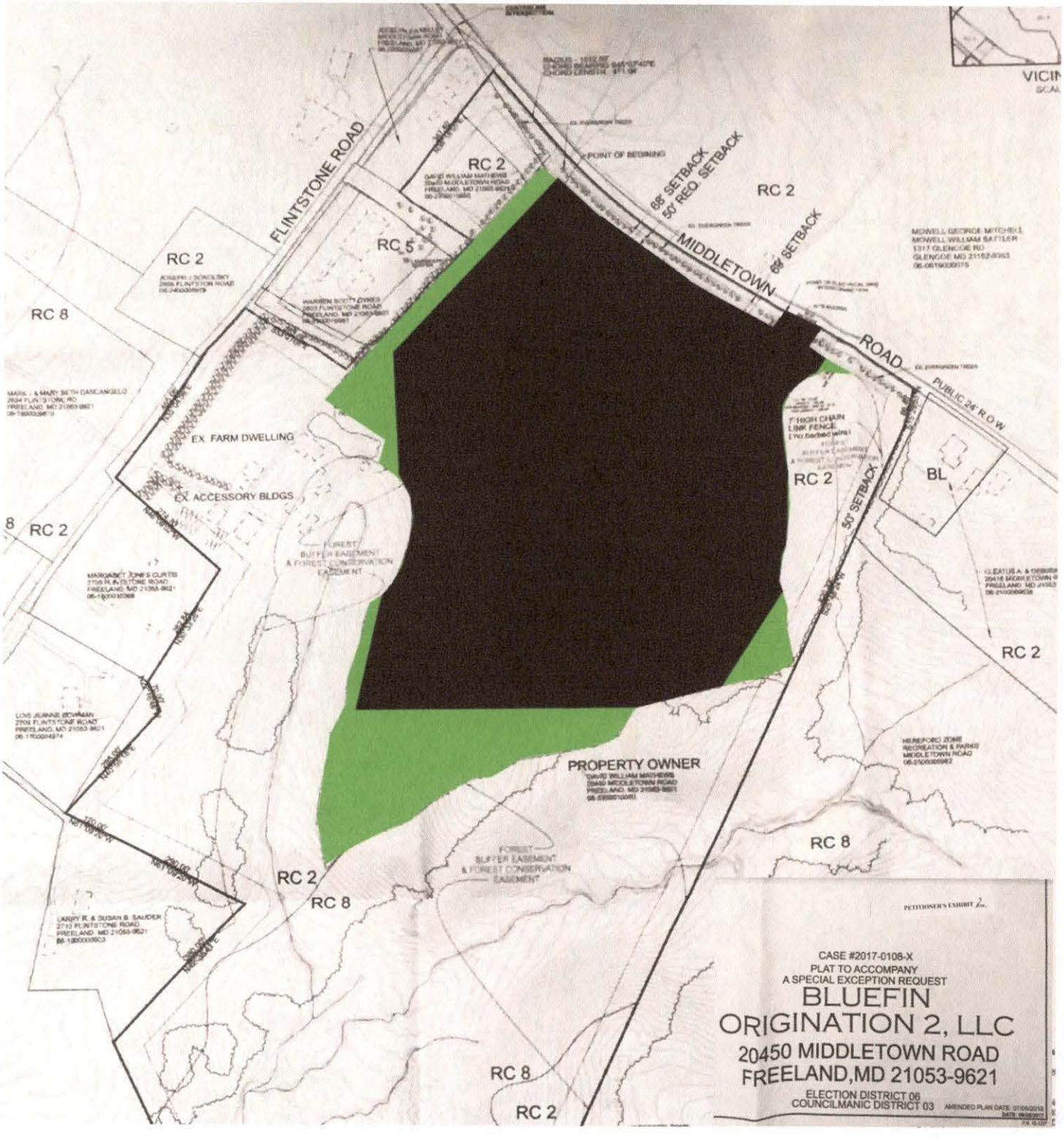

Estimated area enclosed within fence on Petitioner's exhibit 2.

Estimated tillable acreage on 20450 Middletown Road. Does not include buffered open land.

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Map Symbol	Symbol Name	Rating	N. Balt. County Acres	N. Balt. County %	20450 Middletown Acres	20450 Middletown %
BaA	Baile silt loam, 0 to 3 % slopes	Not prime farmland	225.8	0.3		
BaB	Baile silt loam, 3 to 8 % slopes	Not prime farmland	392.5	0.5		
BhB	Brinklow channery loam, 3 to 8 % slopes	Prime farmland	2,554.1	3.3		
BhC	Brinklow channery loam, 8 to 15 % slopes	Farmland of statewide importance	3,633.3	4.6		
BhD	Brinklow channery loam, 15 to 25 % slopes	Not prime farmland	11,168.5	14.3	0.9	5.2
CfA	Codorus silt loams, 0 to 3 % slopes	Prime farmland	3,443.6	4.4		
CgA	Comus silt loam, 0 to 3 % slopes	Prime farmland	52.0	0.1		
DAM	Dams	Not prime farmland	2.2	0.0		
DbB	Delanco silt loam, 3 to 8 % slopes	Prime farmland	31.9	0.0		
EcC	Elioak silt loam, 8 to 15 % slopes	Farmland of statewide importance	15.9	0.0		
GaB	Gaila loam, 3 to 8 % slopes	Prime farmland	605.8	0.8		
GaC	Gaila loam, 8 to 15 % slopes	Farmland of statewide importance	585.3	0.7		
GdA	Glenelg loam, 0 to 3 % slopes	Prime farmland	3,154.8	4.0	0.9	5.3
GdB	Glenelg loam, 3 to 8 % slopes	Prime farmland	7,951.8	10.2	9.1	54.6
GdC	Glenelg loam, 8 to 15 % slopes	Farmland of statewide importance	4,389.0	5.6		
GeA	Glenelg channery loam, 0 to 3 % slopes	Prime farmland	77.4	0.1		
GeB	Glenelg channery loam, 3 to 8 % slopes	Prime farmland	1,410.4	1.8		
GeC	Glenelg channery loam, 8 to 15 % slopes	Farmland of statewide importance	9,403.5	12.0	4.0	23.8
GfB	Glenelg-Urban land complex, 0 to 8 % slopes	Not prime farmland	56.6	0.1		
GhA	Glenville silt loam, 0 to 3 % slopes	Prime farmland	527.3	0.7		
GhB	Glenville silt loam, 3 to 8 % slopes	Prime farmland	5,335.0	6.8		
GhC	Glenville silt loam, 8 to 15 % slopes	Farmland of statewide importance	3,198.6	4.1	1.9	11.2
HbA	Hatboro silt loams, 0 to 3 % slopes	Not prime farmland	1,575.1	2.0		
MaB	Manor loam, 3 to 8 % slopes	Prime farmland	115.8	0.1		
MaC	Manor loam, 8 to 15 % slopes	Farmland of statewide importance	1,638	2.1		
MaD	Manor loam, 15 to 25 % slopes	Not prime farmland	933.5	1.3		
MbB	Manor channery loam, 3 to 8 % slopes	Prime farmland	6.8	0.0		
MbC	Manor channery loam, 8 to 15 % slopes	Farmland of statewide importance	513.7	0.7		
MbD	Manor channery loam, 15 to 25 % slopes	Not prime farmland	2,005.6	2.6		
MbE	Manor channery loam, 25 to 45 % slopes	Not prime farmland	16.7	0.0		
MdE	Manor-Brinklow complex, 25 to 45 % slopes, very rocky	Not prime farmland	9,238.2	11.8		
MdF	Manor-Brinklow complex, 45 to 65 % slopes, very rocky	Not prime farmland	1,432.9	1.8		
QS	Quarries, schist/gneiss	Not prime farmland	85.1	0.1		
UcF	Udorthents, highway, 0 to 65 % slopes	Not prime farmland	428.3	0.5		
UfE	Udorthents, refuse, 3 to 45 % slopes	Not prime farmland	96.9	0.1		
UuB	Urban land-Udorthents complex, 0 to 8 %	Not prime farmland	78.9	0.1		
W	Water		1,629.5	2.1		
WgB	Wheaton-Glenelg complex, 0 to 8 % slopes	Not prime farmland	48.2	0.1		
WgC	Wheaton-Glenelg complex, 8 to 15 %	Not prime farmland	49.8	0.1		
Totals for Area of Interest			**72,622.0**	**100.0%**	**16.7**	**100.0%**

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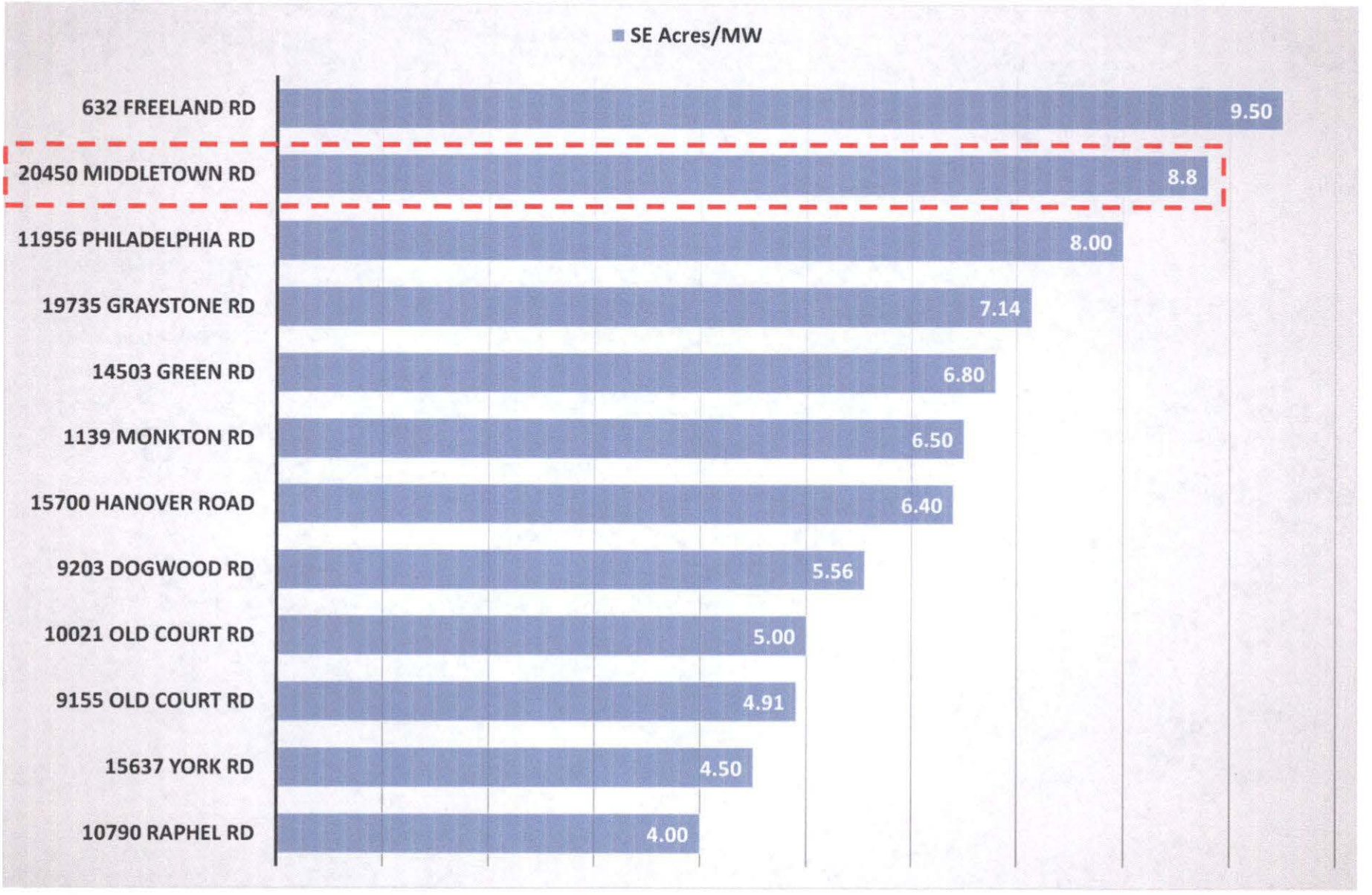
Kathleen Pieper 10-10-2018 Data from: https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Baltimore County Community Solar Projects



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Baltimore County Community Solar Projects

Case	Address	Power (MW)	SE (Acres)	SE Acres/MW
2018-0127-X	10790 Raphel Rd	2	8	4.0
2018-0047-X	15637 York Rd	2	9	4.5
2018-0078-X	9155 Old Court Rd	2	9.81	4.9
2018-0124-SPHX	10021 Old Court Rd	2	10	5.0
2018-0123-SPHX	9203 Dogwood Rd	0.9	5	5.6
2018-0052-X	15700 Hanover Road	1	6.4	6.4
2018-0030-X	1139 Monkton Rd	2	13	6.5
2017-0344-X	14503 Green Rd	2	13.6	6.8
2018-0072-X	19735 Graystone Rd	0.84	6	7.1
2018-0095-SPHXA	11956 Philadelphia Rd	2	16	8.0
2017-0108-X	20450 Middletown Rd	1.9	16.71	8.8
2018-0194-X	632 Freeland Rd	2	19	9.5

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ARTICLE 4F. Solar Facilities

[**Bill No. 37-2017** *Editor's Note: This article was enacted as Article 4E. Because provisions regarding breweries were also enacted as Article 4E, this article was renumbered to avoid duplicate numbering and to maintain the organization of the Zoning Regulations.*]

§ 4F-101. Purpose and definitions.

A. Purpose. Solar energy is recognized as an abundant, renewable, and environmentally sustainable source of electricity generation that will lead to greater local grid resiliency and security, and produce clean, renewable energy and reduce air and water pollution caused by the burning of traditional fossil fuels. The purpose and intent of this article is to permit solar facilities in parts of the rural and commercial areas of the County by special exception, and to balance the benefits of solar energy production with its potential impact upon the County's land use policies by ensuring sufficient safeguards are in place to protect the County's communities and its agricultural land, forests, waterways and other natural resources.

B. Definitions. As used in this article, the following terms have the meanings indicated:

COMMERCIAL USE

The transfer to the electrical power grid of energy produced by a solar facility for sale by energy suppliers to consumers.

SOLAR FACILITY

A facility that includes a series of one or more solar collector panels or solar energy systems that are placed in an area on a tract of land for the purpose of generating photovoltaic power for commercial use. The term includes a solar power plant or solar photovoltaic farm.

§ 4F-102. Location of solar facilities.

A. Subject to Paragraph B, a solar facility is permitted only by special exception in the R.C. 2, R.C. 3, R.C. 4, R.C. 5, R.C. 6, R.C. 7, R.C. 8, B.L., B.M., M.R., M.L.R., and M.H. Zones of the County.

B. The allocation of land for solar facilities in the County is limited to the following:

1. The maximum area permitted for a single solar facility is the amount of acreage that produces no more than two megawatts alternating current (AC) of electricity.
2. No more than 10 solar facilities may be located in a councilmanic district.
3. The Director of Permits, Approvals and Inspections shall maintain a record of all permits issued for a solar facility in the County, including the location and councilmanic district for each such facility, and shall keep a current accounting of the number of facilities in each councilmanic district under this paragraph.
4. Upon reaching the threshold of 10 solar facilities in a councilmanic district, no additional permits shall be issued for a solar facility in that district unless an existing facility previously approved under this article has been removed pursuant to Section 4F-107.

§ 4F-103. Exception.

This article does not apply to the following solar facility installations:

A. A ground-mounted solar facility that is accessory to a principal residential or agricultural use (subject to Sections 400.1 and 400.2 of these regulations applicable to accessory buildings), or accessory to a principal commercial, industrial, or institutional use;

B. A rooftop solar facility;

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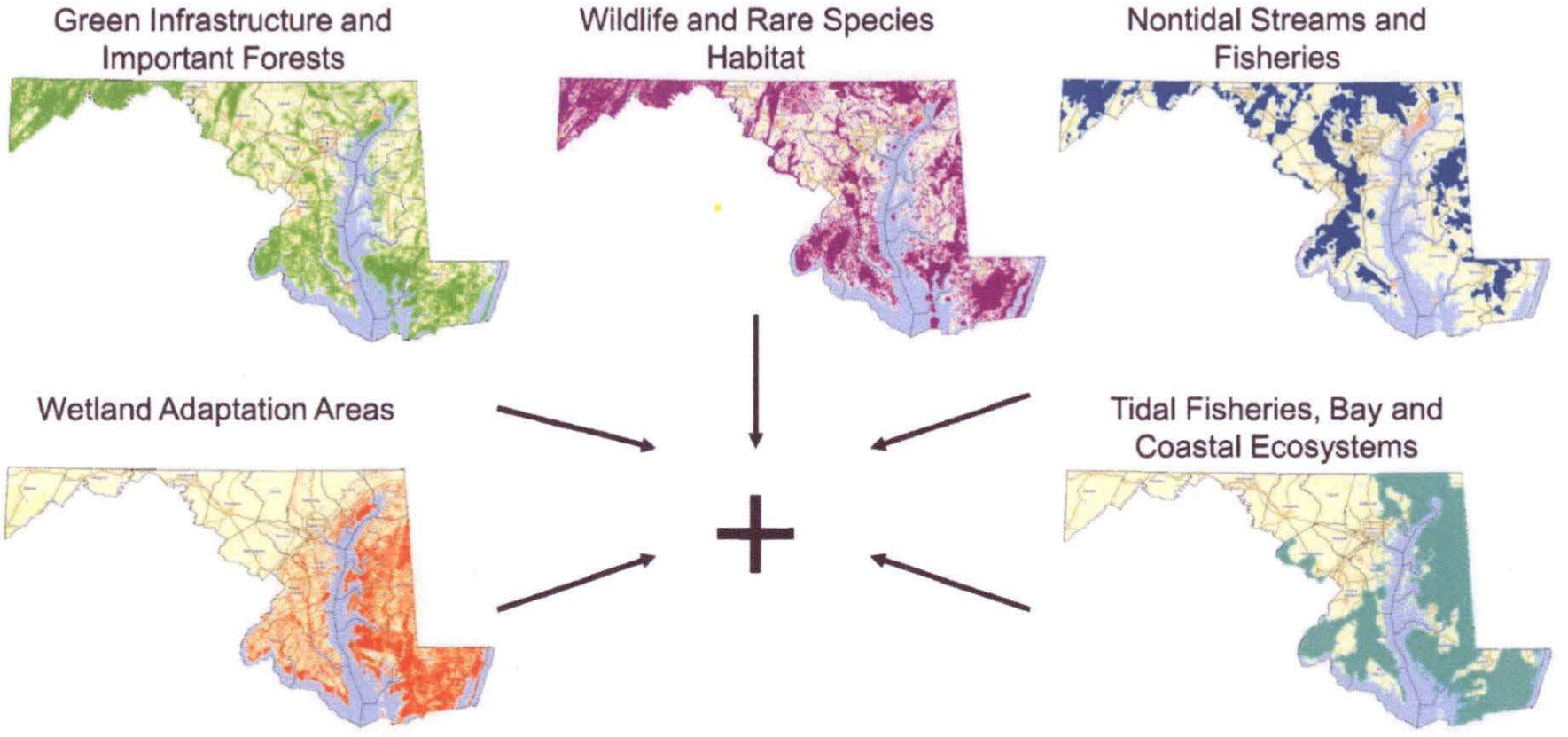
Targeted Ecological Areas (TEAs)

"The Best of The Best"



https://acwi.gov/monitoring/conference/2012/K4/K4ConnV4.pdf
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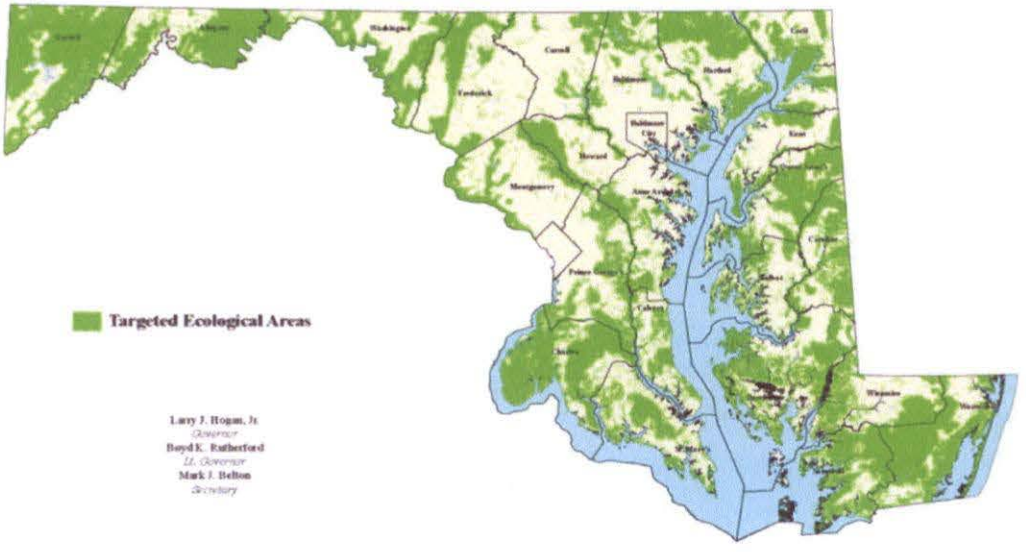
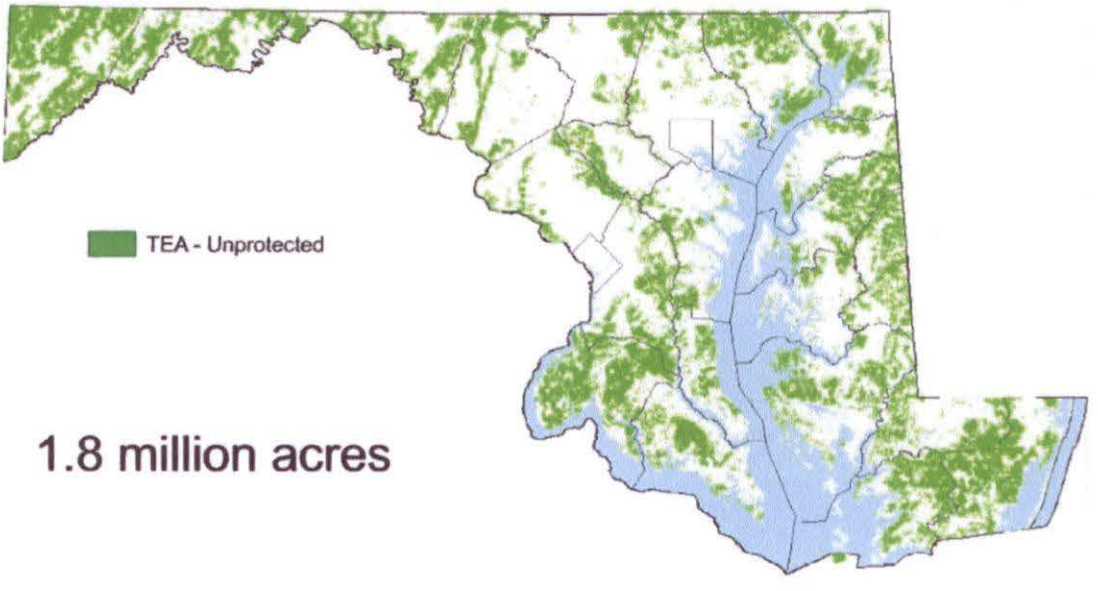
MARYLAND
Smart, Green & Growing

POS Stateside - Targeted Ecological Areas



Targeted Ecological Areas (2011) preferred for POS funding



1.8 million acres

https://acwi.gov/monitoring/conference/2012/K4/K4ConnV4.pdf

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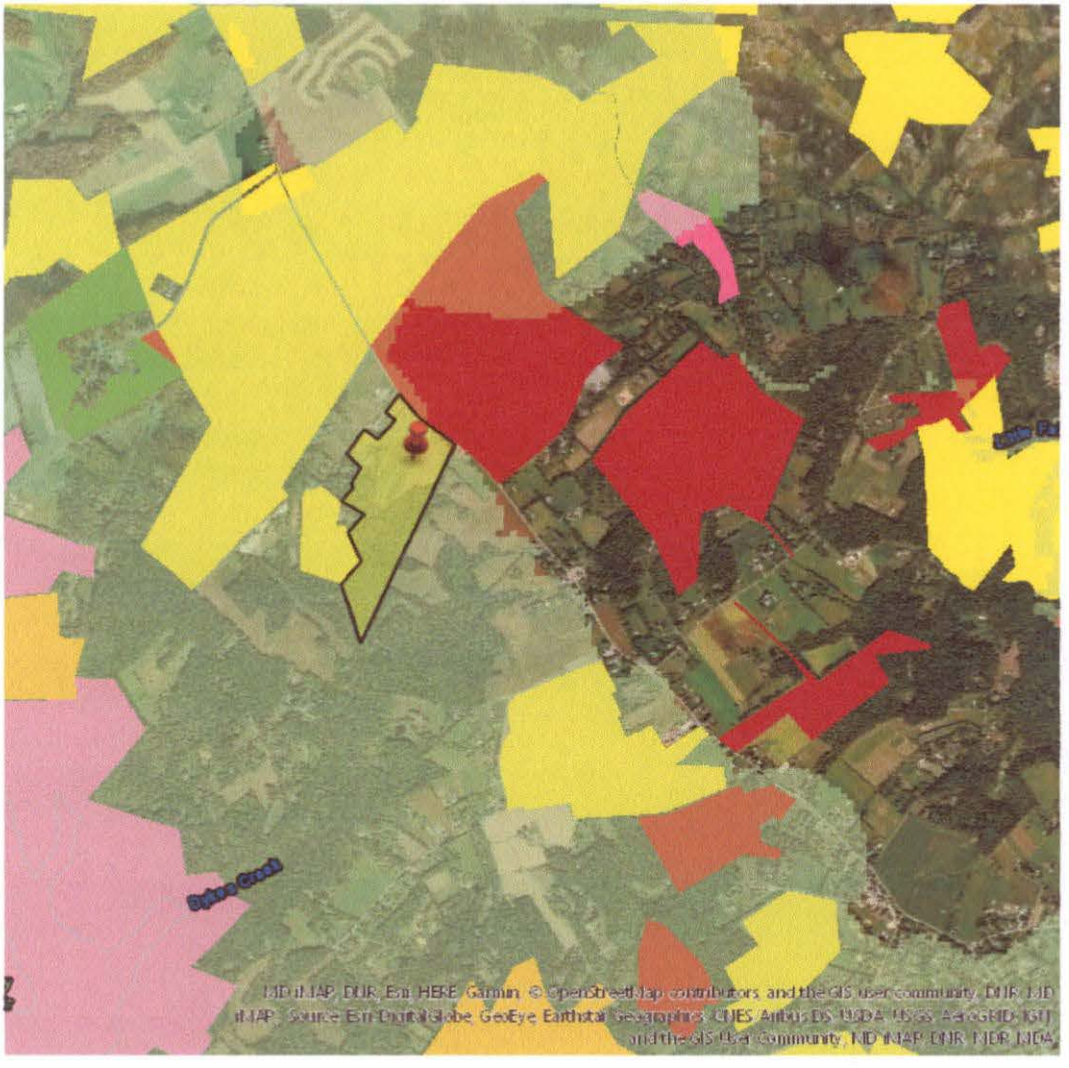
MARYLAND DEPARTMENT OF NATURAL RESOURCES

Conservation Benefits Assessment



Parcel Analyzed

Account ID:04062300010050
Tax Map:0006
Parcel ID:0069
Parcel size:70.98 acres
Targeted Ecological Area: 68.72 acres

Ratings are partially based on field surveys, but not all parcels have been surveyed. The data used to rate parcels are updated as new information is gathered and processed. Ratings may not reflect the most recently gathered data available or the parcel's actual ecological value if surveys have not been conducted.

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Benefit Ratings

Habitat Connectivity ★☆☆☆☆	The state's remaining large blocks of forest and wetlands (hubs) and the habitat pathways (corridors) that connect them. Data Source: Maryland DNR, Green Infrastructure - Hubs and corridors. 2005
Rare Species & Wildlife Habitat ★★☆☆☆	As described by the Biodiversity Conservation Network(BioNet), these are habitats of the state's rarest plants and animals, as well as high quality and rare natural communities and other living resources of conservation concern. Data Source: Maryland DNR, BioNet Version 2. 2017
Support of Aquatic Life ★★★★★	Watersheds that support high quality streams and riverine areas that are important for aquatic biodiversity and freshwater recreational fisheries. Data Source: Maryland DNR, Stronghold Watersheds 2011., MDE Maryland Water Quality Tier II Catchments. 2016., MDE Surface Water Use Class 2014.
Forests Important for Water Quality Protection ★★★★★	Forests for healthy watersheds that are the most effective in preventing pollution to streams, rivers and bays and maintaining healthy stream hydrology. Data Source: Maryland DNR Forests Important for Water Quality. 2011.
Targeted Ecological Area YES	Lands and watersheds identified as the most ecologically valuable areas in the State and are preferred for conservation funding through Stateside Program Open Space(POS). At least 50% of the parcel must be in a Targeted Ecological Area to meet ecological criteria for POS. Data Source: Maryland DNR, Maryland Focal Areas - Targeted Ecological Areas 2011.
Coastal Community Resiliency ★★★★★	Areas along the shoreline where natural habitats, such as marshes and coastal forests, have the potential to reduce the impact of coastal hazards to the adjacent coastal communities by dampening waves, stabilizing sediment, and absorbing water. Data Source: Maryland DNR, Maryland Coastal Resiliency Assessment - Priority Shoreline Areas and Marsh Protection Potential Index. 2016.
Future Wetland Habitat ★☆☆☆☆	Areas important for inland wetland migration resulting from sea level rise that will support high value coastal habitats of the future. Data Source: Maryland DNR, Maryland Sea Level Rise Wetland Adaptation Areas. 2016.
Proximity to Protected Lands ★★★★★	Conservation opportunities located near other protected land areas contributes to landscape scale protection which is key for conserving healthy aquatic and terrestrial ecosystems. Data Source: Maryland DNR and Dept. of Planning, Protected Lands. 2017.

Ecosystem Service Assessment

Ecosystem Service Name *(and biophysical unit)(range)*	Annual Parcel-Level Values*		Annual Per-Acre Values**	
	Biophysical	Economic	Biophysical	Economic
Air Pollution Removal: Carbon Monoxide (CO) *(kg per year)(0-1.35 kg per acre per year)*	19.01	$0.51	0.27	$0.01
Air Pollution Removal: Nitrogen Dioxide(NO_2) *(kg per year)(0- 9.01 kg per acre per year)*	196.75	$6.61	2.82	$0.09
Air Pollution Removal: Sulfur Dioxide(SO_2) *(kg per year)(0- 6.67 kg per acre per year)*	51.24	$0.64	0.73	$0.01
Air Pollution Removal: Ozone (O_3) *(kg per year)(0-34.35 kg per acre per year)*	773.79	$207.50	11.08	$2.97
Air Pollution Removal: Particulate Matter(PM_{10}) *(kg per year)(0-8.34 kg per acre per year)*	194.32		2.78	
Air Pollution Removal: Particulate Matter($PM_{2.5}$) *(kg per year)(0-1.80 kg per acre per year)*	14.16	$164.81	0.20	$2.36
Carbon Sequestration *(mT per year)(0-4 mt per acre per year)*	20.09	$2,797.75	0.29	$40.06
Groundwater Recharge *(m3per year)(445 - 1236 m3 per acre per year)*	6645.78	$17,659.00	95.17	$252.88
Nitrogen Uptake Potential Index *(1 = low to 3 = high)**	2.00	$2,399.00	No Data	$34.35
Stormwater Mitigation Potential Index *(1 = low to 5 = high)**	1.82	$25,557.00	No Data	$365.98
Wildlife Habitat and Biodiversity Potential Index *(0 = low to 100 = high)**	20.46	$11,548.00	No Data	$165.37
Surface Water Protection	No Data	$45,562.00	No Data	$652.45
Total Annual Economic Value	No Data		No Data	$1,516.89

Ecosystem Service Descriptions

Ecosystem Services(ES):ES can be broadly defined as the benefits which humans receive as a result of the work performed by naturally functioning ecosystems. When natural systems are lost, the services they provide to society are also lost. If not replaced, society will eventually suffer consequences, such as negative human health impacts due to poor air or water quality. Here, we quantify the value of ES provided by forests and wetlands areas in biophysical and economic terms. Greater biophysical values or higher indexes correspond to higher economic values for the ecosystem service.

Biophysical Value: The physical work performed by an ecosystem, quantified using ecological models.

Economic Value: The monetary value of the benefits provided to society through ES. Here, the 'social value' of ES is quantified, based on known instances of payments for ES, such as current market values, payments for conservation or restoration, or payments to install man-made alternatives to supplement services lost. It is important to note that the economic values reported here are intended for evaluating tradeoffs and informing decision making, but do not indicate market value or compensatory value.

Air Pollution Removal: Trees remove pollution from the air that would otherwise contribute to human health problems, such as asthma and cardiovascular stress.

Carbon Sequestration: Ecosystems take up carbon and store it in their biomass, offsetting some of the emissions from human activity and helping to reduce climate change.

Data: Biophysical, Economic

Groundwater Recharge: Ecosystems allow for water to percolate through the soil and recharge aquifers, which Maryland relies on for 50% of its drinking water supply.

Data: Biophysical, Economic

Nitrogen Uptake Potential Index: Nitrogen pollution is critically important to the health Chesapeake Bay. Forests and wetlands remove nitrogen through taking it up in their biomass and soils.

Data: Biophysical, Economic

Stormwater Mitigation/Flood Prevention Potential Index: Forests and wetlands absorb rainfall, lessening the amount of runoff that would otherwise cause erosion, need to be treated by stormwater systems, or cause flood damage.

Data: Biophysical, Economic

Wildlife Habitat and Biodiversity Potential Index: Certain forests and wetlands are better able to support wildlife and more likely to support rare and threatened species. These are typically ecosystems that are less impacted by people.

Data: Biophysical, Economic

Surface Water Protection: Forests reduce pollutant runoff into reservoirs, increasing water quality in the reservoir and reducing the cost of treating water to meet drinking water standards.

Data: Economic

For additional information regarding the data and methods used in this assessment, and to view the full project report, please visit the MD DNR Chesapeake and Coastal Service Ecosystem Service webpage.

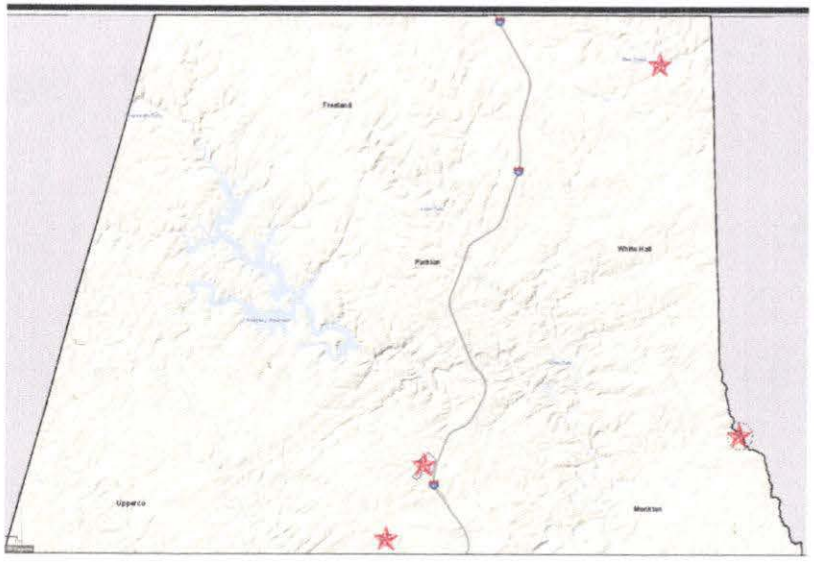
Chesapeake & Coastal Service

Contact: Christine Conn | 410-260-8735 | christine.conn@maryland.gov
Kevin Coyne | 410-260-8985 | kevin.coyne@maryland.gov
Chesapeake & Coastal Service
Maryland Department of Natural Resources
580 Taylor Avenue, E-2 | Annapolis, Maryland 21401

This report was prepared by the Maryland Environmental Service using Federal funds under award number NA15NOS4190165 from NOAA, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of NOAA or the U.S. Department of Commerce. We acknowledge the financial assistance provided by the Coastal Zone Management Act of 1972, as amended, administered by the Office for Coastal Management, National Oceanic and Atmospheric Administration.

Potential Alternate Community Solar Sites in Northern Baltimore County, Maryland

	20450 Middletown Road	Potential Alternate
Zoning	RC-2 open land	RC-2 open land
Farmland Class	**Prime farmland**	Not prime farmland
Topography	0-15% slopes	0-8% slopes
Conservation Easement / Historical Site	No	No
Project Open Space Priority *(Preservation)*	**Targeted Ecological Area (TEA)**	No
Area >/= min. required *(ALJ Chart)*	**Yes**	Yes
Along a scenic road or bi-way	**Yes**	No
BG&E circuit restricted for renewable energy interconnection[1]	No	No



17111 Old York Road
Monkton, MD
7.1 / 79.8 acres

1415 Cold Bottom Road
Sparks, MD
4.5 / 30.8 acres

2501 Bond Road
Parkton, MD
4.5 / 21 acres

16729 Miller Lane
Parkton, MD
8.4 / 73 acr

Kathleen Pieper 8/31/2018

[1] www.bge.com/myaccount/myservice/pages/mapofrestrictedcircuits.aspx

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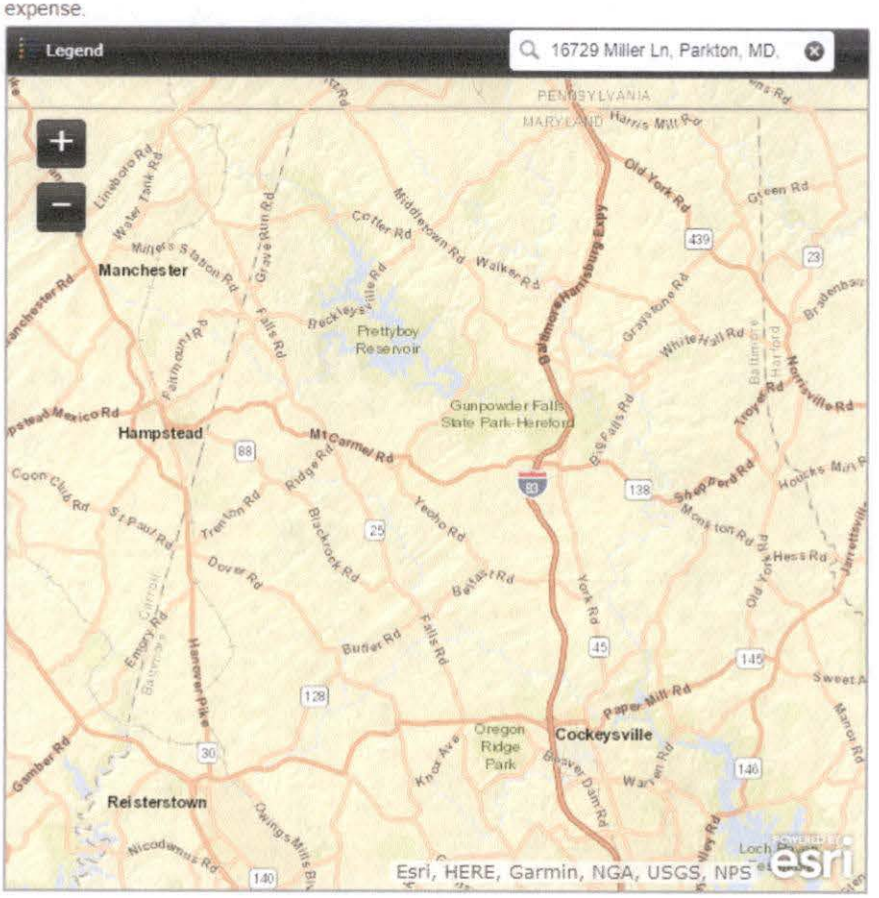
CBA Exhibit
35

My Bill & Usage +
My Service −
Start Stop Move +
Construction & Remodeling +
Customer Choice +
Customer-Generated Power −
Applying for Interconnection
Choosing an Application
Map of Restricted Circuits
Outdoor Lighting +
Manage Properties +
My Profile +
Customer Support +

Map of Restricted Circuits

BGE is committed to ensuring a safe and reliable electric distribution grid while supporting the interconnection of renewable energy. Some areas within the BGE service territory are supplied by distribution circuits which are restricted. These circuits may be limited or unavailable for additional renewable energy interconnections. The circuit map below shows circuits which are restricted to certain sizes of new interconnections. If your renewable energy project is located along or adjacent to a restricted circuit, please contact the interconnection team at generator-questions@bge.com to confirm the restriction or for more details. Interconnection requests larger than the listed restriction may be approved following significant system upgrades, which would be at the developer's or customer's expense.



The technological, legal, and regulatory assumptions that apply to solar interconnection issues are complex and constantly evolving. The information and data reflected on this map are for discussion and educational purposes only. To the best of BGE's knowledge, the information presented on this map was accurate in all material respects as of September 24th, 2018. BGE and its affiliates disclaim any responsibility for the continued accuracy of any of the information found on this map. Please seek appropriate technical, operational, financial, and legal advice before proceeding.

Map Scale: 1:2,150 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84

Farmland Classification—Baltimore County, Maryland
(17111 Old York Road White Hall, MD)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

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

Background
- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12,000.

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: Baltimore County, Maryland
Survey Area Data: Version 13, Sep 10, 2018

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

Date(s) aerial images were photographed: Jun 16, 2014—Oct 20, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HbA	Hatboro silt loams, 0 to 3 percent slopes	Not prime farmland	7.1	94.6%
MaD	Manor loam, 15 to 25 percent slopes	Not prime farmland	0.4	5.3%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Not prime farmland	0.0	0.1%
Totals for Area of Interest			**7.5**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Map Scale: 1:1,990 if printed on A landscape (11" x 8.5") sheet.
Meters 0 25 50 100 150
Feet 0 50 100 200 300
Map projection: Web Mercator Corner coordinates: WGS84

Farmland Classification—Baltimore County, Maryland
(1415 Cold Bottom Road Sparks, MD)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

Natural Resources Conservation Service
Web Soil Survey
National Cooperative Soil Survey

MAP INFORMATION

Streams and Canals

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

Background
- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12,000.

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)

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Soil Survey Area: Baltimore County, Maryland
Survey Area Data: Version 13, Sep 10, 2018

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

Date(s) aerial images were photographed: Aug 23, 2013—Feb 22, 2017

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.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaB	Baile silt loam, 3 to 8 percent slopes	Not prime farmland	4.1	78.5%
GdC	Glenelg loam, 8 to 15 percent slopes	Farmland of statewide importance	0.1	1.5%
HbA	Hatboro silt loams, 0 to 3 percent slopes	Not prime farmland	0.4	6.4%
MnD	Manor loam, 15 to 25 percent slopes	Not prime farmland	1.2	21.2%
Totals for Area of Interest			5.9	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Baltimore County, Maryland
(2501 Bond Road Parkton, MD)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
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- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

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

Background
- Aerial Photography

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

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Survey Area Data: Version 13, Sep 10, 2018

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Date(s) aerial images were photographed: Jun 16, 2014—Oct 20, 2017

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Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CfA	Codorus silt loams, 0 to 3 percent slopes	All areas are prime farmland	0.5	9.0%
HbA	Hatboro silt loams, 0 to 3 percent slopes	Not prime farmland	4.6	91.0%
Totals for Area of Interest			5.0	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Map Scale: 1:2,480 if printed on A portrait (8.5" x 11") sheet.

0 35 70 140 210 Meters

0 100 200 400 600 Feet

Map projection: Web Mercator Corner coordinates: WGS84

Farmland Classification—Baltimore County, Maryland
(16729 Miller Lane Parkton, MD)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
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- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

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

Background
- Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12,000.

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Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

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Survey Area Data: Version 13, Sep 10, 2018

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

Date(s) aerial images were photographed: Aug 23, 2013—Feb 22, 2017

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Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BaA	Bello silt loam, 0 to 3 percent slopes	Not prime farmland	8.4	84.5%
GhB	Glenville silt loam, 3 to 8 percent slopes	All areas are prime farmland	0.6	4.8%
GhC	Glenville silt loam, 8 to 15 percent slopes	Farmland of statewide importance	0.0	0.0%
MaD	Manor loam, 15 to 25 percent slopes	Not prime farmland	0.6	6.4%
MbD	Manor channery loam, 15 to 25 percent slopes	Not prime farmland	0.6	4.8%
MdE	Manor-Brinklow complex, 25 to 45 percent slopes, very rocky	Not prime farmland	0.1	0.7%
Totals for Area of Interest			10.0	100.0%

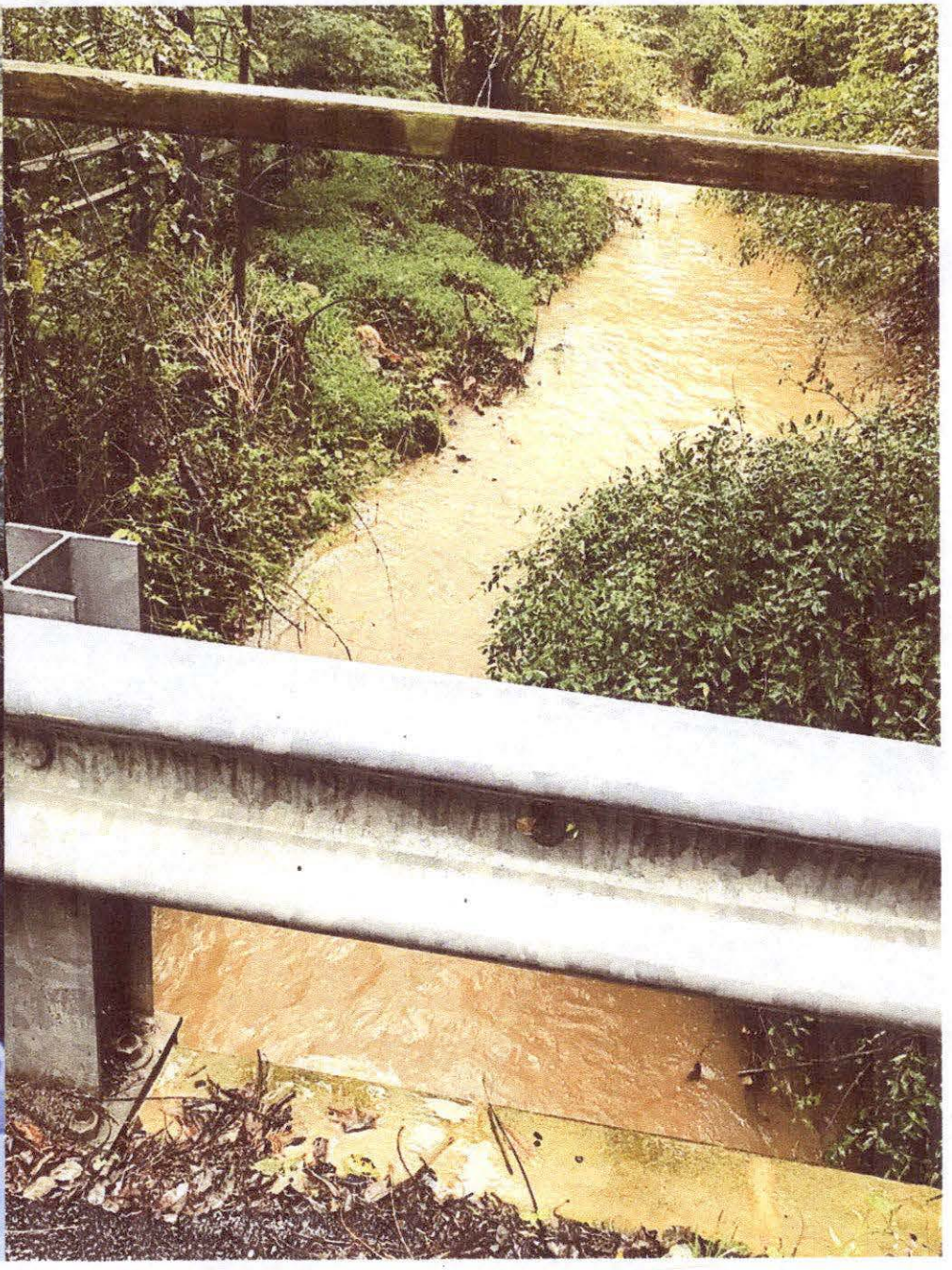
Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower



17-108X

Protestant
CBA Exhibit
36

6/25
Matthew

Thursday, Feb. 17, 2011

Changes to pre-K program could affect local child care providers

Budget proposal may aid centers, such as county's first Goddard school

by Virginia Terhune | Staff Writer

Private Bowie and Mitchellville child care providers are expecting a possible increase in business if Prince George's County school officials decide to cut back on the number of hours the system offers free pre-kindergarten care for low income and at-risk children.

And competition for those students will likely increase with the opening of a privately run Goddard center that is currently being built in Bowie.

"It's the first Goddard school in Prince George's County," said franchise owner Nita Armstrong, who is building a 10-classroom facility on Old Annapolis Road at Woodcliff Road west of state Route 197.

There are about 200 home-based providers in the Bowie-Mitchellville area, according to Debra Walker, who runs a child care business in her home in Bowie and also heads the Professional Child care Providers Network of Prince George's County.

In recent years, home-based providers have lost customers partly as a result of the recession, when people who lost jobs stayed home to take care of their children.

But also a factor was a decision by Prince George's County public schools to set up — at no cost to parents — an all-day program for low-income and at-risk children ages 3 and 4 to better prepare them to enter kindergarten.

"I know some people who have gone out of business," said Walker, citing Cresthill Baptist Child Development Center and the Bowie Therapeutic Center that recently closed in Bowie.

Local market conditions could soon change again, however, because school superintendent William R. Hite Jr. has proposed cutting the full-day pre-K program to a half day to save $10 million. The school board is set to vote on the idea on Feb. 24 as part of Hite's proposed 2011-2012 budget.

If going to a half day is approved, it could be a boon for local providers, Walker said.

"That's going to open it up for people who work all day, because they're going to have to find child care for that extra half day," she said.

However, some providers said they might not be able to benefit from the change, because it means they might have to pick up children midday and bring them back to their houses, something some providers are not equipped to do, said Mary Ellen Young, owner of Young Care Family Child Care in Bowie.

"I'm not one who is willing to wake up napping babies," said Young, who would be required by state regulations to bring the children she takes care of with her if she had to pick up another child.

Going to half day could also mean new expenses for low-income parents in the school system's free pre-

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PROCEEDINGS

MS. MURPHY: Okay, we're here in the matter of case number 17-108-X, David William Matthews. This is for Middletown Road, it is a special exception hearing for a solar facility located at, on Middletown Road. Let's see, can we have counsel for the record please.

MR. MUDD: Good morning, Ms. Murphy, members of the Board. I'm Christopher Mudd with Venable LLP, along with Patricia Malone, here on behalf of the petitioners.

MR. MOWELL: Good morning, H. Barnes Mowell, here for the protestants.

MR. ZIMMERMAN: Peter Max Zimmerman, Peoples Counsel for Baltimore County, Towson.

MS. MURPHY: Okay. So, we have the file in this case and reviewed it. Does anyone need to make opening statements before we begin, anything preliminarily?

MR. MUDD: Nothing from me.

THE COURT: Nothing?

MR. MOWELL: I actually do have something preliminary, Your Honor. I believe the petition should be dismissed actually, and I can explain that if you'd like to hear my argument.

THE COURT: Okay. Did you file a motion?

MR. MOWELL: I didn't file a motion, I did not.

This is all based on a petition for a zoning hearing which had a filing date of October 17, 2016. That was later amended without a date, the amendment says the filing date is still the same, October 17, 2016, and in the amendment they changed the request for being granted the right to put the solar field in to a different law, a law that had just been passed. But that law that they are trying to use now, by its own terms expressly says that they can't use that law based on the filing date of their petition.

The law was contained in Bill 37-17, and

section three of that bill says, and be it further enacted that this Act, having been passed by the affirmative vote of five members of the County Council, will take effect on July 17, 2017, and shall apply retroactively to any zoning petitions filed after October 18, 2016. So by its own terms, the new statute doesn't apply to a zoning petition filed before October 18, 2016.

This one was filed October 17, 2016, it may have been amended later after that date, but the original filing date was before the date specified in the statute, so they can't use the new statute to try and get these solar panels put in. They can use what they originally filed for, which is a different section of the zoning regulations, but not the new regulation. So based on that, if they're intending to proceed on the new law, they're barred by the language of the law to ask for the panels under that law.

MS. MURPHY: Okay. Any response?

MR. MUDD: Sure. Response is that we

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filed under a prior version of the law. At the time the Board may recall that these issues were being processed as public utility uses and in fact there was at least one that was built under that, I think Ms. Malone handled the case. And then this Board, another was approved by Judge Beverungen and appealed to this Board, and this Board determined that they were not in fact public utility uses.

With that, there was an effort with the Baltimore County Council to change the law in a way that identified solar facility as a specified use. After that law changed, we went in, and we had previously filed as a public utility, and we were aware at the time that all of the back and forth was going on with regard to the use issue and whether or not in fact these were public utilities. So we waited for that period to end.

After the new law was passed, we came back in and we filed an amended petition, we filed a new fee, the zoning office kept the same

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case number, but that occurred after the new law and the new petition referenced the new law. I don't have in my file but I can certainly go back to my office if need be and get the receipt that demonstrates the timing of the re-filing of the amended petition.

I mean, frankly, I think it's a little bit of a technicality in the sense of the argument that he's making, in that what the intent of what the new law is, is -- the intent of the provision that he read was that you're not allowed to continue and say that you're a public utility use if you filed before that date, and it goes retroactively. So the intent of the law was, let's get a new petition with the right vernacular and the right law reference, which is exactly what we did.

We went before Judge Beverungen as the Board knows, and Judge Beverungen approved this petition under the new law, and here we are in this venue, and this argument is being raised for

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the first time. I understand it's de novo here, but that's the response.

MS. MURPHY: Okay. Anything, Mr. Zimmerman?

MR. ZIMMERMAN: I have no comment.

MS. MURPHY: You have no comment on this, all right. Well, I think we should until the end, so why don't we hold this issue until the end, since everyone's here today. You're going to brief, you're going to do closing arguments in your brief anyway, so just dedicate a section to that if you don't mind.

MR. MOWELL: Sure, that's fine.

MS. MURPHY: And so we will hold this as pending.

MR. MUDD: I appreciate that, thank you.

MS. MURPHY: Okay, all right.

MR. ZIMMERMAN: Opening statements?

MS. MURPHY: Oh, you do have --

MR. ZIMMERMAN: I would like to do an opening statement.

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MS. MURPHY: Anyone else? No opening from Mr. Mowell?

MR. MOWELL: I would too.

MS. MURPHY: Okay.

MR. MOWELL: Peter, you can go first.

MR ZIMMERMAN: We're dealing with legislation that was passed last year, so 37-17. This is the first, it looks like a number of solar facility cases coming to the Board of Appeals in what I will generally call the York Road and Interstate 83 corridor and land to the east and west, which are rural areas. So I think it is a significant case and how the Board deals with this case may have impacts on other cases. As you know, each case is different, but how the Board interprets and implements the law is also important.

I wanted to make a comment on the special exception category and what may be some of the key issues to focus on from my perspective. And I also think the case, while

you need per megawatt to limit the glare, and this is a relatively new, even though solar has been talked about for many many years, it's been, the facilities on a larger scale seems to be really now coming into focus in Baltimore County for the first time, so I think this is an important case to look at all this. So that's my opening statement.

MS. MURPHY: Thank you. Mr. Mowell.

MR. MOWELL: I just really wanted to introduce myself. My name is H. Barnes Mowell, I go by Barney. I have a one-person law office in Hereford, which is the gateway to the Hereford zone, and that's the zone we will be talking about in the case today. I was born and raised in Glencoe, which is kind of south of Hereford, I've lived in this area my whole life.

Obviously my clients are opposed to the solar field being put up here, and I think some of the issues that we will be raising are some that Mr. Zimmerman mentioned, but the fact that

Middletown Road is a scenic road. The fact that this property is in what's called a TEA, ecological area designated by the state. The property is in the Prettyboy watershed. That the property has around it other farms that have been preserved by agricultural easements. The fact that there's a trout stream on the property. The fact that there's a pond on the property that apparently was put in for access to the local fire department to get to, and we need to figure out whether that access is still going to be there. And then finally, that it's been an agricultural priority preservation area that is kind of set aside by the master plan of Baltimore County for farming.

So I think there are a lot of factors that make this particular property not a good one for these types of solar fields, and we would hope to bring that out in the hearing.

MS. MURPHY: Okay, thank you. What about timing, how many witnesses does the

petitioner have?

MR. MUDD: We have two or three witnesses.

MS. MURPHY: Two or three?

MR. MUDD: Uh-huh.

MS. MURPHY: On your main case?

MR. MUDD: Uh-huh.

MS. MURPHY: Okay. And how about for you, Mr. Mowell?

MR. MOWELL: We have at least eight or nine. We have a lot of people here, I know at least eight or nine want to testify, so it's going to be a while.

MS. MURPHY: How about Mr. Zimmerman?

MR. ZIMMERMAN: I don't have any witnesses, but I have some documents.

MS. MURPHY: Okay. So, I mean, it looks like we have a lot of people here that are in the audience today, and I don't know if we're going to finish this today. I mean, looking at the number of people that are here to testify, so

we'll do our best to get through it. We're probably going to get through the petitioner's case, I would assume today, unless it's really lengthy. It depends on cross, depends on, you know, back and forth, the ping pong match. So you know, you can play it by ear and maybe have some of your witnesses, if it looks like we're not going to get to everyone, maybe you can then, you know, direct.

We certainly don't want repetitive testimony so if, you know, somebody comes up and testifies about X, we don't need the second person to testify about the same thing. You know, we'd prefer to have very concise testimony, if that's okay.

MR. ZIMMERMAN: If we don't finish today, will we continue tomorrow?

MS. MURPHY: No, we'd have to set a date. That's one of our things about the Board, we'd have to set another date that's available to everyone. So, I mean, we just want to get

everyone to be able to testify, so you need to do that so it's not going to be repetitive, so we're happy to do that.

MR. MUDD: And in a bit of way of introduces, it should be no surprise to the Board that we thought one day would be sufficient. Our case, we expect, will be put on fairly swiftly, we think it's a fairly straightforward case, so we're hopeful to get through our part rapidly.

MS. MURPHY: Except we have cross.

MR. MUDD: Oh, completely understand.

MS. MURPHY: And then we have redirect.

MR. MUDD: Completely understand. We'll do our best.

MS. MURPHY: I know. So why don't we begin?

MS. MALONE: Okay. I would like to call Parker Sloan. Who's going to be in charge of the exhibits, is that your job?

Whereupon,

PARKER SLOAN,

being first duly sworn to tell the truth, the whole truth, and nothing but the truth, testified as follows:

MR. BELT: Please state your name, your business if appropriate, and address for the record.

THE WITNESS: My name's Parker Sloan. Address for my employer, Cypress Creek Renewables, is 130 Roberts Street, that's Asheville, North Carolina 28801.

MR. MUDD: Ms. Malone is putting our exhibits on the board. There were some exhibits when we got here, I'm not sure whose they are, but we're putting ours up.

MS. MURPHY: Is that from another case?

MR. MUDD: No, they appear to be from this case. I think some folks just put them up.

MS. MURPHY: That's fine.

DIRECT EXAMINATION

BY MS. MALONE:

Q. Mr. Sloan, with whom are you employed?

A. Cypress Creek Renewables.

Q. And what kind of a company is that?

A. We are a utility scale, a ground-mounted utility scale solar energy construction company.

Q. And what is your relationship to this project, your company's relationship to this wrong project?

A. We are the owner of Blue Fin Origination LLC.

Q. Which is the petitioner that was on the petition for special exception?

A. That's correct.

Q. What do you do for Cypress Creek?

A. I am a senior zoning and outreach manager, which means I work with local communities and local governments to best permit and site and construct solar farms of this type.

Q. How many jurisdictions do you work in?

A. I'm primarily responsible for Virginia and Maryland, but also work in North Carolina.

Q. How long have you been with Cypress

Creek?

A. It's three years now, since 2015.

Q. In that position in those three years, how many projects have you been responsible for?

A. I'm in the range of 60 projects now.

Q. And can you just briefly go through your educational background?

A. Yes. I have a bachelor's degree in geography and community planning, and a master's degree in public administration.

Q. Have you testified before zoning boards and similar boards before?

A. Yes, I have.

Q. Where, which jurisdictions have you testified in?

A. I have testified and given sworn testimony in Iredell County, North Carolina, Washington County, and Guilford County, North Carolina, and I also sit on the Buckingham County Planning Commission.

Q. I was going to mention that. Are you

responsible for the proposal that is before the Board of Appeals today?

A. Yes.

MS. MURPHY: You're not offering him as an expert?

MS. MALONE: No.

MS. MURPHY: Okay.

MS. MALONE: I thought it would be helpful just to go through his background.

MS. MURPHY: I understand.

MS. MALONE: But no, I didn't forget to do that, thank you.

BY MS. MALONE:

Q. What are you proposing to do on the property?

A. We are proposing a ground-mounted utility scale solar energy generating facility.

Q. Is this project part of the State Community Solar Pilot Program?

A. Yes.

Q. Can you explain briefly what that

program is?

A. Yes. That program, it's a pilot program established by the state and given to the utilities like BGE to implement. It's designed or created to encourage solar energy development in a, in my opinion, a geographically widespread area with the cap of two-megawatt systems that diversifies the area across the state with where these types of systems could be installed. So yeah, it was implemented to encourage this type of development, to familiarize the public with this type of development, and to increase economic development, investment, and to provide clean and renewable energy to the citizens of Maryland.

Q. So technically, then, how does the program actually literally work, and feel free to be as simplistic as possible with it.

A. Yes. So, we have worked and will work, continue to work with Baltimore Gas and Electric to best interconnect this system into the

electric grid. And then what will happen --

Q. Let's take a step back.

A. Yeah.

Q. So, is there an application process?

A. Yes.

Q. And did you submit an application?

A. We did.

Q. And what was that application for?

A. We submitted an application to the community solar program, I'm sorry, pilot program, and were awarded a spot for 1.9 megawatts of energy.

Q. And then what do you, how do you go about creating the facility, what does it do, who does it serve?

A. Yes, so -- I'm sorry, say that again.

Q. I'm asking you to go into some more detail about the subscriptions and the credits, the purpose of the program.

A. Yes, so there will be an open subscription system through a third party, I

believe, where people, institutions, the public, companies could purchase power, and that's done through BGE through the utility, and so we sell power that's interconnected to the grid, and that power can later then be sold.

Q. Okay.

A. To the utility.

Q. So you construct the facility?

A. Uh-huh.

Q. You generate power, I believe you said it goes directly into the grid?

A. Yes.

Q. And then the programs has subscribers that then benefit from your production of the solar energy?

A. That's correct.

Q. And I believe it's a tax credit or, sorry, not a tax credit, a credit off of their BGE bill?

A. That's correct. I want to grab my notes real fast.

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Q. Okay. So, and I believe you mentioned that this project has been awarded 1.9 megawatts of energy, meaning you're expected to generate 1.9 megawatts of energy?

A. That's correct, yeah. We've had those preliminary conversations with BGE to understand that that is possible and that that amount will work --

Q. And then according to --

A. -- in this location.

Q. Okay. And according to the state program that you mentioned, it only allows up to two megawatts, the state only allows the program applications for up to two megawatts?

A. That's correct.

Q. All right. Let's talk about just generally what a solar facility consists of. And we don't need to, I just want you to talk about what is a solar facility, what are the different parts to it.

A. Yes, so it's relatively simple. It's

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kind of a puzzle to assemble, but it's ground-mounted steel poles that are driven into the ground similar to a fence post, and then the system is what's called a racking system, so the modules can track the sun as it moves across the sky throughout the day. And so you have solar modules that are mounted to that racking system, roughly in a T shape.

Q. Which are, another word would be panels? I mean, some people use the word panels?

A. The words modules and panels can be interchangeable, yep.

Q. That's fine.

A. And the solar panels, like I said, they rotate and follow the sun. They run in rows north and south, as you can see on any of these plans, and they collect the sun's heat and light and convert that to electricity, which is then run, it's run underground back to an inverter and transformer which converts the electricity into energy that is usable for the grid, for the

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purposes of the grid, and also it maintains that level of energy, that 1.9 megawatts that we're talking about.

And it involves, you know, typically the materials involved are steel, aluminum racking, solar modules that are made up of glass and polysilica, which is mostly sand, so those are the typical building materials involved. And then there's a perimeter fence for security purposes, that needs to meet the national electric code.

Q. And then in terms of, how does the energy get from the inverter to the grid?

A. Yes, so the rows of solar modules are linked underground like I said, back to the inverter and transformer, and then that is connected underground to the outside of our perimeter fence, and then from there it can be a combination of underground and above ground, it is then connected to the existing distribution power lines that are running down Middletown

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Road.

Q. Okay. I believe in describing what you do, you're also responsible for site selection for these projects; is that correct?

A. I'm one of the individuals, yes.

Q. Okay. I'd like to talk about what you look for when you're choosing a site for a solar facility. Can you tell me the different aspects, and I know Mr. Zimmerman said he's very interested to hear this, so what, how is it you go about looking for a property?

A. There's two main categories of our site selection process, the first being the infrastructure. So, is there a physical way to interconnect the system to the electric grid and to interconnect the size system that we're looking for, so in this instance it's a two-megawatt community solar program. So we found that in this area on these power lines running back to a substation eventually, that we could interconnect this system in this area. So

that narrows the geographic area dramatically, so to speak.

Q. So, do you need certain size lines to, in which to do that?

A. Certain size lines with available capacity.

Q. Okay.

A. Yes, and existing infrastructure.

MR. ZIMMERMAN: I move to strike. This is not an expert, so how can he be giving this testimony?

MS. MURPHY: It's in the nature of his job, he's not giving any opinion. Go ahead.

BY MS. MALONE:

Q. So you need the technical ability in a particular area to connect the solar system, and then what else do you look for?

A. The other thing we look for is nearby that infrastructure is relatively flat cleared land that will be relatively easy to install our simple technology, ideally in an area that is

isolated in some way, remote in some way, but also close to that infrastructure that I mentioned before. And what is unique and great about this site that I don't see often in the dozens of projects that I work on, what is great is the existing spruce, evergreen trees along Middletown Road and on the west, kind of northwest area of the field there.

Q. So, I guess existing vegetation and screening, I guess?

A. It is better than anything we can install and/or plant, absolutely.

Q. Then, do you also look into the history of the property and make sure that there aren't any conflicting easements or anything like that, was that confirmed?

A. Yes, a lot of early stage due diligence, and there's still due diligence to be done. And I guess a third thing would be a willing and able property owner that's interested in working with us for the long term.

Q. Oh sure, right.

A. There's a long lease involved, so that third piece has to fit in as well.

Q. So, did the Middletown Road property meet all of these requirements?

A. It did.

Q. And then you mentioned that you have to have a willing property owner, so you enter into a lease with the property owner, you don't purchase the property; is that correct?

A. Sometimes we purchase property but in this instance we are proposing a lease.

Q. And how long is the lease?

A. It is a 30-year lease.

MS. MALONE: Okay. Thank you. Now we'll get into the specifics. I'm going to go ahead and mark this plan as Petitioner's Number 2.

(Inaudible colloquy.)

I believe in other cases you guys mentioned you would like to have -- we have

full-sized plans but I think that would be a little unwieldy for you to try to look at a full-size plan, but we do have them. I have one extra. Oh, we have a full-sized one.

BY MS. MALONE:

Q. I'm going to ask you to look at Petitioner's Exhibit 2, and is this the layout that you are proposing for the Middletown Road site?

MR. ZIMMERMAN: I have an objection.

THE WITNESS: Yes.

MS. MURPHY: One second. Make your objection.

MR. ZIMMERMAN: The date on this is July 7, 2018, and I've never seen this plan before. If they were going to amend it, I think they needed to show it to Mr. Mowell and me before filing, and give us enough time for us to look at it.

MS. MURPHY: There's no discovery before the Board.

MR. ZIMMERMAN: Yeah, but it's a different plan than -- we're in a public jurisdiction and it's, if they're going to amend a plan, then it has to be shown to the Board and the parties before the hearing, in my opinion.

MS. MURPHY: Go ahead.

MR. ZIMMERMAN: Otherwise, I don't have, I haven't had time to look at the plan.

MS. MURPHY: But that would be discovery.

MR. ZIMMERMAN: No, no.

MS. MURPHY: Well, showing it to you ahead of time means it would be discovery.

MR. ZIMMERMAN: No, no, it doesn't, it doesn't mean discovery. It means we're here on appellate jurisdiction on a petition for the site plan, and if they change the site plan on the day of the appellate hearing, that's not acceptable.

MS. MURPHY: Okay. Mr. Mudd?

MR. MUDD: The only part of Mr. Zimmerman's objection that I agree with, is the

fact that he said this is his opinion. There's nothing in the law that requires us to do what he's asking to do. This is a de novo case, so we file a petition and a plan below, we have a hearing and we come up here, and now it's our job to present evidence to you guys in a de novo setting, and that's exactly what we're doing. I don't think there's any requirement for us to show it in advance.

I also think that there will be plenty of time for him to review it, and if he'll let us get through testimony, you'll learn why this is slightly different than the original plan that was submitted below.

MS. MURPHY: Let's hear from the witness. We won't be able to know until we hear from the witness about what might or might not be different.

MR. MUDD: We're happy to proffer, if you'd like.

MS. MURPHY: Is this -- there was a plan

submitted below, obviously.

MR. MUDD: Absolutely.

MS. MURPHY: Okay.

MR. MUDD: So there was a plan that was submitted below and it went through the case, and at the end of the case Judge Beverungen said that it was his opinion that the special exception area and the array area should be smaller. It was based on his view of a number of cases that came through and the issue that Mr. Zimmerman talked about, just how much space do you need to generate two megawatts of power. So there was a plan that was submitted at first and then there was a second plan that we submitted as a requirement of the condition of Judge Beverungen's order, and Mr. Sloan will testify about why they chose to make that submission even though we didn't agree with it.

And here we are now in light of the record, if you will, and the other cases out there that have special exception areas that are

different than the special exception area that we have. So Cypress Creek went through and took a look and said is there any way that we can make our site a little more compact than what we originally proposed but not quite as compact as what the judge ordered, which didn't quite work for Cypress Creek.

So that brings us to why we have the plan that's here before the Board today which has, virtually the notes are the same, and it's, the special exception area is about one acre less, I forget. I have a comparison.

MS. MALONE: It's a half acre less.

MR. MUDD: The witness can go through it but the bottom line is, a slightly smaller special exception area. At the end of the day we're talking about solar panels in the field on the same exact property, and now we have solar panels in the field on the same exact property in a slightly different configuration.

MS. MURPHY: Okay.

MR. MUDD: About which they can cross-examine him, about whether or not they're in the appropriate location on the property.

MS. MURPHY: Right.

MR. ZIMMERMAN: And briefly, there are many plan requirements. My point is, there's no reason and it's inappropriate not to provide us with any amended plans prior to the hearing.

MS. MURPHY: I understand that's your view, that as a courtesy it should have been provided.

MR. ZIMMERMAN: No, it's more than a courtesy. We're talking about procedural due process.

MS. MURPHY: Are we?

MR. MOWELL: Well, speaking of procedural due process, I didn't know until this morning that Mr. Zimmerman was in this case, so how am I supposed to commit to him before I get here? I didn't know.

MR. ZIMMERMAN: We entered our

appearance at the administrative level.

MS. MURPHY: Well, you always do that as a formality, they send it in.

MR. ZIMMERMAN: The protestants, our party, and it should have been provided to the Board as well when dealing with appellate jurisdiction, you can't just change the plans willy-nilly.

MS. MURPHY: But based on the proffer, this isn't a change really in what went on below, there's minor detail differences, but we're not talking about a completely different project and plan, we're talking about the same thing.

MR. MUDD: Thank you.

MS. MURPHY: Go ahead with the witness please.

MS. MALONE: Okay.

BY MS. MALONE:

Q. So using the plan that is on the board as Petitioner's Exhibit 2, can you sort of just orient us? I'm not asking you to talk about the

conditions of the property per se, Mr. Martin is here to do that, but if you could talk about the solar array itself?

A. Yes.

Q. The layout of the solar array?

A. So you can see --

Q. You can, if you need to --

A. I can stand up there? I'm going to grab my water too.

MS. MURPHY: You just want to make sure to direct your voice this way.

MR. BELT: You may want to move the microphone towards you.

THE WITNESS: Okay.

MS. MURPHY: Only because we have a problem, by the way, with the transcripts, and no one can hear when you talk to the board.

THE WITNESS: Okay, I'll just stand up.

(Unintelligible colloquy.)

THE WITNESS: So, it's kind of a triangular shaped parcel of land, it comes to a

point down here, forest on the south, southeast side, and this southwest side as well. The array is located here. You can see the rows of solar modules, I would think you can even see it from the other side of the room, and these rows are, it's important because of the technology that they are installed running north and south, because like I said, they track the sun east and west throughout the day, and there is spacing between the rows so that the solar modules as they move throughout the day do not shade one another. So certain times of the day throughout certain times of the year, if they're too close together, one row might block the sun from the other row, and that defeats the purpose of why we're here.

You can see the perimeter fence that runs along the outside here, a stub road, access road, turnaround is located there. And then down at the bottom, the southeast corner of the array, is the inverter pad location. And what that, you

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know, it's about the size of a Volkswagen Beetle installed on a concrete pad for drainage purposes, so it will sit settled on the earth.

BY MS. MALONE:

Q. How tall is that inverter?

A. It would not exceed, it depends on the brand, but it should not exceed 11 feet in height, that inverter. And one, you know, one benefit of this plan as opposed to the previous plans Mr. Mudd was talking about is that we moved the inverter to the south away from the road because it should be the tallest equipment involved, and thus out of the way. There's a lower slope there as well, so it shouldn't be seen from any public vantage points, in my opinion.

Q. And it's also furthest away from any residential use property?

A. That's correct, and it's the only thing that makes any type of noise.

MR. ZIMMERMAN: Could the witness speak

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up a bit, or move closer to the microphone?

THE WITNESS: The last thing I said is it's the only equipment that makes any type of noise.

BY MS. MALONE:

Q. You may not know the exact numbers, which I'll get from Mr. Martin, but is it your understanding that the total special exception area on this plan is less than the plan that was submitted with our filing?

A. Original filing?

Q. The original filing.

A. That is correct.

Q. And without knowing the exact number, is it your understanding that the panel array shown on this Petitioner's Exhibit 2 is less than the panel array that was shown on the original plan that accompanied the petition for special exception?

A. That is also correct, so this footprint, array footprint should be 13 acres in size.

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Q. Mr. Martin will give us the exact numbers.

A. Okay.

Q. For this array that is shown on the board, how much power will this generate?

A. That would be 1.9 megawatts AC.

Q. How were you able to make the area smaller on this plan as opposed to the prior plan, the original plan?

A. Yes, so we, given the controversy around the project and the additional time we had to study the site further, and knowing that it was the goal of the judge to shrink the area, you know, we looked at it further and thought that at a minimum 13-acre footprint would work for this amount of energy. And the main consideration is, we kind of determined the minimum row spacing that I spoke about earlier, and it's my understanding that between 12 and 14 feet of row spacing for this site at this latitude will be sufficient to create that amount of electricity

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in an optimal way.

Q. So the row spacing was reduced?

A. The row spacing was reduced, yes.

Q. Reduced from the original plan size?

A. Reduced from the original plan, yes.

Q. Just to make sure the record is clear. And you heard Mr. Mudd mention that there was yet a third layout for the facility that was submitted in response to the judge's order. Can you speak to that plan, the thoughts behind that plan and why you're seeking, or why you don't wish to go back to that plan?

A. Yes. So that plan was designed due to the order, in response to the judge's order in hopes that, I guess in hopes that the project would not be appealed further, but it wasn't an optimal design. And one example is, the main example really is it involved 9.4 feet row spacing, which due to that, the width of the rows as I mentioned earlier, there would be shading involved during certain times of the year and due

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to that shading, the amount of electricity that could be generated was reduced, so we actually needed to install and purchase additional solar modules to make up for that loss of power due to the shading. And so that's when we made it to this point with the Board of Appeals, that we decided to really look, you know, dig deep into the site and look at this further, and design what we thought could work in an optimal way for everyone.

Q. Did the engineers with Cypress believe that the plan that showed the total special exception of 13 acres, did your engineers believe that that would generate 1.9 megawatts of energy?

MR. ZIMMERMAN: Objection, hearsay.

MS. MURPHY: Yeah, it's kind of asking for hearsay, if there's another way you could rephrase that. I don't know what conversations he had, but does he have any understanding himself about it?

MS. MALONE: Okay.

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BY MS. MALONE:

Q. Is it your understanding that that prior plan would generate 1.9 megawatts of energy?

MR. ZIMMERMAN: Objection.

MS. MURPHY: What's the objection?

MR. ZIMMERMAN: He's not, this is not their expert, so his understanding is speculation.

MS. MURPHY: But this is within his job skills. Overruled. Go ahead.

THE WITNESS: Can you repeat that, which plan are we talking about?

BY MS. MALONE:

Q. The ordered plan, that the judge ordered a reduction in special exception area to 13 acres, do you believe that that would generate 1.9 megawatts based on everything that you know about the solar layout on the property?

A. That was not certain. What was certain in my understanding in talking to our team, is that if it would work, it would not be in an

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optimal way and it would require more equipment to be purchased.

Q. So essentially going back just to clarify, you're asking the Board to approve the plan that is on Petitioner's Exhibit 2, the layout that is shown on here?

A. That's correct.

Q. I believe you started to get into a little bit of talking about how the facility is installed, but can you describe the actual, not construction but the installation, how you go about installing these facilities, what is done to the property?

A. Yes. So, the great thing about this technology and the way it's installed is we don't really have to touch the earth or move dirt really at all. We can work with the natural slope of the land, and install the racking, and when I say the word racking, there are driven pile, just like, you know, a wooden hog fence post that's driven into the ground, it's not

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permanently mounted with concrete or anything like that, and that is done in rows. And then from there, those steel posts, we have steel and aluminum racking that connects the solar modules to those posts, and there is a motor that rotates those solar modules throughout the day. All the wiring is run underground back to the inverter that I spoke about earlier, like I said, it's on a concrete pad. And the whole system is surrounded by a perimeter fence.

And so in terms of room around the perimeter, the main thing is having room for the actual construction of the project and then also potential maintenance in the future, getting vehicles in and out, that sort of thing.

Q. You mentioned you don't clear and grade the site. Do you do anything to the physical land itself other than driving the piles in, and if you're going to bury a wire anywhere?

A. Yeah, typically we do a process called disking, or at a minimum mowing, to kind of

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loosen up the vegetation on the topsoil, which would be a process you would typically undertake for agriculture purposes.

Q. On this particular property, you mentioned that it was ideal because of the, it was relatively flat and clear. Will any trees be removed to install this facility?

A. No trees.

Q. And therefore, will you retain the existing vegetation on the outskirts of the facility?

A. Absolutely, and then also of course, tilling and seeding any earth that's added or moved up.

Q. What do you mean by that?

A. Adding grass seed like around the road, the stub ^ road ^ rode1.

Q. You mean if you disturb the ground, you would reseed it?

A. Absolutely.

Q. So afterwards there will be grass in

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between the rows and underneath of the panels?

A. That's correct.

Q. And how wide is the separation between the panels?

A. Yes, so measured from the top of --

Q. This way, in between the rows of panels.

A. Yeah, so that there's a 13-foot row spacing. I was just explaining how that's measured from the top of one module to the bottom of the next module.

Q. And then how big are the modules, if you want to use that term, how big are the modules themselves?

A. They are typically seven feet by three feet.

Q. Three feet wide?

A. Three feet wide, seven feet tall, if you were to stand it up on its side like a person.

Q. Okay. So, I did not ask you how high the racking system is up off of the ground typically?

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A. Yes, so that can vary based on the terrain because it's not always completely flush with the earth because we don't grade it down flat as Iowa, but it is typically between eight and nine feet in height, it would not exceed ten, 11 feet in height.

Q. The racking system or the --

A. I'm sorry, the total height.

Q. I was just trying to break it down, but if you want to go to the total maximum height, I guess at maximum tilt of the panel, how tall will that be when it's on the racking system?

A. Yeah, when it's on the racking system at maximum tilt, nothing would exceed ten or 11 feet in height.

Q. Okay. So regardless of how the racking system is installed, that's your estimate for the panels at maximum tilt?

A. Right. And to answer your question, the racking system that, again, runs in rows north and south, it's typically around five feet in

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height, and then the solar modules are affixed to that.

Q. All right. And you mentioned that it was enclosed within a security fence. What type of fence are you proposing on this plan?

A. On this plan we are proposing a seven-foot tall black vinyl coated fence without barbed wire, which is the minimum height without barbed wire that meets the national electric code.

Q. And was the removal of the barbed wire a concession made in response to comments at the prior hearing?

A. That's correct, and the black vinyl as well was a request.

Q. Will there be, if you know, if it's been determined, will there be any infrastructure along Middletown Road to connect the facility to the power lines?

A. Yes. Based on previous experience working with BGE, a lot of it's up to them, we

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would need to install two to three additional power poles just like the ones that are there now, to interconnect the system, to connect the system to the existing grid.

Q. Do you propose to install any lighting with the facility?

A. No, never.

Q. All right. Once the facility, assume the facility is in place and operational. What will occur on site from that point on?

A. Once it's installed and operational, you know, the system is remotely monitored to make sure it's working properly and optimized. And then, you know, depending on whether, dust collection, that sort of thing, there might need to be maintenance, occasional cleaning of the panels, but it rains here regularly so that probably won't be needed, just routine maintenance over the life of the farm.

We never expect more than, you know, eight trips a year to the site for maintenance

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crews, and that would include the subcontractors that we would hire to keep the grass mowed.

Q. So the only personnel that would be on site would be during those eight visits a year roughly?

A. Correct.

Q. What happens at the end of your lease with the property owners? There have been concerns raised about removal of the equipment and the condition of the property after that.

A. Yes, decommissioning is a common topic that we hear. So at the end of the life of the farm, at the end of the lease, the equipment will be removed in the way that it was installed, it will be quicker, and the land would be put back to the way it is largely today. So you know, again, we are not doing any grading, and we would remove all the equipment, remove the wiring, the modules, the racking, the intersection point, the inverter, and then reseed everything and allow the property to go back to agriculture or

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whatever the land owner at the time wanted.

Q. So at the end of the day, in theory you would have holes where the posts were?

A. Yeah, you would pull up the steel posts, so probably fill those in to a degree if needed.

Q. Okay. Are you aware that a bond will be required to insure upkeep and then final removal of the facility?

A. Yes.

Q. And is that an unusual request or is that something normal that you're required to do?

A. Yes. The removal and decommissioning and recycling of the systems is built into the financing that's part of our business model, it's part of this process, but we also understand the government's desire to insure decommission occurs, and bonds like this are common.

Q. How many facilities does Cypress own or operate?

A. I have -- yes, we, in terms of constructed it's, 250 projects nationwide is the

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number, the latest number that I have.

Q. Do you maintain and operate systems that you didn't construct, or do you just maintain systems that you construct?

A. I should probably explain who we are and what we do.

Q. Okay, that would be good.

A. Yeah. So, we're largely a construction company, solar farm construction company, but what's unique about us compared to most or all of our competitors is we're involved in every part of the process. So we develop projects from the early stages working with land owners and counties like we're doing now. We also have in house civil and electrical engineering that does all that work for us. Like I said, we're a construction company so we have our EPC department in house that does the actual construction. And then we also own, almost all of our farms, we own and operate them and maintain them for the life of the farms. And all

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of those stages brings with it experience and understanding of those types of process.

Sometimes we're also hired by another company to build the projects, to build their solar farms for them. Sometimes we're hired by other developers or even utilities to maintain them for the life of the farm. So we have in Raleigh Durham in the Research Triangle Park, we have a NERC certified remote monitoring facility. Because of the amount of energy that we own and operate, we're treated just like a natural gas power plant, so there's 24-7 monitoring of all of our systems, and we have to meet those same stringent requirements.

Q. Okay. So with the vast experience of your company in terms of the area, to your knowledge, has your company ever failed to maintain or if required, to remove a facility?

A. No.

Q. Did your company evaluate this particular layout for potential for glare?

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A. We did.

Q. And what were the results of that evaluation?

A. We hired an engineer with experience in conducting those studies and his findings were that there --

MR. ZIMMERMAN: Objection.

THE WITNESS: -- were no --

MS. MURPHY: I'm sorry, there's an objection.

MR. ZIMMERMAN: He's testifying to what some engineer apparently concluded.

MS. MURPHY: All right. Is there an engineer coming to testify?

MS. MALONE: It was just background.

MR. MUDD: It was his understanding, but we have a witness here that can testify about it.

MS. MURPHY: Okay, why don't we wait for that witness.

MR. MUDD: Sure.

MS. MURPHY: Sustained.

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BY MS. MALONE:

Q. You mentioned the inverter and that that is the only thing that potentially could make noise. Could you just describe that in more detail, in the event concerns are raised about noise, which I know we heard below?

A. Yeah. So in general, solar farms of this type, you know, don't create any smell or noise or glare. But the inverter technology, it has a hum to it, and in that, the volume of which increases as the sun's energy increases, so at high noon on a clear high pressure day it would be the loudest. And if you're standing near it, it sounds kind of like a hair dryer at low speed, and you get a few hundred feet away from that and it blends into the background noise and you won't know it's there. Certainly if you're standing anywhere at the perimeter fence of this site, you would not hear it. And there's absolutely no, obviously at nighttime it's not working, there's no noise at all.

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Q. For, is the inverter an unusual piece of equipment or is it a piece of equipment that's required for every solar facility?

A. It is required for every solar facility to convert the energy to the energy needed for the grid, and there's probably one attached to this building for similar purposes. They're around us everywhere.

Q. In the event any concerns are raised about the movement of the panels and how that might be distracting or annoying, can you just describe how these panels move, the rate at which they move?

A. Yes. So they very slowly, you can't tell by just looking at them, very slowly track the sun as that moves across the sky from morning to night, and they are highest, as in the tilt is the most perpendicular to the ground, that's what I mean by highest, at dusk and dawn, to get that angle of the sun.

Q. So does it literally move as slow as the

sun?

A. Yeah, I mean like a sunflower, it literally moves, yeah, creeps.

Q. I know that below we heard some concerns about the fire risk posed by solar facilities. In your company's experience, do these solar facilities pose a risk of fire?

A. They do not. In my experience with the company and our maintenance and operations of these systems, you know, safety is our number one concern, and there's no increased risk of fire.

Q. Okay. Do you, does your company, how do you address dealing with the local fire company and any issues?

A. Yes, so in all localities that we work with, there's certainly some in North Carolina that are so used to us where we have dozens of solar farms, we don't really need to do this, but in all of our localities, once our EPC team takes over the project from myself, they would work with local emergency services personnel at the

county level or the fire district level to inform them of our plans so that they understand how to respond to any number of emergencies. We offer training for them if they need to know something, we don't pretend to know what they need to know or don't know, and also to give them access so they understand how to access the site and get through the perimeter fence, as well as manually, if they needed to, manually shut off the system. So it can be remotely turned off via that remote monitoring system that we have in Durham, North Carolina, the utility will know how to turn it off, but we want the emergency services personnel to know how to do that if they want to as well.

Q. When you were looking at the site in preparing for this case, did you research the closeness, or the fire station that would be responsible for responding to any event?

A. Yeah, the closest fire station is also on Middletown Road and it's the Parkton station, so it's 060 on the county map.

Q. And did you then map the distance?

A. Yeah, and part of the process at this stage is to map the distance, the response distance to the site.

Q. And I'm sorry, I was rustling around; did you specify the distance away, how far the Parkton station was from the site?

A. It's 5.9 miles or 11 minutes, according to GoogleMaps.

MS. MURPHY: Is that Petitioner's 3?

MS. MALONE: I'm sorry, 3-A and 3-B, I'm sorry. Is Mr. Belt keeping track of the numbers per se?

MR. BELT: I'm trying.

MS. MALONE: Okay, because I was going to give him the one with the labels on them. They're not all labeled, I apologize.

MR. BELT: I do have labels if you want to give me labels, whatever you want to do.

MS. MALONE: No, I'm sorry, did I give the labeled ones to Parker? I'm sorry, I

apologize. Thank you very much. 3-A is the county map if you look at fire station service in the county, and he specifically went on to GoogleMaps, he said, and mapped the distance.

MR. BELT: That's 3-B?

MS. MALONE: That's 3-B.

BY MS. MALONE:

Q. Is there anything unusual about this installation at this particular location that is different than any of the other 200 facilities plus that your company has constructed or owns?

A. No, this is fairly common.

Q. In your experience, do you believe the proposed facility at this particular location will have any worse impacts than those ordinarily expected from this use?

MR. ZIMMERMAN: Objection.

THE WITNESS: No.

MS. MURPHY: Hang on one second, there's an objection.

MR. ZIMMERMAN: I don't know how he can

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conclude that. We haven't heard what he has done to look into the issue, and just to give a conclusory opinion that it's not going to have any adverse effect is improper, and it shouldn't be allowed.

MS. MALONE: That wasn't the testimony that he gave. The testimony is, will this particular facility at this location have any worse impact than any other installation of solar facilities. That is a special exception standard.

MR. ZIMMERMAN: What does he know about this particular area? We haven't heard that, other than it has a nice wire and a flat field.

MR. MOWELL: The answer to that question is irrelevant to the special exception standard, but I'm not going to spend a lot of time.

MS. MURPHY: Go ahead.

MS. MALONE: In his experience.

MR. MCCOMAS: Now are you asking -- I think we got the question reversed. Not to say

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anything about the area, is he saying anything about this solar farm that would be any worse than any other solar farm, is that what we're getting here?

MS. MALONE: Correct, will this facility at this location have worse impacts other than what's inherent from the use.

MR. MCCOMAS: So that's based not on the knowledge of the area, but on the knowledge of solar places.

MS. MALONE: The solar facilities that he has experienced with his company.

MR. BELT: That his company has installed.

MS. MALONE: Correct.

MR. BELT: So out of the 300, would this one have worse impact as compared to the other 299.

MS. MALONE: Correct.

MR. MOWELL: I object on relevance to that one.

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MS. MALONE: Okay.

MS. MURPHY: All right, and he's not an expert?

MS. MALONE: Correct.

MS. MURPHY: He is not an expert but this is just within his field of experience.

MS. MALONE: It's within his experience.

MS. MURPHY: All right. Overruled. Go ahead.

THE WITNESS: I think you already asked me that question and I answered it.

BY MS. MALONE:

Q. But you were interrupted with the objection.

A. Okay, and then I think your second question was is this site, it had something to do with any worse than any other site.

MS. MALONE: Okay, let's try this again.

MS. MURPHY: The record will speak for itself.

THE WITNESS: Sorry.

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MS. MURPHY: So you might want to ask it again.

THE WITNESS: I should not ask the questions.

MS. MALONE: Okay.

BY MS. MALONE:

Q. From your experience, this particular installation, should it go on in on this site, is there anything unusually bad about this installation that is worse than what would you would normally expect from a solar installation?

MR. ZIMMERMAN: Same objection.

MR. MOWELL: Same objection.

MS. MURPHY: Understood, overruled. Go ahead.

THE WITNESS: No, there's nothing unique about this site or the installation.

MS. MALONE: Those would be our questions.

MS. MURPHY: Of this witness.

MS. MALONE: Yes.

Q. But it doesn't concern you in your site selection that you may be choosing a site with prime and productive agricultural soil; is that correct?

A. So, our installations, the equipment that we use, the construction process that we use does not impact the soil in any way, so that -- and it's also a temporary land use, a temporary facility, so you know, in terms of our consideration around soil type, it's not super relevant.

Q. Is it a temporary facility for 30 or more years, is that the life expectancy?

A. Yes. I think some people would consider that a long time certainly, it's not a short period of time.

Q. Could it be more than 30 years?

A. Could it be more than 30 years? Could what be more than 30 years?

Q. The use of the solar facility on this property.

A. I do not know. Our intent with the utility and the landowner is to do what we proposed.

Q. Which is for 30 years?

A. Yes.

Q. And if it's fulfilled, those prime agricultural soils, if in fact they are prime agriculture, they can't be used for farming, correct?

MR. MUDD: Objection.

BY MR. ZIMMERMAN:

Q. They can't be used for farming, correct?

MS. MURPHY: That's an argument.

MR. ZIMMERMAN: No, I'm asking. He said this facility is like any other.

MS. MURPHY: He's saying there's nothing unique about this site, but as to the agricultural soil, I mean, I guess the owner could then, you know, could use it as a farm even if it does have great soil. But this is about what is being proposed to us, we're not here

talking about whether or not he can farm this land at this point.

MR. ZIMMERMAN: No, we're talking about arguably under the statute, the detrimental impact on agriculture, that's one of the criteria.

MS. MURPHY: But this is, I mean, permitted by special exception.

MR. ZIMMERMAN: Yeah, but not by right.

MS. MURPHY: I understand it's not by right, but I mean, it's not entirely out of the ballpark of thing that they could put here. So I mean, you know, you could have farming or you could have this. I mean, which is it? He's here to talk about the project that he's putting up. So whether or not it can be used for tomatoes and carrots or, you know, all of that, maybe it can, maybe part of it can, but you're kind of going around here and it's not getting forward, we're not moving forward.

MR. ZIMMERMAN: Well, he said that --

first of all, it is a key criteria in an RC-2 zone if it's detrimental to agriculture. Secondly, he testified a few minutes ago that this project would have no impact on agricultural soil.

MS. MURPHY: Right, he testified that they're not going to impact the soil based on what they do.

MR. ZIMMERMAN: But clearly you can't farm the property that the facility is on.

MS. MURPHY: And he said he wasn't sure. He said Mr. Matthews, he doesn't know if Mr. Matthews is going to use the other half of the property to farm.

MR. ZIMMERMAN: Well, first we're starting with the area where the facility is going to be, you can't farm that.

MS. MURPHY: Well, obviously.

MR. MUDD: Which is true with any development you put there. There's not any development that would be permissible that you

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MS. MURPHY: What's that? The order?
MR. ZIMMERMAN: No, the site plan that petitioner submitted consistent with Judge Beverungen's order. Yes.
MS. MURPHY: Okay.
MR. ZIMMERMAN: And this was by hand delivery February 20, 2018, to Mr. Mudd, this is your letter enclosing this plan, correct?
MR. MUDD: Uh-huh.
MR. ZIMMERMAN: May I make this plan an exhibit?
MR. BELT: Sure. You want to make it 2?
MR. ZIMMERMAN: Whatever we're up to, yes.
MR. BELT: You only have 1.
MR. ZIMMERMAN: We only have one copy of it, so I guess we might as well have Mr. Mudd's cover letter as 2-A and the plan as 2-B. Sorry I don't have a lot of extra copies, but if you have a copy --
MR. BELT: Mr. Zimmerman, at the break

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can we make a new copy of it so that can stay in the file?
MR. ZIMMERMAN: Yes. Absolutely, yes.
MR. BELT: I'm not going to mark it until then, put it aside.
MR. ZIMMERMAN: Okay.
MR. BELT: I'm just going to mark 2-A and 2-B, it's going to be a letter from Mr. Mudd and the previous plan.
MR. ZIMMERMAN: And on 2-A, there's also a zoning description from Martin Phillips, so maybe that, should that be part of 2-A?
MR. BELT: Yes, and it's your homework at the break to get a copy.
MR. ZIMMERMAN: Yes.
MR. MUDD: For what it's worth, I believe that the record below is a public record in this case already, so I don't know that we need this as an exhibit.
MS. MURPHY: I know. He wants to mark it as an exhibit.

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MR. ZIMMERMAN: This is part of the Board -- this was not in the record below, was it?
MR. MUDD: It's in their file, yeah.
MR. ZIMMERMAN: Wasn't this subsequent to the --
MR. MUDD: Actually, when I say the record below, I mean the case file, I believe, is part of the record of this case automatically under the law, even if de novo.
MS. MURPHY: I mean, it doesn't hurt our feelings if he wants to mark it again, it's just that it's his job to go get a copy of that if he wants to.
MR. MUDD: Okay, thank you.
MR. ZIMMERMAN: Of what, the plan?
MS. MURPHY: Well, if you want it in evidence. I mean, this is part of the file, I don't want to take it out of the file.
MR. ZIMMERMAN: Well, can the Board consider this as evidence without making it an

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exhibit?
MR. BELT: Why don't you just move in the whole file, Pete?
MR. ZIMMERMAN: Okay, let's move in the Board's file.
MS. MURPHY: Okay, that sounds good.
MR. BELT: It's in there.
MR. ZIMMERMAN: And may I put this -- I want to ask a few questions about it. Temporarily we'll put this on the board, on the easel.
MR. BELT: Mr. Zimmerman, if I may, since the whole Board file is in, please provide some identification of what you're referring to.
MR. ZIMMERMAN: I will.
MR. BELT: Thank you.
MR. ZIMMERMAN: Is it all right if I put this into the easel? Okay.
BY MR. ZIMMERMAN:
Q. So what we're talking about is a plan, again, which accompanies Mr. Christopher Mudd's

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February 20, 2018 letter to the Board, it's called Blue Fin Origination II LLC, so that's the correct name of the petitioner or, it's not Blue Fin Solar, did I get that wrong?

A. It's Blue Fin Origination II.

Q. Okay. And that's the company that's owned by Cypress Creek?

A. It's the LLC that is owned by Cypress Creek.

Q. Well, an LLC is a kind of company, isn't it?

MR. BELT: Could you keep your voice up, Mr. Zimmerman, please?

MR. ZIMMERMAN: Yes.

BY MR. ZIMMERMAN:

Q. An LLC is a kind of company, right?

A. Correct.

Q. Okay. So this plan shows a, correct me if I'm wrong, a 13-acre proposed solar array field, is that true? I'm looking at, area of special exception, 12.99 acres zoned RC-2.

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A. The special exception area is 13 acres, it's not the same as the footprint of the array.

Q. Okay. Well, what's the footprint of the array? And we have a date on this plan, February 14, 2018, signed by David Martin.

A. I don't have the acreage of that footprint, I didn't want to confuse everyone with multiple plans, but it would be two to four acres smaller than the special exception area.

Q. Well, what's the difference, what is the area, are you talking about -- I mean, could you show the Board what the 13 acres consists of?

A. So for zoning purposes, we're required to have a special exception area which shows our complete perimeter with the fence, the landscaping plan that we have to install, so -- plus the solar array, so it's the total disturbed --

Q. So it goes out to Middletown Road and then there are a few areas that are not covered by the modules?

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A. Right. You can see that there's gaps in between the fence and the array, and then that special exception area would also include our proposed plantings that we're using to supplement the existing evergreens.

Q. And if I can just move this, now this differs from the Petitioner's Exhibit 2 today in that the special exception area is now 16.71 acres; is that correct?

A. Yes.

Q. That's what you're proposing now?

A. Yes, that's the proposed special exception area, 16.7, yes.

Q. Okay. All right. I have a few more questions here.

As I understand your direct testimony, from an engineering point of view, let's suppose the Board were to approve this special exception but based on the, I'll call it the 13-acre plan, let's assume hypothetically that were to happen, okay? As I understood your direct testimony you

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could do it, but it would be somewhat more expensive?

A. I can, based on my understanding of the plan, I cannot tell you if it would be financially feasible, physically feasible. There's a number of factors involved there, so we were ordered, I don't know if that's the correct legal term, but ordered to do that plan on the left in response to the judge's order, but that, you know, this plan has not been fully engineered through electrical engineering or civil engineering, and does not provide the wiggle room so to speak, for contingency areas and that sort of thing.

Q. Have you run it through your engineers to see if they would say it was totally not feasible at all from an engineering point of view?

A. The main problem with this plan is the row spacing, so the spacing in between the rows that are running north and south. So with this

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Q. Now to try to get through this as quickly as I can, you haven't actually seen this particular study?

A. I have not.

Q. But let's say that this study indicates that the amount of land required for a megawatt or two megawatts varies according to the quality and various other engineering aspects of a proposed facility; do you agree with that?

MS. MURPHY: Are you asking him to assume that the article says that, or assume that that is true?

MS. MALONE: Can you repeat the question?

BY MR. ZIMMERMAN:

Q. Would you agree with the proposition that the number of acres required for two megawatts or one megawatt vary depending on the quality of the equipment, the modules, the array used and how it's designed, other factors?

A. I would not agree with that sentence.

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Q. Why not?

A. Well, as I stated before, there's a dozen different reasons that go into the shape and size of a project. Today we're talking about a conceptual plan in the early stages of development, so if you were to ask me how big does our site need to be to work optimally today, I would tell you that the footprint of the array needs to be 13 acres. If you were to ask me, you know, what that would need to be after it's fully engineered after we're at the stage of building and electrical permitting with a fully civilly engineered plan, that number might be different.

Q. So let me ask you about, the statement happens to be on page five, quote, we found total land use requirements for solar plants to have a wide range across --

MR. MUDD: Objection.

MS. MURPHY: We're not just reading the document and asking him to agree or not, so ask him general questions.

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MR. ZIMMERMAN: Okay.

BY MR. ZIMMERMAN:

Q. So putting aside the document, would you agree that the requirements in relation to the land use requirement in relation to megawatts varies according to a range of technology?

A. Yes.

Q. So, are there different technologies for solar facilities?

A. That's a very general question, but yes.

Q. Can you say whether or not depending on the technology chosen, you could occupy a smaller amount of land and still get 1.9 megawatts energy from the special exception array that you're now proposing under Bill 37-17 and the special exceptions hearing, can that be reduced depending on technology?

A. So to, based on what we know about the property now and the site and the latitude at which it sits, our engineers tell me that we need 13 acres for a footprint of the array to install

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an optimally designed system. So one of the confusing things here in the question and in the bill and everything, is the difference between the amount of energy that we can produce throughout a day and throughout a year with changes in weather and that sort of thing, that's different than what the nameplate capacity of the equipment sitting on the earth is, so that's 1.9 megawatt generating equipment. That doesn't mean that it can generate that electricity well or in an optimal way. The best example is what I said earlier about shading.

Q. Do you have any documentation to show that you could not reduce the land area such as required by Administrative Law Judge Beverungen?

A. I don't understand your question.

Q. Do you have any studies, do you have anything in writing to demonstrate that what Judge Beverungen ordered is not feasible?

A. I have the most recent plan that is feasible. That is the best, that's the best

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answer I've got to your question.

Q. I'm talking about some documentation where the 13 acres ordered by Judge Beverungen, some documentation to show that that cannot possibly work on this site, for either 1.9 megawatts or a smaller number of megawatts?

A. I don't have a study that --

MR. BELT: Mr. Zimmerman, can I ask just a quick question, sorry to interrupt.

Just really quick, these aren't trick questions, you can just answer them flat out. Basically, do you have knowledge yourself of the different industry standards or different types of solar arrays that are available to be installed in any site or a site like this, do you know all about them?

THE WITNESS: Not all about them, but yes, I know about the different technology and the different types of equipment and how we purchase different equipment for different sites.

MR. BELT: Is there equipment out there

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that is more optimal per square foot than what is going to be used here that would enable you to reduce the acreage, I believe is what he's trying to get at. Is this the best you can use at that area to optimize the square footage that would be used?

THE WITNESS: This plan is, yes.

MR. BELT: To the best of your knowledge?

THE WITNESS: Yes, it is.

MR. BELT: To the best of your knowledge, there is not some super special type of array that you're not purchasing that would be so efficient that you would only need five solar panels to get your two megawatts?

THE WITNESS: That is correct. There is a variety of technologies that come in different prices, but for this site, you know, we looked at the judge's order and realized that we could go down to between 12 and 14 feet row spacing at a minimum, thus getting to the maximum acreage.

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MR. BELT: But that's all nuts and bolts mathematics, and how that all works, that's not something you're prepared to testify to here today?

THE WITNESS: No.

MR. BELT: Okay. That's a good question. I'll stop asking you questions then.

MR. MCCOMAS: Let me just follow up. Are there other smaller panels in the marketplace that will make up that smaller spacing that will achieve the same optimal energy collection, are there smaller panels out in the marketplace?

THE WITNESS: There's a variety. I mean, there's solar panels you buy for your calculator, there's a variety of technologies out there for this purpose. For a ground-mounted utility scale system that you would interconnect into an electric grid for all consumers, the best equipment would be used would be proposed for this site, and it is yet to be chosen. You know, we don't know when -- we would have hoped to have

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broken ground already but we don't know when that will be, and so at that time we will purchase the equipment. Am I answering your question?

MR. BELT: Yes. Sorry, Mr. Zimmerman.

MR. ZIMMERMAN: I've got a few more. So, Peoples Counsel Exhibit, we're up to 3 now?

MR. BELT: We're only on 2, we're arguing about 2.

MS. MALONE: 2 is not coming into evidence because he can't identify it, and you got your questions in generally.

MR. ZIMMERMAN: Well, it's in for ID, right?

MR. BELT: I wrote ID next to it.

MR. ZIMMERMAN: Okay, so now I'm on to something else.

MR. MUDD: Well, has the Board officially not, so it's ID only?

MS. MALONE: ID only, it's definitely ID only. I always go back and forth in this discussion when we're talking about whether or

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not the document goes back and doesn't come into the file so it's not here at all, and then other attorneys want it in here so that it shows that it's ID only. I mean, I don't have any problem showing that it's ID only, but I guess the point is then, it's listed with the exhibits, and that's my only thing.

(Unintelligible colloquy, multiple people speaking at same time.)

MR. MUDD: It actually can become a prejudice from the standpoint of the record going up and --

MR. ZIMMERMAN: No, no. Excuse me. When Circuit Court has a case and an exhibit is accepted only for ID, it's in the file, and then it can be reviewed by the appellate court as to whether in fact it should have been admitted.

MR. MUDD: Okay.

MR. ZIMMERMAN: So I am asking -- but even if it's not admitted, courts cite literature, it can be used in argument, but I

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just want to know if he had read it and so on.

MR. MUDD: Well, that is what concerns me, is because it's in he's going to refer to it. It became pretty clear during the questioning that this was Mr. Zimmerman's expert, who I'm not able to cross-examine.

MS. MURPHY: Understand.

MR. MUDD: So he was going to have this witness say, do you agree with my expert in this paper.

MS. MURPHY: We saw that.

MR. ZIMMERMAN: It's a matter of weight, to be honest with you.

MS. MURPHY: So Mr. Zimmerman, one second, I know you were going to interrupt me. We're going to highlight this and say it's ID only, we're going to mark it in red and say that. We also do --

MR. ZIMMERMAN: Understood.

MS. MURPHY: -- check the exhibits at the end, the administrators do, and they check

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what's going up. We have this battle every time.

MR. ZIMMERMAN: You can mark it as a Rainbow Coalition.

MS. MURPHY: Okay, good, got it, pink.

MR. ZIMMERMAN: All right. So same thing, Peoples Counsel's 3, this is a solar farm fact sheet which is available on line.

BY MR. ZIMMERMAN:

Q. So this is, while I'm trying not to trick you or anything, I assume you haven't happened to have seen this particular document that's available on line?

A. This document doesn't appear to have a name or a source, but I don't recognize it.

Q. In any event, let's assume that it's accurate in saying that the descriptions of these farms, the first one, system size --

MR. MUDD: Objection.

MR. ZIMMERMAN: Let me finish the question before --

MS. MALONE: It's the same exercise,

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you're about to read a document into evidence that this witness doesn't --

MS. MURPHY: It is the same exercise, it really is. Can you just ask a general question?

MR. ZIMMERMAN: Let me rephrase it.

MS. MURPHY: Just forget the document.

BY MR. ZIMMERMAN:

Q. Would it surprise you that there are facilities with, say one megawatt, on 4.8 acres?

MS. MURPHY: Now there's a questions.

BY MR. ZIMMERMAN:

Q. Based on technology?

A. Would it surprise -- I'm sorry, say that again.

Q. Would it surprise you that some operators have found it feasible to generate one megawatt on 4.8 acres?

A. That doesn't necessarily surprise me, no.

Q. And is there some variation in the number of megawatts generated based on the type

of the facility, including the different sections of it, from ground to the top of the array or the panels there would be what, what's the maximum height?

A. Nothing should exceed 11 feet, none of the installed equipment.

Q. And is that on the site plan, the maximum, are you proposing that as the maximum? You know, if the Board approves this and says okay, maximum high 11 feet, no problem?

A. That is fine. I don't know that it is in the notes. I know there is a requirement, a maximum height requirement from the county.

Q. But the maximum in the law is 20 feet, right? Am I correct?

A. Yeah, correct. Right.

Q. But you're saying you've got, 11 feet is all that you need?

A. That's what I'm saying.

Q. And what, compared to the Middletown Road elevation, do you know to what extent the

property slopes upward or downward where your solar facility is proposed?

A. It's gently sloping and the terrain generally moves downhill as you go away from Middletown Road, but there's some --

Q. All right. But in any event, if the Board decides okay, there's an 11-feet maximum, you could deal with that?

A. Yes.

MR. ZIMMERMAN: Okay. That's all I have, Madam Chair.

MS. MURPHY: So Exhibit 3 is for ID as well since he did not identify this document, so you want to make sure that it's ID only.

MR. BELT: Okay, thank you.

MS. MURPHY: So, how long is your cross going to be? I don't want to cut you off, I want to be sure -- you have been sitting through all this.

MR. MOWELL: It might be almost an hour. I have questions from the audience too.

MS. MURPHY: Okay. Questions from the audience?

MR. MOWELL: Well, handing up to me.

MS. MURPHY: Handed up to you, understood, and we don't want to cut you off. Does anyone want a break? Everyone's saying yeah, yeah, heads are nodding. Do you see why I started at ten o'clock and I said we're not going to finish this case today?

MR. MUDD: Well, if we'd known Mr. Zimmerman was going to be here, we would have gotten a second hearing date.

MS. MURPHY: One witness, and I said we've got cross, and we still have cross and then we have redirect. I'm not even sure how many witnesses we will get through with the petitioner today. This is because we're so familiar with all of this.

MR. MUDD: In light of that, could we ask Ms. Cannington (phonetic) to --

MS. MURPHY: Oh yeah, you're going to

have to.

MR. MUDD: I mean, could I ask her on the break to find some dates?

MS. MURPHY: Absolutely, sure. Would you rather have a break, Mr. Mowell?

MR. MOWELL: I think that would make sense since it's lunchtime.

MS. MURPHY: And then how long does everyone need? I mean, I'm trying to move it along, but you know, does anybody have any preference? I try to be accommodating and I can be back in half an hour, but 45 minutes, an hour?

MR. MOWELL: Whatever you say is fine.

MR. ZIMMERMAN: 45 makes sense.

MR. MUDD: Is the witness sequestered?

MS. MURPHY: Your witness?

MR. MUDD: Yeah, meaning --

MS. MURPHY: Right, he can't talk about the case.

MR. MUDD: Okay, so I guess I'll bring him some lunch.

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Q. You don't think about the environment when you put these sites in because you know you're not going to hurt the sites, is that what you're saying?

A. That's not what I'm saying.

Q. Have you heard from any community groups that are in support of your proposal?

A. No one has contacted me, to my knowledge, representing a group in favor.

Q. How long has Cypress Creek Renewables been in business?

A. How long have we been in business? Yeah, see, I came in through the FLS Energy merger. I believe it was 2014.

Q. The business was formed in 2014?

A. 2013, 2014, something around there.

Q. I'm going to now ask you questions from the audience, so bear with me.

Do you know the decibel of the transformer/inverter, the decibel level I guess, the sound that's put out?

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A. Let me see if I have that in this binder. What's your next question? Can I do that?

MS. MURPHY: You might want to answer this one.

THE WITNESS: Sorry. I don't have that with me.

BY MR. MOWELL:

Q. How high is the chain link fence?

A. Based on, the proposed fence in this plan is seven feet in height.

Q. Okay. And I think the next question is about barbed wire. I think you said there was not going to be barbed wire at the top?

A. No barbed wire.

Q. How close to the ground will be the bottom of the panels?

A. So, they move, and it depends on the terrain under them, but I guess at a maximum tilt, you're looking at three to four feet above the ground. It depends.

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Q. And you say that will be in grass?

A. Yes, the earth under and around the array will be grass.

Q. And will you use herbicides, pesticides or chemicals on the grass?

A. I'm not sure. I don't think so. We won't use, definitely won't use pesticides of any type. Sometimes we use herbicides around the inverter and transformer, that concrete pad because it's hard to, you can't mow around that, and in the fence line as well, but it's typically just mowed.

Q. And who is going to do the mowing, are you going to hire a contractor, local contractor?

A. Uh-huh, yes, sir.

Q. Would you agree that fewer panels or more efficient panels would enable a smaller panel footprint?

A. That's not necessarily true.

Q. What is the industry standard for calculating bonds?

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A. In my experience with bonds through previous work experience and my board experience, it's been, you know, a hundred percent of the construction costs, sometimes 125 percent. There's no solar industry standard, I guess. It's not really a necessary thing, it's a failsafe kind of thing.

Q. Did you say what the construction cost is going to be for this facility?

A. I do not have that. It would be in the range of, if I do my math correctly in my head here, I would think $4- to $6 million.

Q. Who's going to pay that, Cypress Creek Renewables?

A. Yes.

Q. I assume they're going to get a loan to do that?

A. Yes.

Q. Please describe the maintenance process and frequency.

A. Yeah. So, is depends on what occurs on

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site, but obviously if something breaks, if we bought, you know, a lemon of some kind, a module went out, we would know that and replace it. We're in the energy production business so, you know, we're incentivized to monitor that closely and replace things quickly. There would be at least one visual inspection a year, but these things, we get better at it over time, they're designed and constructed to not need a lot of maintenance.

Q. How are you going to fix them quickly if you only come out once a year?

A. Well, it's monitored remotely, the amount of sunlight it's getting, how each row of modules is performing, there's a dozen different -- the wind speed is monitored, there's a number of things.

Q. Are you going to clean the panels and if so, with what?

A. So in the event that there was an extreme drought, I guess, and dust collected on

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the panels to a degree where it was impacting production, we would bring a water truck out and hose them down. But you know, I'm not a climatologist, but just the general rain patterns of the eastern seaboard should prevent us from ever needing to do that, based on my knowledge.

Q. The cleaning is not part of your maintenance?

A. No, it's not really needed. In Arizona, sure.

Q. What type of equipment would be involved in maintenance?

A. So, yeah, I mean it's typically a guy or a gal on a truck coming out to maintain or visually inspect the site. Obviously with vegetation maintenance, you know, a truck and a trailer, lawn mower, riding lawn mower, that sort of thing, weed whackers.

Q. Does the current continue to flow after the inverter shuts off, as long as it's sunny out?

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A. I'm not sure, I don't think I can answer that question.

Q. Well, if the inverter shuts off and the sun is out and the panels are still producing electricity, what happens to the electricity?

A. So, you're getting out of my expertise here, but the -- if the sun is shining, so, one thing the inverter does is it clips or puts a cap on the amount of electricity that is added to the grid, so it can regulate what is added to the grid or not added to the grid. If you think of energy production throughout the day as a bell curve, on the left is the morning and on the right is the evening, obviously at night there's no production. In the middle of the day is the top of the curve at the highest production. One of the things the inverter does is it clips the top of that bell curve, and it clips it at 1.9, in this case 1.9 megawatts.

Q. I think the concern from the question is if the inverter malfunctions and it's sunny out

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and the panels are still producing electricity, do the panels or the wires leading to the inverter, do they get hot, can there be a fire if the inverter malfunctions and it's sunny out?

A. I can't, in terms of, once we get into things breaking and what the failsafes are, I can't answer, I just don't have the expertise to explain.

Q. Do you know of any fire that has started at a solar array like this?

A. I know of a site in California where there was a grass fire that spread into the array area, yes.

Q. But you don't know of any panels themselves that started a fire, or the wires within the panels?

A. No.

Q. Or the inverter itself?

A. No, they're just -- no.

Q. They're just what?

A. I would just say there's not a lot of

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flammable material involved in any of this equipment, but no, I'm not aware of any equipment causing a fire, no.

Q. Well, there's heat involved and electricity involved?

A. Yes.

Q. But you're not personally aware of any fire from a panel array?

A. I am not.

Q. How many hours per day of direct sunlight does it take to produce 1.9 megawatts?

A. I don't know that number. I guess it's a good time to explain some of that, I hope, it's kind of complicated, but I hope folks aren't misunderstanding that the 1.9 megawatts in terms of the equipment or the amount of equipment doesn't mean, it's not the same as the amount of production of energy throughout the year. There's the megawatt hours per year and that's a different concept than the megawatts of equipment that it's purchasing and installing.

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Q. Do you know how many hours per day of direct sunlight this array will have?

A. No, that would depend on the weather. And we actually, I guess I should explain, actually install more modules than are needed to create 1.9 megawatts, because throughout the year it's cloudy and rains, and humidity and low pressure, high pressure changes that amount. So like I said, going back to that bell curve, if you think of it across the year, the inverter's kind of clipping the top off and keeping us at 1.9.

Q. Here's a quick question that just came up. What caused the grass fire that you were talking about?

A. I don't know. It's California. I don't know.

Q. Could panels that generate two megawatts be placed on roofs of large commercial buildings?

A. Yes, if you had a big enough building.

Q. How many solar pods have been

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decommissioned and returned to agricultural purposes?

A. I don't know.

Q. Has Cypress Creek Renewables ever decommissioned a solar array?

A. We have not, no.

Q. I assume Blue Fin Origination II has not either?

A. Not to my knowledge.

Q. Who benefits from this solar energy, who uses it?

A. So the -- I guess there's two answers to that question. The citizens of Maryland and the ratepayers that pay Baltimore Gas and Electric benefit from a predictable long-term source of electricity. Everyone benefits from the fact that it's clean and renewable and you don't have to buy, you know, gas or coal to create it.

And then it's the folks that purchase the power themselves that benefit from that as well.

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Q. So, will people in Baltimore County get to use this power?

A. Yes. So when we're talking about the actual electrons that are produced on site and added to the grid, those electrons flow downstream so to speak, and the people along those electric lines in the grid use those electrons, and so it will be people in north Baltimore County that are literally using those electrons.

Q. When will you know how much of the 1.9 megawatts will be installed?

A. When will we know how much of it?

Q. Yes.

A. I mean, I guess we, as soon as we install it, physically install it. We have no plans to build anything different.

Q. Well, you have three plans and you settled on the third one. I guess the question is, are there going to be more plans?

A. No, I certainly hope not. I guess I

would say, or repeat something from earlier, is that we are in a conceptual zoning phase. We haven't done all of the studies, we aren't at a building and electrical permitting stage with fully civil engineered plans, so small changes could occur.

Q. Are you going to do any environmental studies?

A. Yes, phase one and a habitat assessment at a minimum.

Q. What are they?

A. I believe a wetlands delineation as well. I imagine that, if you stand out there, you can tell there are no wetlands.

Q. Are they required by a governmental body or are you going to do that voluntarily?

A. We do that for every single site we ever do, regardless of government.

Q. Okay. So if that produces unsatisfactory results, you wouldn't put those panels there, I assume; is that correct?

A. That is correct.

Q. How does the fence meet the National Electric Code?

A. My understanding of the code is that the minimum height to prevent people from stealing things or hurting themselves, I guess, is six feet plus one foot or barbed wire, or seven feet of fence, and so that's our intent, to do the seven feet.

Q. And who has access, who has the key to get inside?

A. So, Cypress Creek Renewables, since we're responsible for maintenance and operations. The, I believe the, it might -- I believe BGE would have access to it certainly in an emergency situation, and then if emergency services personnel of Baltimore County, you know, wanted that access, they could have it as well. You know, we're talking about a chain link fence, so the fire department has the equipment to get in, they don't need our key, they'll get in if they

need to.

Q. Assuming they can access the pond. How much capacity will remain on the lines after this facility is running?

A. I'm sorry, say that again.

Q. How much capacity will remain on the lines after this facility is running, will homeowners still be able to put solar on their own roof?

A. I don't understand the first part of the question, but there is nothing about this system's installation or its impact to the grid that would change the ability of any residential property owner from installing panels on their roof or their back yard.

Q. I think that's the question. You're not going to overburden these wires with your system to prevent people from putting their own solar systems in?

A. No.

Q. How many more times will this plan

change before installation?

MS. MALONE: I think he's answered that one.

THE WITNESS: I hope zero.

BY MR. MOWELL:

Q. What is the interconnection infrastructure not on this plan, when will it be added?

A. The interconnection infrastructure, is that what you said?

Q. Yes.

A. When will it be added? Well, once we get beyond zoning and we get into an electrical engineering phase and we are approaching construction and are talking with the BGE staff that actually will be involved in the construction of that, we will add that to our electrical plans.

Q. Will that be located on this property?

A. It will be somewhere in between, and this is in a big area, somewhere between the

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perimeter fence that's parallel Middletown Road and Middletown Road itself, so connecting -- so what happens is we go underground underneath the perimeter fence towards the road, and then it goes above ground, and then there will be some sort of, there will be two to three poles installed somewhere in that area to interconnect it to the grid. And there's a point along those lines from which it changes, I think ownership's the right word, ownership between our company and BGE, so it's really up to them, we work very closely with them.

Q. Well, who installs it, does BGE install it or do you all?

A. I guess it would be both, it would be both of us working together.

Q. What impacts are inherent in the installation and operation of a solar facility?

A. Well, I'm sorry, what were your first couple words?

Q. What impacts are inherent in the

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operation and installation of a solar facility?

A. Impacts are inherent? I'm not sure I understand the question.

Q. Well, I think it's asking, what are the bad things that happen from any solar facility.

A. Right. You know, I come with an amount of bias obviously, but I don't see any negative impacts that come along with a facility of this type, this type of infrastructure.

Q. You wouldn't mind living next to one?

A. You know, I get asked this question a lot, and I actually live in a similar area in the mountains of North Carolina and across from a hayfield, and I would prefer that hayfield to be hay for the rest of my life. But if I had to choose between a neighborhood and a solar array, from what I know about solar arrays, I'd prefer a solar array.

Q. But if you had to choose between a solar array and that field, you would choose the field?

A. Yeah.

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Q. If the fence is seven feet high and the panels are 11 to 12 feet high, what would be the effect of the visibility from Middletown Road, a scenic route, won't people be able to see the panels despite the fence?

A. Yes. It will depend on where they're standing and what part of the array you're talking about, because the terrain is moving. And we're getting into aesthetics here. In my experience, peoples least favorite aesthetic piece of equipment we install is the fence, so I hope that will be better without the barbed wire and the fact that it will be coated in black, that the fence will blend into the background.

Q. Well, people driving up Middletown Road will see the tops of the panels; is that correct?

A. Well, it's possible. There's a landscaping plan and existing vegetation that, existing vegetation is there no matter what, but we're required to install additional vegetation to screen the site, that's our intent, and the

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intent I would assume of the ordinance, to prevent its visibility.

Q. How many solar panels per megawatt?

A. Solar panels per megawatt. I can tell you the number we have proposed for this site, 7,627.

Q. For two megawatts, or half of that.

A. Yes. For example in this plan on the left, I think I said this already, the smaller plan on the left has more solar panels, 8,816.

Q. What is the benefit to local communities from the pilot community program?

A. Yeah, I think a couple things. I think the intent is written in the general statute. The intent to get companies like us to come to Maryland and invest in these communities and invest our construction spending. As solar farms proliferate in the area, there will be the need for not only, you know, temporary construction jobs but more permanent maintenance jobs, and then there's the benefit of the fact that it's

MR. ZIMMERMAN: If I may encapsulate, we interacted with Mr. Martin on Peoples Counsel versus Beechwood in 1993, so we go back quite a while.

MS. MURPHY: Okay.

MR. ZIMMERMAN: I would say that subject to the fact that any legal conclusions are ultimately for the Board to decide, we won't prolong this on qualifications.

MS. MURPHY: Okay, thank you.

MR. MOWELL: I'll defer to Mr. Zimmerman, I'll follow along with that.

MS. MURPHY: All right, he'll be accepted in those areas as you indicated.

MS. MALONE: Thank you.

MS. MURPHY: All right.

DIRECT EXAMINATION

BY MS. MALONE:

Q. Okay. Mr. Martin, did you prepare the plan that was marked as Petitioner's Exhibit 2 on the board?

A. I did.

Q. And as you mentioned, you also prepared the original plan that was submitted in the underlying case, and I'll call it the second plan or the 13-acre special exception area plan?

A. I did.

Q. In other words, all of the plans in this case have been prepared by you?

A. Correct.

Q. Going back to Petitioner's Exhibit 2, in preparing the plan, did you research the conditions of the property and the zoning history of the property?

A. Yes, I did, as always.

Q. Did you prepare the base plan information that's on that plan?

A. Yes, that material comes from the county's GIS systems, topography, vegetation, cover, roads, basically everything that's on the county GIS that's relevant to preparing a zoning plot.

Q. The solar array and the layout for the solar array, was that provided by Cypress Creek?

A. It was.

Q. Did you have any input in the layout of the solar array or the location of the solar array, and if you did, what was that?

A. No.

Q. Did you review the layout and provide input on compliance with county standards?

A. Yes.

MR. BELT: Could you be specific as to which plan this is, or is it both?

MS. MALONE: No. At this point we would just be talking about Petitioner's Exhibit 2, so maybe we should put that away.

BY MS. MALONE:

Q. Then, did you determine the special exception area and identify that area by zoning?

A. I did, yes.

Q. And is this that zoning description?

A. It is.

Q. Take a look at that. What is the acreage of this zoning description?

A. 16.1 acres or less.

Q. Were you asked to calculate the area of the panel array shown on Petitioner's Exhibit 2?

A. Yes.

Q. What was the acreage of the panels?

A. I believe it was 13-and-a-half acres, or thereabouts.

Q. If I told you it was, 13.14 was the area that you gave me, would that be right?

A. Okay, yes. I just did it yesterday, but the memory is gone.

MR. ZIMMERMAN: Could we get exhibit numbers for these documents?

MR. BELT: So far they are 4 and 5. 4 was the CV, 5 is the zoning description. 2 was previously marked for identification, none of it put in formally.

MS. MALONE: And then the fire department map and the distances were 3-A and

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3-B.
BY MS. MALONE:
Q. Did you also prepare a schematic landscape plan for this proposed plan?
A. Yes.
MS. MALONE: Do you want to go ahead and -- sorry for the delay. Thank you.
MR. MUDD: I'll do that, you start talking.
BY MS. MALONE:
Q. Mr. Martin, is this the schematic landscape plan that you prepared?
A. Yes, it is.
Q. I'm going to go ahead and mark that as Petitioner's Exhibit 6. And is this schematic landscape plan consistent with Petitioner's Exhibit 2?
A. It is.
Q. So basically, did you just use the underlying base plan and add landscaping to this?
A. That's correct, the base plan, or the

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special exception plan becomes the base background.
MS. MALONE: Okay. I'd like to introduce Petitioner's Exhibit 2 as the -- well, I'm sorry, I'd like to offer Petitioner's Exhibit 2 and Petitioner's Exhibit 6.
MS. MURPHY: Any objections?
MR. ZIMMERMAN: No objection.
MR. MOWELL: No objection.
MS. MURPHY: All right, admitted.
MS. MALONE: Okay.
BY MS. MALONE:
Q. Can you go about describing, and you can use either the underlying base plan or the special exception plan just -- I know we heard from Mr. Parker, or Mr. Sloan, but we haven't heard your discussion of the conditions of the property, so can you just describe, you've been to the site?
A. Yes.
Q. Can you describe the property?

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A. It might be better to describe how the plan, how I put the plan together. I mentioned that we assemble the GIS, we download that digital data, enter it into the computer system, it's a CAD program, but this particular property also had some development history as a minor subdivision, and we superimposed that minor subdivision underneath the digital GIS information and recognized that the minor sub already had wetlands delineated and more importantly, forest buffers and forest conservation easements shown on that minor sub plan.
Q. Okay, so let's start there. The extent of the minor sub plan, can you -- I know you have a hurt foot.
A. That's okay. So the entire property we've talked about is 70-plus acres. There was a minor subdivision of this particular piece of property right here on Flintstone Road that used to be a part of this overall tract, and that was

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the genesis of the minor sub plan that created that lot.
Q. Okay. And you were talking about during the creation of that lot and the approval of the minor subdivision plan, what other work was done at that time that impacted the property?
A. Well, in the normal situation with a development plan or in this case a minor subdivision plan, the county code and the regulations require that the applicant, or in this case the subdivider, delineate all the wetlands, do a steep slopes analysis to determine forest buffers to those resources, as well as satisfying the obligation of whatever the forest conservation may be for the property.
Q. Okay. And that was done at that time?
A. That's correct.
Q. Are those buffers shown on the plan, and can you just indicate them?
A. Yeah, the buffers are shown. They have a small, initials FBE that are shown. They

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basically are in this area and to the west side or, I'm sorry, to the east side of the property.

Q. So going up the east side of the property, the line here?

A. Correct, and down -- wait. Here, here, down to the, I'll call it the southwest.

Q. Right.

A. And then all of the bottom part of this within the property lines.

Q. Okay. And then it comes back up and around what has been described as the farm pond?

A. The farm pond, right.

Q. So all of that area depicted on here is in -- has it been dedicated?

A. As far as I know, it has been.

Q. So that area is all protected, and what can be done in that area?

A. No clearing, grading, et cetera, et cetera. It's a standard note that the environmental protection folks require to be placed on all plans, so it is protected.

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Q. Okay. With the minor subdivision plan, those were established, once you comply with those regulations, is there -- how do I put this? Is that box ticked off so that anything else you do to the property, as long as you respect those areas, that that's compliant?

MR. ZIMMERMAN: Objection.

MS. MURPHY: What's your objection?

MR. ZIMMERMAN: Anything done new to the property would have to go through further environmental review when you're making a change to the property. To the extent that the question implies that there's no more environmental review once a minor subdivision is established regardless of what else you do with the property, don't worry about the environment, I think that's wrong.

MS. MURPHY: Okay, overruled. You can cross-examine him on that point.

MR. ZIMMERMAN: Can we get the date on the minor sub, while we're at it?

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MS. MURPHY: Well, you can ask him that on cross-examination.

MR. BELT: That's Exhibit 6. It's not a new exhibit.

MS. MALONE: Sorry about that.

MR. BELT: It's just a courtesy copy. Sorry about that. We'll still give you the big one too.

THE WITNESS: All right.

BY MS. MALONE:

Q. Okay. So, what else did you do, so Cypress Creek gave you the array, you designated the special exception area, and did you also propose schematic landscaping associated with the solar facility?

A. So, we prepared the base mapping as I mentioned before, including using the minor subdivision plan to establish what was already established by that plan and reflected on the base mapping information. That base mapping information was given to Cypress Creek

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Renewables, and their engineering design division provided then a CAD file back to me, and that's been placed on, within the envelope, the available envelope of development.

Q. And did you confirm that the array they gave you as shown on here does not encroach into the recorded buffers?

A. I have confirmed that, yes.

Q. Did you also at my request prepare an exhibit that shows the array over top of an aerial photograph?

A. Yes.

Q. And I've marked this as Petitioner's Exhibit 7. Can you describe how you created this exhibit?

A. So, this is a Baltimore County GIS photograph, and again, superimposed, then, on top of their actual digital GIS data. The red lines shown so the various property lines within the photograph and that's how it gets aligned to the actual digital data that formed the plan in the

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first place.
Q. You can, using this exhibit because it's on there as well, can you indicate the zoning of the property, the different zones on the property and where those lie?
A. Yes. So, everywhere on the property, there is a, I'll call it a sewing machine sort of style line, and the property zoning classifications on either side of that line as they straddle would be shown as, labeled as RC-2 for example, where my finger is is RC-8, whereas south, the property has some split zones on them somewhere, I can't remember -- well, I guess over here is the RC-8, so there's a couple of zones that traverse the property. However, the array itself, as you can note from the note, is RC-2.
Q. Not only the array but the special exception area?
A. The entire special exception area, right.
Q. So within your special exception area,

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what did you include in that area as drawn?
A. What did I include? The array itself, the space between the panels that actually are, I'll call them the rows, and the fence is actually shown on the outside of the special exception area. And then up along Middletown Road, behind it and sort of interspliced with the existing row of evergreens is the proposed landscaping in a schematic form.
Q. And then the little driveway, is that on there?
A. The little driveway, the special exception description actually includes that, it goes out to Middletown Road, so it encompasses the little driveway.
Q. Is there any other zoning relief required or requested other than the special exception?
A. No.
Q. And can you identify Middletown Road?
A. Yes. So, Middletown Road is at the

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upper right-hand corner of the drawing that's shown, tracing my finger it's also labeled Middletown Road, labeled as a public 24-foot right-of-way.
Q. And that is, as we've confirmed, a Baltimore County scenic route?
A. Yes, it is.
Q. Your vicinity map doesn't really show spatially where this property is in relation to -- can you just describe in relation to 83, the Pennsylvania border, where this property is?
A. Well, 83, Interstate 83 would be to the southeast of this property. Beckleysville Road is probably the next major sort of north-south road that crosses Middletown, that's about, just shy of a mile down to the southeast. The property is of a size where the scale of a thousand square feet doesn't get you to show a whole lot of the rest of the county, so 83, I don't know exactly how many miles it is, but it is definitely to the southeast of Beckleysville

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Road and beyond.
Q. Do you know what that is, or can you describe what that is?
A. Yes, so I was handed the Baltimore County scenic routes designation that would also include county roads and state highway roads.
Q. And that indicates that Middletown Road is in fact -- I'm sorry -- Exhibit 8 would indicate that Middletown Road is in fact a scenic route?
A. Yes.
Q. And I'm going to hand you what I'm going to mark as Petitioner's Exhibit 9, and can you describe what that exhibit is?
A. These are actual designations of scenic routes, I mean scenic views, on the scenic roads or routes, actually where the Office of Planning would say there's a scenic view or vista here that we have a concern with, or needs to be a part of any proposed development.
Q. Is our property within a scenic view as

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looking right back up towards the north, or sorry, to the southeast corner, or the northeast corner of the property.

Q. And I would note as we finish this pack of photographs, you took these in preparation for the hearing that was last December?

A. Yes.

Q. Do you recall the, were they taken in close proximity to the hearing?

A. Yes.

Q. So that was clearly in the dead of winter?

A. Yes, in the dead of winter.

Q. And the trees did not have any leaves on them other than the evergreens?

A. That's correct.

Q. Moving on to the second pack which starts with H, this would be the pack that you took of the road frontage?

A. That's correct. So this particular photograph, it's the Eklo Inn, this little

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establishment there, and we were in their parking lot, and you can see some BGE equipment, probably a transformer, and maybe a Verizon panel box, and also the start of the, what we've now called the evergreen tree screening that exists, and you can also see the power lines along Middletown Road.

Q. Okay. I?

A. A little close-up of the BGE power poles, and that same equipment that I just spoke about.

Q. Okay, J?

A. Looking a little further down the road getting a little closer to what we're proposing to have as the entrance into the array area.

Q. K?

A. And K, the K photograph actually shows Mr. Mudd's vehicle in the driveway location.

Q. And me standing next to the car as well?

A. Yes, so that would be exactly that car in that picture right there.

Q. So given, we know how tall Mr. Mudd is,

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how tall would you say these trees are?

A. They're every bit of 15 to 20 feet.

Q. 15 to 20 feet? He's six-foot something; wouldn't you say they're taller than that?

A. No.

Q. Okay. L?

A. L, so this is now pointing back to the southeast looking back the opposite direction that we were, getting close to the corner of the property near Flintstone Road.

Q. Okay. M?

A. M is back down here in where the array area would be, looking up through the existing tree screen.

Q. And then what is this one, N?

A. This is again standing, I'll say mid point approximately in what's proposed to be the solar array, and looking towards the north generally to see, you can see the evergreen trees along there.

Q. And if you could just flip back to M for

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a second, you can clearly see the power lines along the road in that, and also in N?

A. Yes.

Q. And then O?

A. So O, pretty sure we were in this general area of the array, what's shown on the proposal as the array looking out towards the Eklo Inn.

Q. I think you can see the red roof of the inn. Then we're on to the, you got to play with your drone that day?

A. I did.

Q. Can you describe your drone photographs, starting with P?

A. Okay. So we were in the array area at about this location, and the drone is looking at the red roof of the Eklo Inn, unmistakable in the photograph, and the farm fields across Middletown Road.

Q. Q?

A. That's an aerial photograph of the house

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that's right here in this location that was the subject of the minor subdivision we talked about earlier. You can clearly see the landscaping that that property owner has placed along the property boundaries next to the farm.

Q. R?

A. Aerial pictures, or an aerial photograph of, again, the old farmstead building. You can see the driveway coming in off of Flintstone Road.

Q. If we could stop right here, I was going to get to this later, but with this photograph, could you conceive of a way that a fire truck could get through this area to the farm pond?

A. Yeah, the fire truck could come down Flintstone Road, go into the old farmstead lane, I'll call it, past the old barn and some of those out buildings and into the field, and get into it from, what's that, we'll call it the southwest.

Q. But currently from this photograph, it doesn't look like there's much water in that pond

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anyway, if I'm looking at the right -- is this the pond right here?

A. It's really hard to tell, the photo has grained itself out, but yeah, the darker spot in that general area is where the pond is shown on the GIS information.

Q. Okay. And then S?

A. So S now is looking at the perimeter of this, the drone was looking back this way towards the forest conservation easement and the buffers.

Q. And then T, is the drone coming closer to the ground?

A. Yeah, so I lowered the drone and we're now roughly at about 60 or 70 feet above the ground looking again at the perimeter of the, I'll call it the eastern property line.

Q. And then U, that's looking back at the buffer area?

A. This is -- I'm mistaken. The previous, T is actually, the drone is looking back this way to see what kind of adjacent property owners may

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or may not have as far as existing screening in the forest areas?

Q. Okay. And that's again during winter?

A. That's right. And then the next photograph was just a little bit, the drone was just getting a little closer to see how dense this material was, the existing forest in the backdrop.

Q. And that's the same with M, I'm assuming?

A. Yes.

Q. Which is actually very grayed out?

A. Correct.

Q. From these photographs, though, using these photographs if it's helpful, can you describe the terrain of the property, because it looks like some of the terrain is sloping back.

A. Well, the terrain definitely slopes from, as was stated before, and the GIS topography shows that clearly, from Middletown Road, the site, the actual beginning of the site

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along Middletown Road and where the evergreen trees are, it drops a couple of feet from the actual edge of Middletown Road, so there's a step down in topography along there. And then there's actually a, I'll call it a turtle back in topography where there's a ridge line, sort of a ridge line here, and it generally slopes the way my hand has followed the plan from the northeast corner towards the southwest corner of the property. So the topography is saying that any drainage is basically going towards the farm pond and this low area.

Q. I was thinking about it more in terms of helping to screen the site, so what impact does that slope have in terms of when you're trying to screen the site?

A. Well, if the site is dropping down, that puts the road already higher. That coupled with the existing trees that are seen from the photographs, you've really dropped a curtain quickly to screen off anything. And my

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experience, having taken these photographs and being out there a couple of times, except for some gaps in the existing evergreen trees, you really cannot see much of the site unless you find a gap, stop, and actually look straight through that gap.

Q. When you were preparing the schematic landscaping plan for this site, did you talk to the county landscape architect and anyone from the department of planning?

A. Yes, I did.

Q. And what input did they provide to you with respect to the landscaping?

A. So, we met with Wally Lippincott, Mr. Lippincott from the Office of Planning at first, and we showed him the existing site conditions, we showed him some photographs of Middletown Road, he was familiar with that particular section of Middletown Road, and we had a discussion about how best to utilize the requirements of what's in the bill of, for solar

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arrays, and the landscaping that's required, the landscape buffer, and how best to utilize those materials. And initially there has been some discussion about well, we should really just screen this off, but you can do that as has already been started out here with just a row of evergreen trees.

And I suggested to Mr. Lippincott that a more naturalistic way to do that would be a mix of both more evergreen trees, but also some deciduous trees in a native plant genre like oaks, maples, those kinds of things, as well as even some smaller sub canopy species of trees like red bud, native kinds of things that you would see out in the landscape, and then do that in a more freeform arrangement. And the particular array layout, and it was mentioned earlier, actually has some triangular cutouts, if you will --

Q. I don't think you can see it on this.

A. Yeah, the black-and-white shows it

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better. What I'm describing are these triangular sort of spaces that because the array is set up in a grid pattern and so you're imposing a rectangular sorts of shape on a bias, and you create these triangular spaces that, that's a great opportunity then to take the landscape requirements and actually sort of freeform arrange those in those spaces to create a more naturalistic way to screen this off, and Mr. Lippincott thought that was a great idea.

And then we actually submitted a schematic landscape plan to the county landscape architect, Mr. Jim Herman, and Mr. Herman, although this is not in the development plan phase, did look at the plan, I think he had a discussion with Mr. Lippincott, and then wrote us a letter that basically said that he had looked at this plan and that at this stage it looked like the way to handle the screening and the landscaping requirements.

Q. In terms of the view into the property

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from the scenic route, I know the county has different designations for views. Which of the designations would you describe the view is with the evergreens that have been planted?

A. Well, it's been a cutoff view, so basically you've taken what could be on the -- a perfect example is on the other side of Middletown Road, you have a vast expansive view.

Q. And expansive is the word?

A. Expansive is a good terminology, but it's exactly what it is, a huge expansive view across the street. This has now been corridored because the curtain has been dropped and it cuts the views off down into this property.

Q. And was that done, does the planting of those plants predate this proposal?

A. Yes.

Q. So in terms of your landscape plan, I under that you met with Mr. Herman and Mr. Lippincott and came up with this proposal. Does your plan fill in the gaps that we saw in

terms of the evergreens?

A. Yes, it does.

Q. So just to confirm, you met with them prior to the creation of the plan that is on the board, Petitioner's Exhibit 2. Did you use the same philosophy for creating this as you did on the prior plan? In other words, were these step patterns existing on the prior plans?

A. They were, and so regardless of the actual -- you had a flat tire.

Q. I did.

A. So regardless of the actual array configuration, because of their north-south axis alignment, you're still superimposing them sort of on a diagonal or a diamond into a different shape, these triangles, although they may change where they are and how big each one may be, the triangles are still there. And so all we did for the newest plan was just move some plant material around, and it really ended up not being very much.

Q. You mean not much change from --

A. Not much change from the previous plan.

Q. All right. I would like to go, then, to the Article 4.F, and run through some of the requirements, I'd like to get the regulation in front of me. All right. Let's start with Section 4.F.102.A, and that is where solar facilities are permitted by special exception. Are we in one of these zones where this use is permitted by special exception?

A. Yes, RC-2.

Q. Is it your understanding from the testimony at least that you heard Mr. Sloan indicate, that the facility will generate no more than two megawatts alternating current of electricity?

A. Yes.

Q. Moving down then into section 4.F.104 and going over those requirements, is any portion of the proposed facility located in agricultural easement, environmental preservation easement or

rural legacy easement?

A. No.

MR. ZIMMERMAN: Can I object to all these leading questions? I think the questions should be general, not just yes or no answers.

MS. MURPHY: Okay, try not to lead him. I understand you're trying to go through it.

MS. MALONE: Maybe I can just give him the regulations, and he can read from them and I can ask him to give us an opinion.

Okay, we left on two, so we're on to three.

MR. ZIMMERMAN: Well, it's still leading.

MS. MURPHY: He's giving his opinion as to whether it meets the requirements, so how else is he going to do it?

MR. ZIMMERMAN: There are other ways to do it, but you don't want to hear it.

MS. MURPHY: What --

MR. ZIMMERMAN: What study did you do,

what comment if any can you give us.

MS. MURPHY: No, actually the Board would rather hear how it meets each one of these outright.

MR. ZIMMERMAN: (Unintelligible).

MS. MURPHY: Well, we would rather hear from the witness to give his expert opinion. Go ahead, sir, number two. We already did number one so we're on number two.

THE WITNESS: Okay, I will read number two.

MS. MURPHY: Just go on.

THE WITNESS: You have it in front of you?

MS. MURPHY: Everybody's got it. Go ahead.

THE WITNESS: This property and the solar facility as proposed is not in a historic district or on a property that's on the Baltimore County Landmarks list.

MS. MURPHY: Okay.

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BY MS. MALONE:
Q. Did you confirm that prior to making submission of the plan?
A. Yes.
Q. Next?
A. Is the solar facility in a forest conservation easement? I've already stated that we already got that information from the minor subdivision plan, and the answer is no, it is not.
Q. And you know that because you took the platted areas and put them on your plan?
A. It's a recorded minor subdivision, yes.
Q. Okay. Could we move on to number four?
A. Okay. So number four talks about the actual above ground components, including the panels and the similar equipment, and they must be set back from a tract boundary.
Q. What setbacks have been applied on your plan?
A. The 50 feet.

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Q. All right.
A. Number five is, a structure may not exceed 20 feet in height. I would have to defer to what Mr. Sloan said, that at the highest point of an array's daily sort of tracking the sun, it would be ten or 11 feet.
Q. Okay. Let's go back one second to, let's go back to the setbacks for a second. You have indicated setbacks on here. Can you describe the actual setback of the facility, instead of the minimum, what is it actually?
A. Right. So, we have shown a 68-foot setback from Middletown Road to the special exception line that generally parallels Middletown Road, with the exception of where the driveway is, and at that point the special exception area encompasses the little driveway, service driveway.
Right below the 68-foot setback is shown the required 50-foot setback, so you get to see a comparison between the two, so we've actually

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provided an additional 12 feet from the roadway.
Q. 12 feet, 68 feet minus 50?
A. Sorry, 18 feet, but then to the actual arrays is a couple of more feet.
Q. Okay. And then how about on the east and west sides of the property?
A. Well, the minor subdivision already established, here's the 50-foot buffer line, in this case it's a half inch shown on this plan from the darker heavier boundary, but the forest buffers are shown and they're three times that.
Q. Okay, and then how about on the west of the property?
A. On the west we're showing a 50-foot setback line here, but I don't think I dimensioned it. The special exception line is another 20 feet.
Q. All right. So we were on to six.
A. So six, we already talked about the landscape buffer shall be provided around the perimeter that's visible from any adjoining

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residences.
Q. Is it your opinion that your landscaping buffer provided meets that requirement?
A. It is.
Q. And why?
A. Well, because, two reasons. The existing residential property that was shown in one of the photographs is the lot that was subdivided under the minor subdivision, and they as you can see from both the drone photos and the ground photos, they established themselves I presume, the same, almost the same evergreen screen in a row that goes to the south. But you can see the little string of pearls that runs around this lot here that exists, that were shown in the photograph. Then we have the 50-foot setback and then this is where we, this plan, the schematic landscape plan superimposed in that more naturalistic way, arrangement to fill in those triangular gaps, so there's almost a double screening effect here.

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Q. Okay. So I would say, I don't know if this is residentially zoned, but why haven't you provided landscaping on the west side of the -- east side of the property and --

A. Well, there's an existing tree line here and then we've got the forest buffer, but we did wrap the corner next to the Eklo Inn, and as you can see from one of the other photographs, they already had, that row of trees wrapped the corner near where the BGE Verizon equipment was shown.

Q. And then in terms of this dwelling, that's actually part of the property?

A. That's correct, and it appeared to be abandoned.

Q. Well, whether it is or not, it is part of the property?

A. It is part of the property, yes.

Q. And then in terms of the residential uses down here, why isn't landscaping shown down there?

A. Mostly because of the existing

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vegetation that's here and was shown in the photographs, and just the horizontal distance coupled with the topography, it's not really adjacent.

Q. Did you have conversations with -- I'm asking a question I don't know the answer to. Did you have conversations with the landscape architect or department of planning, did either of them request plantings down there?

A. No, it was never brought up. The emphasis was on the properties that are residential, and Middletown Road.

Q. Can we go to the next item?

A. So, we already heard from Mr. Sloan that the security fencing will be provided between the landscape buffer and the solar facility and that's what we're showing, a seven-foot fence, chain link fence.

Q. Okay. I'm not going to ask you to opine on glare, other than to say with your landscaping plan in place and the existing landscaping, from

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your perspective, if visibility is cut off from the facility, I assume that would also take care of any glare that would result.

MR. ZIMMERMAN: Objection. Just allow him to testify.

MS. MURPHY: It is kind of leading.

MS. MALONE: Sure.

THE WITNESS: I understand the question.

BY MS. MALONE:

Q. Sure, go ahead.

A. My answer would be if you cannot see into the site, this is just like the old classic pool table, the angle of incidence equals the angle of leaving, and if you can't see into the site, you're not going to get glare out of the site.

Q. Well, I don't play pool, but I like the second part of what you said.

Let's go on to the question of the compliance with plan requirements of Section 33-3-108 of the Baltimore County Code. Do you

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have an opinion on whether there has been compliance with that section?

A. At this level, yes, it has been, and I say that because the buffers were already established, we talked about that. That's really principally in, at the next level should we get there, the development plan, whether it's a permit plan or a development plan, whatever, it ultimately gets determined by PAI, permits, approvals and inspections, those are where a lot of the 33, Section 33 --

Q. What is Section 33?

A. That has to do with the environmental protection section of the code.

Q. Okay.

A. So that coupled with Article 32, which is about the development regulations, there's a marriage there between the two, but in this case we've already been to the DRC, the DRC, the development review committee, has determined that because this has an underlying minor subdivision

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plan, that should we get beyond the zoning approval, that underlying plan would have to be amended to show the solar array on it.

Q. Okay. In your experience, would this proposal typically generate additional relief from the environmental requirements?

MR. ZIMMERMAN: I object to that. I think that the environmental review has to be done now, or by now for the special exception to be granted. It cannot be put off, as has been implicated by some of these questions.

MS. MURPHY: All right. That's argument, though and so it states their position that it doesn't have to be done now. Does the plan that you propose in Petitioner's 2 and the landscape plan, does it meet all of the 18 factors in 33-3-108.C?

THE WITNESS: In my opinion it does, yes.

MS. MURPHY: Okay. Have you been through each of those factors?

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THE WITNESS: Yes.

MS. MURPHY: And you could find each one of these things on this plan?

THE WITNESS: Well, I'm going from memory, so I hope they're all turned on on the plan. The plan was intended to adhere to those point by point lists, yes. But there's a little bit of a difference here between a zoning plan and the next stage, which is the development plan, or in this case an amendment to a previously approved plan, so it gets a little muddy there as to where 33, Article 33 kicks in, which stage of the process.

BY MS. MALONE:

Q. But in terms of how forest buffers are established and forest conservation requirements, have those requirements for the site been addressed during the minor subdivision?

A. Yes.

Q. And can you just explain what forest buffers are and why they are where they are?

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A. Okay. Forest buffers are to protect stream floodplain resources, water basically, even to the point of maybe perennial streams that -- or, sorry, intermittent streams that may just be a drainage way, but they may have two of the three criteria that the Corps of Engineers requires before it would consider jurisdiction over that, and that would be the gray soils, vegetation or evidence of water, literally water flowing.

Q. And do those, are those areas established regardless of what the development is proposed?

A. They are.

Q. Because the stream is where the stream is?

A. That's correct. And in RC zones, further to the point, if you were doing a subdivision on this property, they, the environmental protection --

Q. Which they did.

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A. Yes -- would not even allow perc tests to be done until those resources had been mapped and established where the buffers would actually be. The reason for that is, if someone goes out and does a lot, spends a lot of money and does perc tests and they're successful, but they ended up encroaching into a yet to be established buffer that's determined later, there's been some issues with property rights and others. They just don't want to go there, they just want to get this done up front, that's always the case, whether it's in an RC zone or a DR zone or a business zone, it's the very first thing that gets done in the process.

Q. And in this instance, that work, those delineations were done, those buffers were recorded, and they're established on this plan.

A. That is correct.

Q. As opposed to if you were taking a virgin piece of property with no history, what would you have to do in that instance?

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A. We would have to employ or engage a wetlands specialist, environmental specialist. They would go out on the property first to try to identify what are likely areas of concern that may have resources, those are pretty evident because of topography, the vegetation, or actual running water. They probe the soil, they look for the gray soils, they check the vegetation and again, evidence of any kind of water resource.

After that, I mentioned the steep slopes buffer analysis. They cut transects through the topography, the various resources, they grade those transects along certain segments based on the type of soil, the topography, and generally they end up being a hundred feet from whatever the resource is. They can sometimes be a little bit less and they can actually, I've actually experiences a subdivision that had the maximum 300-foot buffer.

Q. And those evaluations get submitted to the county?

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A. They do.

Q. And then what happens?

A. They get approved by the, or they get reviewed by the Department of Environment and they get either approved or commented on, and finally established, and that becomes your development envelope.

Q. And does it result in forest buffers and forest conservation easements?

A. It does, and I would just add, in my experience in 30-plus years here in Baltimore County, once those are established and a development were to come in, say like this, the environmental protection folks look at it, and on this case in a refinement, they would look at it and make sure, they're not going to reevaluate the steep slopes and the buffers, but they will look to make sure that there's no encroachment into those already delineated and recorded areas.

MR. ZIMMERMAN: Move to strike the use of the word refinement. There's no way that the

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petitioner is performing a refinement.

THE WITNESS: It's already been determined to be a refinement.

MS. MURPHY: Overruled.

MR. MUDD: Just for the record, it has been determined and not appealed.

MR. ZIMMERMAN: That doesn't matter.

MR. MUDD: Okay. Well, we have an approved refinement that was not appealed by anybody.

MS. MURPHY: And DRC already approved it?

MR. MUDD: Yes, ma'am.

MS. MURPHY: And you're saying it hasn't been appealed?

MR. MUDD: Correct.

MR. ZIMMERMAN: That's not res judicata, nobody's going to appeal it if there's no significant public notice.

MS. MURPHY: Okay, that's a theory, though, an argument.

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MR. ZIMMERMAN: That's a fact. It's not an adversary hearing, there's no opportunity for the citizens -- it's not res judicata, there's no way that's a refinement, it makes no sense.

MS. MURPHY: Okay, I understand your argument. Thank you, Mr. Zimmerman.

So in terms of number nine, the plan requirements of 33-3-108, if you were the Board, how are you suggesting that we then, how are we supposed to be comfortable that you've now satisfied everything under 33-3-108? Are you putting in the minor subdivision plan or -- I realize that has to be amended because it's already set, but was it superimposed on top of the schematic landscape plan? I mean, what is it, is it your testimony that the plan you submitted meets 33-3-108?

THE WITNESS: Yes.

MS. MURPHY: Okay. Thank you.

THE WITNESS: I thought I said that, I'm sorry.

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MS. MURPHY: I thought you said it, but then you sort of said, so I was just trying to understand.

THE WITNESS: Okay.

MS. MURPHY: Okay. Go ahead.

BY MS. MALONE:

Q. Moving on to the maintenance of the facility required under 4.F.106, did you hear Mr. Sloan's testimony regarding maintenance of the facility and the property?

A. I did.

Q. And in your opinion, does that satisfy the requirements of Section 106?

A. Yeah, it's either going to be the lessee or the owner of the property, and down the road, again, getting into the development aspect of actually getting one of these things permitted, we talked about security. That security, my guess will be a right-of-way agreement with Baltimore County, and at that point in time, whatever entity it is, whether it's Blue Fin

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Origination II LLC, its corporate officers will have to sign that right-of-way agreement. That will have the amount of security, whether it's 110 percent, 125 percent, whatever they finally decide on, but that's where the legal engagement with Baltimore County and the actual developer/entity, and we actually in order to process that, have to supply Baltimore County Permits the corporate documents, who has the authority to sign and engage this agreement with Baltimore County.

Q. Now the right-of-way agreement, though, that is for the construction of the facility, not the bond that we were talking about.

A. But my guess is when it's finally determined, the process, they will call it a right-of-way agreement, the same as they've done with landscape only, they now have a right-of-way agreement that's landscape only. My guess is it will be a right-of-way agreement with a solar facility.

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Q. Okay. In terms of how the vegetation at the facility, since you wouldn't have any comment on how they maintain their own facility, but in terms of maintaining the vegetation, do you have an opinion on what you heard Mr. Sloan say about how they would take care of the vegetation?

A. What I've seen elsewhere, not just in Maryland but elsewhere, they just mow it.

MS. MALONE: I need a sticker. What number are we on?

MR. MUDD: 12.

MS. MALONE: Right, here they are.

BY MS. MALONE:

Q. Number 12. Did you receive input from county agencies on the petition for special exception request?

A. Both originally and for this, for the case that we're here today on.

Q. For the --

A. Special exception.

Q. The special exception when we went to

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hearing in December, you received zoning advisory comments, correct?

A. Yes, because these are dated November 28th.

Q. And realizing that the plan was not resubmitted for review by the department, but I'd like to go through the planning department comments specifically, and ask you if the current plan, Petitioner's Exhibit 2, satisfies the requirements as specified by the Department of Planning.

A. I would, in my opinion, yes. We've already --

Q. No, we're going to have to go through.

A. I'm going to.

Q. Okay.

A. The first bullet, it's not numbered, the first bullet talks about minimizing grading, tree and vegetation removal. We're not proposing to remove any vegetation; conversely, we're actually adding a significant amount. Mr. Sloan's already

Page 266

talked about we don't need to grade this site, the object is to just drive steel pylons into the ground and the panel framework and the panels themselves are actually just bolted and mounted to those.

Q. Well, just to go up to, the comment right before that instructs to maintain a buffer between the road and the new development.

A. And we've done that.

Q. Okay. Then you talked about minimizing grade, tree and vegetation removal.

A. I just talked about that, there isn't any.

Q. Okay. You do have a schematic landscape plan but that plan will ultimately have to be finalized and resubmitted to the county for approval?

A. That is correct.

Q. In reading the comment, does your plan supplement the existing vegetative screening along Middletown Road?

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A. This is exactly what we discussed with them and what I just testified to.

Q. The naturalistic arrangements?

A. The naturalistic arrangements, that's correct. They got this from me by the way, this is mine.

Q. I don't want to know what you're talking about.

A. It's from our meetings with them.

Q. Oh. The next comment, a minimum 50-foot wide vegetative screen shall be installed along the perimeter of the special exception area adjacent to the property, and it gives you specific addresses.

A. That's correct.

Q. Can you identify those specific addresses?

A. Let's see.

Q. 450, the Matthews property?

A. Oh, here we go. Yes, so 20416 is where the Eklo Inn is, it's Cletus and Deborah Lynn Kibbler, and we've wrapped, we talked about that, between the existing treeline that's there, we've wrapped that corner, and then we also have the forest buffer area.

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Q. 20450 Middletown Road is the Massey property?

A. That's correct, so we, they have their own screening, but we've also reinforced that with what I talked about.

Q. And then 2036 or 2603, we already discussed.

A. That's correct, same thing.

Q. In terms of the notes on the second, or the comments on the second page, did you add notes to the plan to address some of these comments?

A. Second page. Yes, so I've added a note that mirrors what their comment was, but also the law itself about the maximum height may not exceed 20 feet. I don't know exactly what note number that is, or letter.

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Q. F, no structures within the solar facility may exceed 20 feet in height.

A. Okay, so F on the plan. The second bullet is, the petitioner shall note on the plan that the proposed solar facility will not produce more than two megawatts of alternating current. That note is one of the letters, I believe, A through whatever they are.

Q. C.

A. So that's note C on the plan?

Q. Uh-huh.

A. And then, petitioner shall note on the plan that the proposed solar facility is subject to the Baltimore County Zoning Regulations 4.E, that we've already corrected, it's really 4.F.

Q. Right.

A. Then petitioner shall certify by note on the plan that the proposed solar facility will not exceed the maximum permitted number of facilities allowed in its respective councilmanic district. The law says there can't be more than

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ten in any zoning district, or sorry, the councilmanic district.

Q. That's note M?

A. That's note M shown on the plan.

Q. And are you aware of any solar facilities in the third councilmanic district that have been permitted?

A. None.

Q. And you heard Mr. Sloan testify that there will be no --

A. No lighting.

Q. But you did add a note anyway specifying that restriction?

A. Yes.

Q. And that's K.

A. Okay. And then a note about signage shall be limited.

Q. That's L.

A. L. No deliveries or outdoor maintenance which may generate excessive noise, and we furthered that with the exception of emergency

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services equipment.

Q. And that's N. All right. The last comment talks about something that's been mentioned during Mr. Sloan's testimony, and that is the designation of the property as being within the agricultural priority preservation area as designated by the Baltimore County master plan. They indicated that the future viability of commercial agricultural be weighed when considering this special exception proposal. From your familiarity with the property and the project, do you have an opinion on whether the proposed solar facility will have a detrimental impact on agriculture, agricultural, commercial agriculture in Baltimore County?

A. Well, it's not a permanent development, we've talked about that.

Q. Well, you haven't yet.

A. What's that?

Q. You haven't yet.

A. No.

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Q. We've talked about that.

A. We talked about that. The truth is if you look at the master plan, almost the entire northern part of the county has got that classification on the master plan.

Q. Actually I'm going to get that exhibit.

A. So specifically when that's distilled down to the zoning regulations, the preamble to RC-2 zone talks about residential development as the real impact to the agriculture.

MR. ZIMMERMAN: Objection. He's giving an opinion that solar doesn't matter.

MS. MURPHY: That's not what he said, he just said residential development.

MR. ZIMMERMAN: That's the implication.

MS. MURPHY: Well, you may take that implication from what he's saying, but he's just stating what it says in the master plan.

THE WITNESS: I'm just quoting the zoning regs.

MR. ZIMMERMAN: Curiously.

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MS. MURPHY: Okay, Mr. Zimmerman, you don't need to make comments, you can cross-examine him.

BY MS. MALONE:

Q. Okay. When you mentioned -- first of all, is this a map from the Baltimore County master plan?

A. It is.

Q. And does this map designate or indicate the agricultural priority preservation area?

A. Yes, it's the top item on the legend, or the key.

Q. What color is that?

A. It's sort of a soft lime green.

Q. Okay. As you indicated, it is the majority of northern Baltimore County?

A. It certainly is.

Q. And I think if you see, can you point out our property on there, which is a tiny --

A. A tiny little spec towards the top left corner of the map itself; it's a little bit

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darker.

Q. So, you mentioned that this wasn't a permanent subdivision of the land. From the description given by Mr. Sloan of the installation of the equipment, did you hear anything that would impact, or did you hear anything that would cause you to believe the property can't be farmed later?

MR. ZIMMERMAN: Objection.

THE WITNESS: I did not hear anything.

MS. MURPHY: Overruled. Go ahead.

THE WITNESS: I did not hear anything that said that. It all comes out in 30 years or sooner, depending on economic or technology, who knows, in 30 years, this may be old hat and we'd do something different, but there's still a remnant portion of this farm open that could be hay for example, and the access to it would be through the old farmstead.

BY MS. MALONE:

Q. So in your opinion --

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MR. ZIMMERMAN: Objection, move to strike, speculation.

MS. MURPHY: Overruled.

MR. ZIMMERMAN: It's not proposed.

MS. MURPHY: It's just a suggestion, it's his opinion, okay? We don't need your comments. Okay, go ahead.

BY MS. MALONE:

Q. In your opinion, is this use any different than if the property owner just chose not to farm his property at all?

MR. ZIMMERMAN: Objection.

MS. MURPHY: Overruled.

THE WITNESS: Not in my opinion.

BY MS. MALONE:

Q. And why not?

A. Because the property owner has rights. The property owner can just say I'm not going to farm it, for whatever reason, economic, personal health reasons, who knows.

Q. Okay. I'd like to move on to Section

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502.1 in the special exceptions standards. Are you familiar with Baltimore County Zoning Regulations Section 502.1 regarding the special exceptions?

A. Yes.

Q. Did you review that section in preparation for your testimony today?

A. Yes.

Q. Considering everything that has been presented today, and that includes input from Mr. Sloan, do you have an opinion on whether the proposed use will be detrimental to the health, safety or general welfare of the surrounding locality?

A. I would say it does not have a detrimental effect.

Q. Can you explain why?

A. Well, we've talked about it's a benign use, it's not subdividing, it's not residential, permanent sort of development, residential development. I've heard Mr. Sloan talk about the

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materials that are used. Again, benign, no hazardous materials in the panels themselves, it's glass and sand, and steel posts and an aluminum frame. We've met the screening requirements. I just don't see why it would be any different here from an impact or detriment than anywhere else next to, and the county council recognized that, that's why they put the requirements in there.

Q. Do you have an opinion --

MR. ZIMMERMAN: Move to strike. It was speculation as to why the council did whatever, it's beyond the scope of an expert function to comment on the motivation of the county council.

MS. MURPHY: Okay. Overruled.

BY MS. MALONE:

Q. Do you have an opinion on whether the proposed use will create a potential hazard from fire, panic or other danger?

A. I've heard the testimony about fire. The fires would start from whether this remains

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as a hayfield. I haven't heard any testimony, or my own personal knowledge or information in development per se, that would lead me to believe that this is a hazard for fire.

Q. And on this particular point, there was comment on access to the fire pond, and is it your opinion that access could still be provided to the pond, I'm sorry, not the fire pond, the pond, if the fire department chose to access that pond?

A. So they would come on Middletown Road from Parkton station, get on, make a left turn onto Flintstone Road and go down to the old farmstead driveway that we saw in the photographs, and that will lead you right to the pond.

Q. And would the existence of our facility prevent them access to that pond as you've described?

A. No, because they're coming in from the west.

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Q. Will the proposed use tend to overcrowd land or cause undue concentration of population?

A. Well, there is no population, we talked about that. This is a benign use.

Q. In terms of overcrowding the land, you have indicated that the facility meets all applicable setbacks?

A. Yes.

Q. And you've heard the testimony about the height of the equipment?

A. I have.

Q. In terms of overcrowding?

A. Yes.

Q. Will the proposed use interfere with the adequate provision of schools, parks, water, sewage, transportation, or other public requirements, conveniences or improvements?

A. Well, this facility, again, requires none of those, no schools, no utility connections other than injecting power into a dry utility.

Q. Meaning it doesn't, it's not going to have a well --

A. It's not going to need sewer, drains.

Q. Right. Will the proposed use interfere with adequate light and air?

A. Well, we hope it doesn't obstruct the light because that's the whole purpose, but no, it will not.

Q. Well, can you just describe what this, in your opinion, this requirement is trying to get at?

A. It's really trying to get at buildings that might crowd out adjoining buildings and block their natural access to light, air.

Q. Will the proposed use be inconsistent with the purposes of the property zoning classification or in any other way inconsistent with the spirit and intent of these zoning regulations? Are you familiar with the purposes of the RC-2 zoning classification?

A. I am.

Q. And what is that?

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A. Well, several use, but the general purpose is to look at the agricultural uses. In sort of a tangential way this is helping the farmer, because there's income that's generated from this. But again, it's a nonpermanent use that can be removed.

Q. I know you talked about this, but just to repeat, would this proposal interfere in any way with agricultural production in the area?

A. No.

Q. Will the proposed use be inconsistent with the impermeable surface or vegetative retention provisions of the zoning regulations?

A. No.

Q. Why not?

A. Because both the state and Baltimore County has looked at the state requirements for stormwater management and impervious surfaces and determined, the state already determined and it's in their design manual for stormwater, how to treat runoff from these panels, and the panels

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they treat as sheet flow off the panels, and then what's called a non-disconnect, and basically it's a simple formula. Whatever the width of the panel is --

Q. Let's just take a step back from there. So what impermeable surface will this facility result in, basically is it creating and if so, how much new impervious?

MR. ZIMMERMAN: I'm going to object. I think this may be beyond the scope of his expertise.

THE WITNESS: Well, I measured it, it's 13 acres of panel.

MS. MURPHY: Overruled.

MS. MALONE: No, not impervious -- sorry.

MS. MURPHY: I'm sorry, there's an objection, so overruled, just for the record so it's clear. Go ahead.

THE WITNESS: Well, the panels are impervious, let's face it, the water doesn't go

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through the glass.

BY MS. MALONE:

Q. Okay.

A. All right? So the State of Maryland would say that those are impervious. There is not impervious material under the panels, we're not required to pave that, it will be the vegetation that we talked about, mowed. So the section in MDE that talks about solar facilities specifically for stormwater, yes, they're impervious, water hits the panel at whatever angle, but it sheets off, and then the space between the rows has to be greater than or equal to whatever the width of the panel is, and that is then determined and termed non-disconnect runoff. And basically what they're saying is the water drips off the panels, it infiltrates into the grass or vegetated areas between the rows, and ultimately ends up in the groundwater system.

Q. Will the proposed use be detrimental to the environmental and natural resources of the

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site and the vicinity, including forest, streams, wetlands, aquifers and floodplains in the RC-2 zone?

A. Well, the purpose of the county buffers is just that, to protect those resources. And that was determined, as we said many times now, at the minor subdivision plan process. The county has already said these are the buffers that are sufficient to protect those resources.

Q. Okay.

MR. ZIMMERMAN: Objection. The fact that it underwent a subdivision review is one thing. This is totally different.

MS. MURPHY: Overruled. Go ahead.

BY MS. MALONE:

Q. In terms of the recorded buffers, how far away -- let's talk about, can you just identify stream, the stream on the property, or if you know where the trout stream is on the property if there is a trout stream?

A. I can't say that it's a trout stream or

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not a trout stream.

Q. That's fine.

A. I'm not going to say that.

Q. Where are the water resources?

A. The water resources are sort of midpoint at the property on the east side, they're generally flowing to the south and west as I trace along my finger through the midpoint of the plan, and then there's a tributary, drainage way that reaches towards the north, and another one that reaches up from the resource to the farm pond, so those two drainage ways, they were established at the minor sub. I can't testify whether there's water in them or not.

Q. Oh sure. At the hearing below we heard a concern that the panels will either heat rainwater or that it will heat snow that is on there, and that is going to put heated water into the stream. Do you have any comment on that?

MR. ZIMMERMAN: Objection.

MS. MURPHY: Overruled. Go ahead.

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THE WITNESS: So, having done numerous plans that require stormwater management, these panels as I mentioned before, are, and the MDE manual that talks about solar facilities and stormwater management, are designed to sheet flow the water into this non-disconnect vegetative space between the rows. It infiltrates into the ground. We're not concentrated -- the whole point of this MDE regulation is to not concentrate stormwater flows. Once you start concentrating it, you get velocity increases and that's where it quickly dumps into a pond, let's say. If these were streets and went into a drain and into a pipe and then get dumped into, let's say the pond, yes, that water would be heated. But in this case it's going into the groundwater, into the vegetation, and that's the whole point of what the state is requiring.

BY MS. MALONE:

Q. So for instance, just taking a row, so the theory is that if this is a row, there is a

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separation between this row and the next row, that the rainwater would fall in between those two panels and infiltrate into the ground?

A. That is exactly what MDE's diagrams and manual call for.

Q. As opposed to being, you know, collected and then, you know, put into I guess a stormwater management pond?

A. That's the opposite of what they want to see.

Q. In your opinion, are there any facts and circumstances based upon your review and what you've heard today indicating that the proposed use at this particular location would have adverse effects above and beyond those inherently associated with the use?

A. It's my opinion that there are none, and I've heard testimony outside of my expertise that would lead me to opine that it's no different here than if it were right across the street. It's the same topography basically, it's actually

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better here because we already have an established vegetative buffer along Middletown Road, the other side of the road doesn't. We've driven up and down Middletown Road and other roads in the north part of the county. One farm field sort of, they sort of all start to take on the same aspect as long as the topography's the same. So you could take this array and plop it down on the some other piece of property, it's the same impact, the same effect.

Q. Okay. I'm going to ask you with respect to that opinion, does the existence, and I'm going to ask you certain things, does the existence of these items change your opinion in any way.

Does the fact that this property drains into the Prettyboy Reservoir change your opinion?

A. No.

Q. And why not?

A. Well, because one, it's so far removed, there's other streams and other resources on this

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property that have already been looked at and determined, as we said, and my testimony and my opinion is that the rainfall that hits here is principally going into the groundwater system.

MR. ZIMMERMAN: Objection, move to strike. Again, that's beyond his expertise.

MS. MURPHY: Overruled.

BY MS. MALONE:

Q. Does the existence of forest conservation easements on the property in any way change your opinion?

A. No. The reason why is it's already established, the obligation has been met. The areas that are the forest conservation easements are delineated and recorded.

Q. And protected?

A. And protected.

Q. Does the fact that the property is zoned RC-2 change your opinion?

A. It does not, because these are allowed in all the RC zones, so whether it's RC-5, RC-3,

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A. Not at this time.
Q. Has there even been any conceptual plan, such plan worked on by DMW or any other company?
A. Only -- I can only testify for DMW. Not at this time.
Q. In the absence of that plan, would it be reasonable to say that it's impossible to evaluate whether the proposal meets the special exception environmental standards?
A. I won't agree with the special exception, but I would agree with the environmental standards. It's no different than a subdivision being through the process that perhaps needed a variance case, you do the zoning first, then you do the development plan. If it doesn't meet the development regs, that's as far as it goes.
Q. As I understand your answer, it's unnecessary to evaluate the environmental standards in a significant way for a special exception?

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A. I'm not saying that. What I am saying in this case is that the environmental standards have already been evaluated and established, and recorded in the land records.
Q. This is a new proposal, isn't it?
A. It's a proposal on one of the lots that was created as a part of that subdivision.
Q. But it's a new use.
A. I don't know what, I don't know where that changes anything.
Q. But Section 33-3-108 refers to, any plan or plat be reviewed with the plan for streams, wetlands --
A. And I would say yes, it will be, it's just not there yet.
Q. It hasn't been done?
A. That's correct.
Q. And your view is that has no relevance to the special exception review?
A. No.
Q. Okay. Now, we're going now to the size

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of the proposal which, the plan you submitted dated July 5th is on the easel and dated July 5th, is it not, have I got that right?
A. Yes, it's amended plan dated July 5th.
Q. And that's 16.7 acres?
A. Correct.
Q. Do you recall what the size of the plan originally submitted would be?
A. I believe it was 19 or close to 20 acres.
Q. And then the ALJ, as was pointed out, limited the site to 13 acres, correct?
A. He did.
Q. And then you prepared according to the order on January 27th, 2018, then you prepared the plan, and did you provide that to Mr. Mudd?
A. Yes.
Q. To the attorney?
A. Yes.
Q. And Mr. Mudd submitted it -- do you know whether Mr. Mudd submitted it to the

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administrative law judge?
A. The redline plan, yes, that got it under 13 acres, yes.
MR. ZIMMERMAN: And Madam Chair, I think you will find it in the files.
BY MR. ZIMMERMAN:
Q. Do you remember the reason given by the administrative law judge for limiting the size?
A. I don't remember there being a reason.
MR. ZIMMERMAN: I'd like to have marked, at least for ID, the administrative law judge's decision.
MS. MURPHY: It's a de novo case, though.
MR. ZIMMERMAN: De novo on the issues appealed?
MS. MURPHY: On the issues appealed which, we know what the issues are. Is there any issue there, is there any question about what the issues are?
MR. ZIMMERMAN: Absolutely there is, and

we'll get into that.
MS. MURPHY: And you're going to say that the issues of appeal are in the administrative law judge's opinion?
MR. ZIMMERMAN: Well, we'll get to, I mean, I think we'll get to that in a few minutes, but I just want to ask this witness some questions factually first.
MS. MURPHY: About the opinion?
MR. ZIMMERMAN: About some of the facts in the opinion.
MS. MURPHY: Okay.
MR. ZIMMERMAN: If you will give me a little bit of latitude, you might find it's relevant.
MS. MURPHY: Well, you can ask him the questions without submitting, without handing him the opinion and the order.
MR. ZIMMERMAN: Well, it's helpful so that he can see what I'm talking about.
MS. MURPHY: So then he can read it, and

then --
MR. ZIMMERMAN: I'm going to ask him some questions. This is cross-examination.
MS. MURPHY: I realize it's cross-examination. You could actually ask him the facts just yourself, without handing him anything.
MR. ZIMMERMAN: Well, I think it helps him and the Board just as -- before I asked him some questions on the 502.1 and I got criticized for not showing him the document, so now I'm getting criticized for showing him the document.
MS. MURPHY: Well, if it's a standard in the zoning regulations, and so the witness who is not an attorney should have the regulations in front of him if you're going to ask him questions about the zoning regulations. But this opinion and order, it's a de novo case so it starts over, so regardless of what's in here, you know --
MR. ZIMMERMAN: Well actually, there's some limits to de novo appeals, but we'll get

into that.
MS. MURPHY: No, I know what the limits are, we've written many decisions about that, okay? So, Mr. Mudd, do you have any comment?
MR. MUDD: Yes. We're going to object to the introduction of this exhibit.
MR. ZIMMERMAN: Right now it's for ID.
MS. MURPHY: He's marking it for ID only so it's not coming into evidence yet.
MR. MUDD: You began to hit the nail on the head about this being a de novo case, and Mr. Zimmerman talked about de novo on the issues appealed, and I think he's confusing a record appeal from a development plan case where you have to actually identify issues that you are bringing up on appeal. The code and the charter make perfectly clear that this is a de novo case, so this has absolutely no relevance to the Board's decision in this case.
MS. MURPHY: Understand.
MR. ZIMMERMAN: Well, I have to respond

briefly, and I will respond further in briefing later, but the first thing is I am going to first ask him about some of the facts which is separate from the issues on appeal. But the second thing is I think ultimately, there's a fair amount of law indicating that the Board de novo hearing has som limits to it, and we'll get into that later.
MS. MURPHY: Well, we don't get need to get into it for this hearing, that's for argument only. And we have this case, and there are some limits to de novo appeals, it's not everything and the kitchen sink, we've discovered that in other cases where we actually thought it was and it's not, so issues appealed are going to be heard, we already know that. So go ahead, why don't we just --
MR. ZIMMERMAN: Let me just say this and get it out now, because we're going to brief it at the end of the case.
MS. MURPHY: Well, we don't need it.
MR. ZIMMERMAN: No. So in fairness to

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DIRECT EXAMINATION
BY MR. MUDD:
Q. I hand you Petitioner's Exhibit 14. Do you recognize that document, Mr. Cleveland?
A. I do. It's my resume.
Q. Okay. I believe you said that you're a sole proprietor?
A. Correct, that's the role I'm in here now. I'm also a full-time employee of Advanced Energy Corporation.
Q. Okay. What do you do for Advanced Energy Corporation?
A. I'm a solar energy engineer there, I work on commissioning of solar farms.
Q. Okay. And can you explain a little bit more about that, when you say commissioning of solar farms?
A. Yes. We are the contractor for Duke Energy in North and South Carolina for Duke Energy's interconnection commissioning process, so we, our team goes out to the site, inspects

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private solar facilities before Duke connects them to the grid, so we are inspecting them for quality of construction, adherence to Duke's construction standards. I then do some testing on the interconnection equipment to see that they, they're in agreement with Duke standards and some national standards.
Q. Okay. How long have you been there?
A. About a year and a half.
Q. And where were you before that?
A. North Carolina State University.
Q. What were you doing with North Carolina State University?
A. I worked at a center there as an engineer, the center was originally called the North Carolina Solar Center when I started, and then they changed their name to the North Carolina Clean Energy Technology Center.
Q. And how long were you there?
A. 12 years.
Q. Okay. What kind of things did you do

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while you were there?
A. It varied and changed over that time as the solar industry changed. When I was hired, there was very little solar energy industry to speak of, so it was a lot of demonstration projects.
Q. What year was that?
A. 2005.
Q. Okay.
A. Then as the solar industry grew, North Carolina had a very large solar industry that grew over that time, as well as the country, so it transitioned from early stage demonstration projects into a variety of other types of work. A lot of the projects I worked on were Department of Energy grant-funded projects.
Q. Okay. Did you attend -- it says here you attended North Carolina State University?
A. That's right, I did undergraduate and a master's in mechanical engineering at N.C. State.

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Q. Okay. What did you do immediately after you graduated, or where did you work?
A. Immediately after graduating I worked at the center I just described, the solar center at N.C. State.
Q. Okay. You're not an employee of Cypress Creek?
A. That's correct, I'm not.
Q. What's your relationship to Cypress Creek?
A. Hired as a consultant.
Q. Have they hired you as a consultant before?
A. Yes, they have.
Q. Okay. Excuse me. Is there anything else, I guess maybe on the second page of your resume, it looks like you've had a number of publications; is that correct?
A. That's correct.
Q. Can you talk a little bit about some of those?

A. Yes.

Q. And you don't have to, it can be generalized.

A. Sure. Most of those were part of my work at N.C. State, there were some white papers that came from the university, kind of public education white papers that were earlier in my career, several conference papers that were research based around the use of solar.

Q. Okay. And how about on the last page there, presentations and certain activities, can you talk a little bit about those things and your involvement with those?

A. Sure, yes. I've presented at a number of national conferences, these are some of the more recent presentations I've made around some projects I worked on.

One of them, just to take that first one, was a plug and play residential solar system, it was a next generation solar research project.

Q. Okay. Have you provided expert testimony in the past?

A. Yes, I have.

Q. I believe that's on the first page of your resume, correct?

A. Correct, that's primarily been at local zoning hearings.

Q. When you say local, what to you mean?

A. City and county jurisdictional zoning permitting hearings.

Q. Okay, and have you been qualified as an expert in those cases?

A. Yes.

Q. What kind of an expert?

A. An expert in solar energy, solar development, and solar portable facilities.

MR. MUDD: I would like to offer the witness as an expert professional engineer, mechanical engineer, with particularized knowledge of mechanical engineering, solar facility installation and design.

MS. MURPHY: Solar facility installation and design, is that right?

MR. MUDD: Yes.

MS. MURPHY: Voir dire on this witness?

MR. MOWELL: Thank you.

BY MR. MOWELL:

Q. Mr. Cleveland, you've never testified in Maryland, it looks like?

A. That's correct, I never have.

Q. All right. And what you said, what I wrote down is that you inspect private solar facilities before connecting to the grid in North Carolina and South Carolina?

A. That's correct.

Q. And you follow Duke's energy, or Duke, what's it called, Duke Electric?

A. Duke Energy.

Q. That's the utility in North and South Carolina?

A. That's correct.

Q. You followed their construction

standards?

A. Yeah, that's the primary standard that we're checking for, but we're also looking at National Electric Code requirements and also interconnection requirements.

Q. And we're obviously not connected to Duke Energy up here; is that right?

A. That's correct.

Q. And do you know the construction standards for the utility that might be connected up here?

A. No.

Q. Well, how --

MR. MOWELL: That's all I have, thank you.

MS. MURPHY: Mr. Zimmerman.

BY MR. ZIMMERMAN:

Q. You've been a consultant since 2012?

A. Yes.

Q. What's your understanding of the scope of your expert testimony in this case?

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MR. MUDD: Objection. We haven't even gotten --

MR. ZIMMERMAN: I'm trying to figure out what the scope of his expertise is as it relates to this case.

MS. MURPHY: What was your objection?

MR. MUDD: I mean, I guess I'm not sure why he's asking this question at this point.

MR. BELT: It kind of eliminates a bunch of arguing we're about to have. It's actually a good question by Mr. Zimmerman. If we know exactly what he's going to testify to, so the issues that Mr. Mowell brought up might not be relevant.

MR. MUDD: Understood. So at this point in time based on where we are, he's prepared a glare study, and he's just going to present the glare study he prepared.

MS. MURPHY: So maybe the expertise should have included glare study, or maybe that's part of solar facility installation and design.

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MR. MUDD: I think it does extend to that, he can talk a little bit about -- in fact, I can do that now if you'd like, about his experience preparing glare studies.

And I would reserve the right to call him again in rebuttal in the case that there's something on their side that we want to use him for that his expertise would allow for. I understand that if you prefer if we expand his expertise or do additional voir dire at that time, that's certainly okay.

MR. ZIMMERMAN: That helps a lot. I just wanted to make sure that he's not a witness on soils, on land use planning generally.

MR. MUDD: No.

MR. ZIMMERMAN: And it helps quite a bit to know that he's just talking about his glare analysis evaluation.

MS. MURPHY: Okay.

MR. ZIMMERMAN: So, let me just ask one.

BY MR. ZIMMERMAN:

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Q. So Mr. Cleveland, you do have experience with glare analysis as part of your engineering background?

A. Yes, I do.

MR. ZIMMERMAN: All right. That's all I have, it kind of shortens my cross.

MS. MURPHY: Understood. So with the limited scope that has been offered with him as an expert, a PE, mechanical engineer, solar facility installation and design, particularly in glare studies, any objection to this witness being offered as an expert in that area?

MR. MOWELL: No objection, just as to that area.

MR. ZIMMERMAN: No.

MR. MOWELL: I don't think he should be accepted as an expert as what was represented, a professional engineer in the solar industry or whatever was offered. He's an expert in preparing a glare analysis is all I've heard.

MR. ZIMMERMAN: For the purpose of this

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case.

MR. MOWELL: Yes.

MS. MURPHY: And Mr. Mudd, that's all you indicated as well?

MR. MUDD: Well, certainly at this point that's all we're offering him for, and we may or may not have to offer him on rebuttal based on what we hear on the other case, and he may have expertise at that time, But I'm pleased to go through it at that time if the Board would like, to expand and have further voir dire of that.

MS. MURPHY: My question was just a glare analysis study in solar facility installation and design, which is what you offered him for, but it wasn't clear, but now we understand.

MR. MUDD: I mean, I think the gentleman obtains far more expertise than the glare study. All I'm saying is that at this point, all I'm going to be asking him questions about is the glare study.

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MS. MURPHY: Okay.
MR. MUDD: And to the extent that there's anything that we would call him for later, I would reserve the right to expand his expertise if you're limiting it, and they can have further voir dire at that point in time.
MR. ZIMMERMAN: Well, you can't expand on rebuttal, all right? It is what it is on direct, and that's it as far as I'm concerned.
MR. MUDD: Okay, then we can ask as many questions as we want about his expertise on other topics, if that's what the Board wants to do.
MR. ZIMMERMAN: But it's my understanding that they wanted to do the glare study, that's what they're talking about.
MS. MURPHY: Well, that's what you indicated, it will be just the glare analysis.
MR. MUDD: That's correct.
MS. MURPHY: Okay.
MR. MUDD: I'm suggesting that we don't know what we're going to hear in their case, and

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there are things that may come out in their case that this witness may be able to rebut and have the expertise to rebut.
MR. ZIMMERMAN: Oh, at a future date?
MR. MUDD: Correct.
MR. ZIMMERMAN: All right, I get it.
MR. MUDD: And at that time if I recall him -- I'm sorry.
MS. MURPHY: Go ahead.
MR. MUDD: If I recall him at that time and the expertise is meant to exceed the glare study, then I would offer it at that time, and they can undertake voir dire at that time as to whether or not he is indeed an expert on that point.
MR. ZIMMERMAN: All right, that clarifies it.
MS. MURPHY: So no objection?
MR. ZIMMERMAN: At least at this moment, all we're dealing with is the glare analysis.
MR. MUDD: That's correct.

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MR. ZIMMERMAN: All right.
MS. MURPHY: So no objections, Mr. Zimmerman?
MR. ZIMMERMAN: No.
MR. MOWELL: No objections.
MR. ZIMMERMAN: So long as he will only be qualified if other witnesses testify.
MR. MUDD: All right.
MS. MURPHY: We'll accept him as an expert as a mechanical engineer, specifically for glare studies.
MR. MUDD: Okay, great, thank you.
BY MR. MUDD:
Q. All right. Mr. Cleveland, are you familiar with the property that's displayed on Exhibit 2, Petitioner's Exhibit 2?
A. Yes.
Q. How have you become familiar with it?
A. I've looked at it, I looked at this site plan, I've looked at it in GoogleMaps, including the satellite views, and also visited the site in

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July.
Q. Okay. And did you, what specifically did you undertake in order to perform -- did you perform a glare study for this property?
A. Yes, I did.
MR. MUDD: Okay, I'll get that in front of you first. I already forgot what --
MR. BELT: 15.
BY MR. MUDD:
Q. Okay. Is this a copy of the glare study that you prepared?
A. Yes, it is.
Q. Okay. And did Cypress Creek ask you to perform the glare study?
A. Yes.
Q. Okay. And what did you, can you just describe how you went about performing the glare study?
A. Yes. I used a software tool known as Forward Solar, it's a tool that's the standard tool in the industry to perform a solar glare

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study. It's a privately licensed version of an earlier tool that was developed by FAA and Department of Energy Sandia National Lab.

Q. FAA?

A. Federal Aviation Administration.

Q. Okay. Can you just talk a little bit about how you utilized the tool?

A. Yes. You input in the footprint of the array and then some specifications about the array, and that goes into the software, which maps that array onto a map, a three-dimensional terrain map of the site, and then I'll also select observation points that I want the program to analyze for possibility of glare at those observation points.

Q. Okay. By the way, have you used this Forward Solar tool before?

A. I have, in combination with the Forward Solar and the Solar Hazard Glare Analysis tool, the earlier tool from FAA, between the two of them, I've used them about 20 times.

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Q. Okay.

A. I've used this tool maybe ten times.

Q. Okay. And are you aware of any other ways for your industry or for this, to evaluate glare in this industry?

A. No.

Q. Okay. Is this the way that you would evaluate glare when you're asked to do it?

A. Yes, it is.

Q. Okay. Going back to this particular site, you mentioned that you identified certain observation points. Are those shown in the study?

A. They are. Right on the cover of the study is an easy way to see them all at once.

Q. Okay.

A. There's a number of observation points along Middletown Road with the intent of considering the possibility of glare for a motorist along the road.

Q. Uh-huh.

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A. And then there's also observation points at the buildings in the vicinity of the solar array.

Q. Okay. So what's shown in blue on this, on the first page here?

A. Blue if is the footprint of the solar array.

Q. And then in red?

A. Red is the observation points that were entered, and those observation points have a height associated with them, a lower height for the motorist points along the road, and then most of the building observation points are set at seven feet, for somebody standing on the ground.

Q. Okay.

A. The second story buildings also have a second observation point at a second story level.

Q. And all those are included in this analysis?

A. That's correct.

Q. Okay. Does the tool take into account

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topography?

A. Yes, it does.

Q. Okay. How about, does the tool or does your analysis account for any obstructions that may exist between the observation point and the facility?

A. The tool ignores any obstructions, it doesn't have information about above ground obstructions like other buildings or vegetation, so it doesn't have information about those, so it ignores the possibility of obstructions. It also ignores the possibility of the topography to obstruct view, it calculates based on a straight line between the portion of the solar array it's calculating from, the observation point. So if that straight line passes through a hill or passes through a tree, it doesn't, the tool doesn't have knowledge of that, so it doesn't consider those.

Q. So with specific regard to this site, you visited the site?

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A. Yes.
Q. Did you observe trees along the Middletown Road frontage?
A. Yes, I believe so.
Q. So if you have an observation point that you chose along the frontage here, does it assume that the tree is there or not there?
A. It has no knowledge of the tree, so it assumes the tree is not there.
Q. Okay. All right. At end of the day after you performed the evaluation, what did it show you, what was the result?
A. The model runs an annual model at one-minute increments across the whole year, so it's calculating to say that at all these observation points, is there any glare for any minute of the year, and it found that for every minute of the year, there was no glare at any of those observation points.
Q. Does that result surprise you?
A. No. In my experience of running these

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and understanding of the optics, when you have a track system as this is, a one-axis track system, you find no glare, because those panels are always tracking the sun and facing generally towards the sun. That's an arrangement where you don't have glare coming off of the panels.
Q. Okay. In your expert opinion, has the proposed solar facility here been designed to minimize glare or reflection onto adjacent properties or roadways?
A. Yes.
Q. And in your expert opinion, has the proposed facility been designed so as to not interfere with traffic or create a safety hazard related to glare?
A. Yes.
MR. MUDD: I have no further questions.
MS. MURPHY: Okay, cross?
CROSS-EXAMINATION
BY MR. MOWELL:
Q. Mr. Cleveland, how many of these glare

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studies have you done?
A. Approximately 20.
Q. Have they all been paid a solar company, have you been paid by the solar company to do all 20?
A. For those 20, yes.
Q. Have you ever on any of those 20, have you ever come to a conclusion that there has been no glare from the solar panels?
A. I want to make sure I'm answering the right question. Would you repeat that?
Q. On any of those 20 where you have been paid by the solar companies, have you arrived at a conclusion that there, other than that there is no glare from the solar panels?
A. I have sometimes found glare, yes, I have found other conclusions.
Q. How many times out of the 20?
A. Probably more often than not, I've found some glare.
Q. Okay. Your cover page talks about

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Foxhole Solar Facility; what is that?
A. That is the name of this solar facility, at least one of the names given to this solar facility.
Q. That's a name I haven't heard. Do you know where you got that name?
A. From Cypress Creek. I'm not sure more specifically.
Q. On page eight you say the closest airport to the Foxhole solar site is a reservoir airport located in Finksburg, Maryland, about 15 miles southwest of the proposed solar site. Where did you get that information?
A. That was in searching for airports. What I would typically do as I search on GoogleMaps for airports and it will identify the closest airports.
Q. On page five, it looks like your conclusion as to impacts of nearby motorists, is that the results found no glare of any intensity during any minute of the year for fewer any of

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findings deal with soils and natural resources, and the petitioners have decided that's irrelevant.

I agree with Mr. Mowell about the environment, that whether or not a formal plan has to be submitted for special exception, it's arguable that at least some plan, and there's not been enough for the Board to evaluate the environmental impact under Section 502.1.I, as well as public safety, health and welfare.

I don't think they've overcome the master plan guidance that special exceptions should be granted sparingly on scenic roads, and it's apparent that most of the roads in northern Baltimore County are in fact not designated as scenic roads (inaudible).

And I think they've not overcome, even on the merits, the cases of public records that Mr. Beverungen cited, where it was approximately five or six acres per megawatt. They haven't really tried to overcome that with any facts,

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plus the National Renewable Energy Laboratory data showed a rate of five acres per megawatt, so I think size is problematic.

And yes, I think there's going to be an issue at the end of the case as to whether a cross-appeal has to be filed if one wants to contest the position of (inaudible) if the petitioner felt the position was unreasonable and did not want to abide by it. I think that's supported by the case law and (inaudible). So, I understand the Board may want to reserve on this, but the motion is made to get it on the record, and I will illuminate the concerns that we'll end up putting in our memorandum at the end of the case.

MS. MURPHY: Okay. Would you like to respond, Mr. Mudd?

MR. MUDD: Yes, thank you. It is my understanding as well that this motion or a similar motion has been made before this Board, I'm not sure if it was any of the Board panel

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members here, but it is my understanding it was reserved in that case and we would ask, first we would ask for it to be denied, but in the event that the Board wishes to make a decision, or think on it, that it be reserved.

I think that the fundamental problem that, with both arguments on this side, is we had a little bit of a spirited debate about this on the first day, which is really the nature of a special exception use and what the standard is. And special exception uses under case law are presumed to be valid, and based on that presumption, we come in and present our case. And we have witnesses who came on, and they say based on how they evaluated this project, that in their opinion there are no impacts that are associated with this that go above and beyond those that are inherently associated with the use.

Mr. Martin did not say that he didn't undertake an evaluation of those things with

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regard to environmental issues. There definitely are certain things in 33-3-108 that are not shown on this plan. It's our contention that there's no need for them to be shown on this plan because of the timing, and I'll talk about that in a second.

But one thing that Mr. Martin made perfectly clear was that this particular property was subject to a minor subdivision years ago and as a consequence of that, there was an exercise taken at that time to delineate where streams and wetlands were on the site, where floodplains were on the site, and buffers were established extending from those. There's nothing that's changed about the laws that are applicable to those buffers that would -- or -- and the streams certainly have not moved, so those buffers exist, they in fact created a development envelope for what could be done outside of those buffers, and for years there's been farming done outside of those buffers, and at this point in time there's

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admit this exhibit.
MS. MURPHY: Okay. Now that we have our ADC roadmap expert testifying, any objection to Peoples Counsel Exhibit 4?
MR. MUDD: No objection.
MS. MURPHY: Okay, thank you. It will be admitted.
MR. ZIMMERMAN: Madam Chair, you may be pleased that I have no further questions of this witness.
MS. MURPHY: Thank you, Mr. Zimmerman. Oh, cross-examination?
MR. MUDD: Yes, some questions, thank you.

CROSS-EXAMINATION

BY MR. MUDD:

Q. Good afternoon.
A. Sure.
Q. So, when did you say your parents purchased this property originally?
A. Way back, I think in '68 they started

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negotiating with the state about selling the Padonia Road property. Once they sold that, they bought that because of the taxes you had to, and I'm saying '70, '71, maybe even into '72. I don't know the exact date.
Q. And what they purchased at that time, it included what's shown in yellow on Peoples Counsel 6 here?
A. Right.
Q. As well as additional property?
A. That property plus where my house and my brother, right there, that was my brother's, and come down here a little, that's my brother's, that was part of the original.
Q. Okay. And that's where it says the Souder label?
A. Yes.
Q. Okay.
A. That's mine, that was part of it, Margaret's was part of it, my brother's was part of it.

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Q. Okay.
A. And that little piece that used to be a vegetable stand was part of it.
Q. This piece here?
A. Yes.
Q. So this is Jocelyn Kelly, that's what I'm referring to?
A. Yes.
Q. And then Warren Dykes, that's your brother?
A. Uh-huh.
Q. And then Margaret Curtis Jones?
A. She was a teacher at Hereford.
Q. Okay. Bowman, and then the Souder, Larry, and no other property aside from that? So for instance, what's shown here as Greenland Farm LLC was not part of it?
A. No, no.
Q. And nothing farther south?
A. No. All that belonged to Mr. Tracy, that originally was, worked Mom and Dad's farm.

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Q. Okay.
A. And they owned all that north, the Tracy's owned all that.
Q. And at the time that this was purchased, it was all one piece of property?
A. Correct.
Q. So your family -- and were there any improvements on it, any houses or farms?
A. No, the farmhouse.
Q. And that's the one --
A. The big chestnut farm, all those little houses.
Q. Okay, so that's on the Matthews property still?
A. Yes.
Q. That existed at the time?
A. Yes.
Q. And then after they bought it, they facilitated a subdivision to create four new lots, right?
A. No.

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Q. No?
A. No.
Q. Well, you got a separate piece of property, correct?
A. First off, myself and Margaret Jones which, John Smith was our neighbor at Padonia Road.
Q. Okay.
A. So Mom and Dad bought -- sold him two acres, or two point whatever.
Q. Okay. But they lopped that off of the larger property?
A. Yes.
MR. ZIMMERMAN: Objection. Can he let her finish?
MS. MURPHY: Nobody's intentionally interrupting, I think it's just natural conversation, but try to wait for one person to finish, each one of you.
THE WITNESS: I'm sorry.
MS. MURPHY: It's hard, I know.

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MR. MUDD: We were just having a conversation.
MS. MURPHY: And the record's going to be kind of, the transcriptionist will snap.
MR. MUDD: Okay, let me try and back up here.
BY MR. MUDD:
Q. When they originally bought it, it was one piece of property, correct?
A. Correct.
Q. And they sold two acres of it and subdivided it or chopped it off, if you will, and sold that to your old neighbors from Padonia Road?
A. Correct.
Q. Then they did that again for property for you?
A. Correct.
Q. And they that did that again for property for your younger brother, which is now the Souder property?

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A. Yes.
Q. And then around 2001 or two, you said --
A. Let me get this.
Q. Okay.
A. When they sold, or gave my brother this two, I think it's 2.3, two point whatever it is --
Q. That's the Souder property?
A. Yes, it would be Dykes at that time, Bob Dykes.
Q. Uh-huh.
A. He couldn't get to his property.
Q. Okay.
A. So I gave him this right-of-way, and Mom and Dad gave me this pie here, because I had a loan on the property to build a house.
Q. Okay.
A. And they wanted the equal of whatever square foot the road was to his property, they had to deed another piece off too.
Q. Okay.

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A. That sounds real confusing.
Q. No, that's fine. What were those properties used for before they were subdivided and turned into residences?
A. This, mine was farmland.
Q. It was farmland, okay.
A. Yes. This was a mixture of trees that stayed trees, and from here, because it goes, it drops down to the stream right here, really falls off, so --
Q. Can I stop you there for a second?
A. Sure.
Q. So your brother, this is the Souder property, that's in close proximity to the stream?
A. Correct.
Q. And they sold that to allow for development and farming in close proximity to that stream, correct, there was no house here and they allowed --
MR. ZIMMERMAN: I object. I don't see

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Q. Well, why do you think there are steep grades from looking at the contour lines?

A. Well, when you basically have a solid area of lines, that's not quite completely vertical but pretty close to it, it's a very steep drop, and this goes down to -- and on this map you can barely read it, but it does say the pond and the stream that are downstream from this site are at 620-foot elevation.

Q. Why did you think this map was important for the Board to see?

A. Because the stream that's coming down basically in the center of the photo, the blue line coming down that's just to the left of the triangle, is the stream that would be coming offsite from the site, and that merges in with another stream that's connected to the flood easement on the property that is contiguous, they meet together and they flow downstream, and they're actually crossing underneath Cotter Road, which is the road at the bottom.

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Q. Well, do you know where that stream eventually goes?

A. That goes right into Prettyboy Reservoir, and there's a pond there, there's a very old historic structure on that property, and the pond, and -- well, I'll stop there.

MR. MOWELL: All right, we'll offer Exhibit 17 into evidence.

MS. MURPHY: Any objection to 17.

MR. MUDD: The same objection as to veracity.

MS. MURPHY: Thank you, it's overruled.

BY MR. MOWELL:

Q. I show you what we will mark as Exhibit 18. What is shown on Exhibit 18?

A. This is a download from the Maryland Department of Natural Resources website, what are targeted ecological areas. And by definition, they're lands and watersheds identified by the Maryland Department of Natural Resources as the most ecologically valuable areas in the state.

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They are the best of the best. TEAs are preferred for conservation funding through a stateside program, open space.

So on the first, the top one, you can, is basically what I just read. The bottom box on the first page show shows all the TEAs in the state, so there really aren't that many compared to the amount of land, it certainly isn't half of the Maryland land.

Q. I see the year 2011. Do you know whether this is the most recent information on TEAs?

A. That's the most recent I could find.

Q. What is shown on the second page of the exhibit?

A. The second page is the Merlin map, and that also shows the TEAs in our area, and the little black dot is this particular site.

Q. This site is within a TEA?

A. Yes, it is.

MR. MOWELL: We would offer this as the

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next exhibit.

MS. MURPHY: Any objection to 18?

MR. MUDD: Same objection.

MS. MURPHY: Overruled. Okay.

BY MR. MOWELL:

Q. Let me show you what we'll mark as Exhibit 19. And what is Exhibit 19?

A. These are the memos, it's a combination, it's the BAC memos, and it also has excerpts from the 2020 master plan vibrant communities chapter, and the final page is the 502.1 conditions determining granting of special exception.

Q. So you grouped these together as an exhibit, that was your choice?

A. Yes.

Q. Okay. Looking at the first page, the amended petition, what is of significance in that?

A. Well, this is basically an introduction. Number two of the top three sections, special exception under the zoning regs of Baltimore

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County, to use a herewithin described property, see attachment one, which is the second page.

MR. MOWELL: The second page looks like it's an interoffice memorandum.

MS. MALONE: I think it's missing a page.

MR. MOWELL: I don't have the second page of the amended petition.

THE WITNESS: You don't?

MR. BELT: Nor do I, I go the comments on the second page.

THE WITNESS: Oh, okay.

MR. BELT: I don't think you attached the second page of the petition.

THE WITNESS: I guess I didn't, I'm sorry.

MS. MURPHY: The petition is probably on file, I would imagine, if it is the same petition.

BY MR. MOWELL:

Q. So your second page is an interoffice

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memorandum dated November 28, 2017. What is the importance of that document?

A. It's the zoning advisory committee comments. At the bottom, additional conditions are as follows pursuant to Baltimore County zoning regs section 502.1.A. Petitioners shall demonstrate to the satisfaction of the ALJ that the facility will not be detrimental to the adjacent residential properties as a result of glare emanating from the facility. And if you continue down to the last paragraph that's --

MR. MUDD: If I may object, the document speaks for itself.

MS. MURPHY: Understood. I think we have this in evidence, don't we, as a petitioners' exhibit?

MR. MUDD: I believe so.

MS. MURPHY: Yeah, we don't need to read the exact comments, we know that what they're saying is the petitioners have to demonstrate the 502.1 standards to the administrative law judge

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when they have the actual hearing, so we may not have the entire section, but we know what the exact comments say.

THE WITNESS: May I just read the last sentence, though, of the last paragraph?

MS. MURPHY: Well, we can read it.

THE WITNESS: You can read it, okay.

BY MR. MOWELL:

Q. Why do you think that's important to this case?

A. It just says that the future viability of commercial agriculture in Baltimore County be weighed when considering the special exception proposal.

MS. MURPHY: You're going to read it in anyway, aren't you?

THE WITNESS: No, I just read part --

MS. MURPHY: Well, he asked you why it's important.

THE WITNESS: Oh, it's important.

MS. MURPHY: Okay.

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THE WITNESS: It's weighty, I mean, I think it has to be weighed to make a decision.

MS. MURPHY: Understand.

BY MR. MOWELL:

Q. The next page looks like it's page 92 from the master plan?

A. Yes, it is.

Q. All right. That describes what, agricultural priority preservation areas?

A. Yes, it does.

Q. Anything in specific you would like to mention?

A. Just the full first full paragraph under the APPA area. I could read it or you could read it.

MS. MURPHY: We can read it, we'll mark it and read it.

THE WITNESS: There you go. Okay.

BY MR. MOWELL:

Q. How about the final page, which is the special exception law, anything in particular,

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THE WITNESS: Yes, it is. There are many examples of all of these on the Internet.
MS. MURPHY: Understood, okay.
THE WITNESS: So, the poor little possum in the upper left corner is actually caught on the top of that fence, and she cannot move, so --
MS. MURPHY: But again, it didn't happen on this particular property, this wasn't taken from this property?
THE WITNESS: It's impossible.
MS. MURPHY: Right, understood.
MR. BELT: Mr. Mudd, are you proposing barbed wire?
MS. MALONE: We are willing to concede that we will have no barbed wire.
MR. BELT: Are you proposing fencing above the top rails, you know, the extra fencing, like the poor buck there, would that happen?
MR. MUDD: Let me say this. We would gladly accept a condition that the fence would have to be in a condition that would prevent

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something like that.
MR. BELT: The next thing, are you doing the slats, are you doing the dark slats?
MR. MUDD: Black chain link is what's proposed.
MS. MURPHY: No slats, no barbed wire.
MR. MUDD: And it doesn't go over the top bar.
MR. BELT: In other words, not doing any metal, doing Oregon Ridge style?
MR. MUDD: We are not.
MS. MALONE: We are not doing the fancy -- I'm sorry, I thought you meant the black fencing, I'm sorry. Okay.
MR. BELT: Are we good with all this, Ms. Jones?
THE WITNESS: Just one more quick thing to point out. On the second page on the bottom left photograph, it does show the bar going over the top of the actual chain link, but the also added benefit is, you could see it's bent over,

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it's not a raw edge, and the raw edges too, are what the animals get caught on.
MS. MURPHY: Would the petitioners concede that they would make sure that they didn't have a raw edge on the top of the fence as a condition?
MS. MALONE: I believe in another case we agreed to raise the height of the fence and not have the barbed fire, to address the issue of animals.
MR. BELT: It looks like the barbed wire wasn't in the fence, it looks like the chain is going over the top.
MR. MUDD: Understood. I just consulted with our representative from Cypress Creek, that they would need to insure that the fence is of a certain height under code, and they're going to do that, and they will insure that it will not have a raw edge as depicted in the picture on the second page.
MS. MURPHY: All right. Thank you,

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Mr. Mudd.
MR. MUDD: Sure, thank you.
MS. MURPHY: Anything else on this exhibit?
THE WITNESS: No. Just on the final page with the Oregon Ridge, I was just looking at the landscaping.
MS. MURPHY: But they indicated they're not doing the last page, their fence would not reflect what was on the last page, which is in Oregon Ridge Park.
THE WITNESS: Even though there is landscaping that could be, that is mandatory for this particular site?
MS. MALONE: What?
THE WITNESS: I mean not only the fence on the final page, I'm looking at the landscaping that was performed.
MR. BELT: Ms. Jones is trying to show that the landscape architect is not always up to snuff, and she was basically saying that she

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A. Yes, I do. I do have concerns. Generally leases are about 20 to 25 years with a ten-year extension. I won't be around when it's time to decommission it. I worry about the decommissioning. I know in the wording of the solar bill, it shows a bond may be issued. I don't know if the wording is strong enough in the actual bill to protect the community and the landowner if anything should happen. I know the county would step in, but who knows in 35 years, you know, what's going to happen. It's a very big question mark.

I'm worried about, as I've heard, recycling of these panels will pay for the decommissioning, but that may not be true, especially if the solar panels are going -- at the moment they're shipped basically to India and China to be recycled, but they're closing the door on that. I have spoken to another solar representative who did say --

MR. MUDD: Objection.

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MS. MURPHY: Yeah, that would be hearsay.

THE WITNESS: Oh, hearsay, okay.

I'm worried about panels being actually a landfill or, excuse me, a landfill would, may be created on site to actually bury some of this --

MR. MUDD: Objection.

MS. MURPHY: These are her worries and concerns.

MR. MUDD: Okay.

MS. MURPHY: Go ahead, ma'am.

THE WITNESS: And we're going to have many many of these solar fields within the next 25 to 35 years, which I think are great, I love solar, I think it's very important. It needs to be where it should be, I believe better placed than on our prime and productive farms. As I say, they're taking the farmland away from the farmers. The landowners are the ones who are making out, the farmers are the ones that are

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actually being, they're given more hardships because not only is the land being cut up that they farm, the pieces that are left of the fields generally are sloped and are odd shapes, and it's very hard to get combines which can be 35 feet wide through, you know, any narrow areas. I'm concerned that the farmers who do need every acre of land to continue farming, because you know, they're at the mercy of the weather every year and other factors, so they're losing that land, and if another landowner says okay, if you would like to rent my land, that's fine, but supply and demand, I'm going to ask more money. Personally, I don't even get a hundred dollars an acre for leasing out my farmland, that's fine with me, it pays my taxes and insurance.

I just worry that the farmers are getting the short end of the stick here, and I believe Ms. Almond did create this bill for farmers also, but it's actually doing the opposite.

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Q. Back to the lease, do we know from their testimony the length of this lease?

A. I -- 20 to 25 years.

Q. We haven't seen the actual documents?

A. No, we have not.

Q. Do we know whether the lease can be renewed?

A. I'm not sure in this case, it could be for ten years.

Q. Do we know how long these panels, if they're allowed to be installed, will be up there?

A. It's up to the landowner and the solar company, but I assume that --

MR. MUDD: Objection, an assumption.

MS. MURPHY: Okay, yeah, that goes to speculation.

MR. MOWELL: Well, it wouldn't be speculation if we got a chance to see the lease, which they decided not to show us.

MS. MURPHY: Understood, that point was

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capable of producing more.

And so in your decision on this case, we would ask that you specify that the maximum area permitted to be the amount of acreage to produce two megawatt capacity of electricity, which would clarify the language in this legislation.

Q. Do you believe the area requested for this facility exceeds the maximum area permitted to produce two megawatts of electricity?

A. I believe --

MR. MUDD: Objection.

MS. MURPHY: What's the objection?

MR. MUDD: The witness is not qualified to answer that question, there's no expertise here.

MS. MURPHY: Yeah, isn't this within, you said she wasn't testifying as an expert from --

MR. MOWELL: I think it's based on her previous documents, I think that's what she believes, and I think she thinks the statute

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requires that the size be limited to what it takes to make two megawatts, and they've got a lot more than that.

MS. MURPHY: Understood, okay, so overruled. I mean, I think this is the same issue Mr. Belt addressed earlier, we have a fact witness who may sound like they're testifying as an expert but they're not.

MR. MUDD: Understood, okay.

MS. MURPHY: So --

MR. MUDD: As long as the Board understands she's not an expert, that's --

MS. MURPHY: Understood, and I think this is the point that she is trying to make. Go ahead.

BY MR. MOWELL:

Q. What is your concern? You pointed out that part of the statute. What is your concern, why do you want the Board to take note of that statute?

A. Because I believe that the plan that

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they will produce will definitely produce more than two megawatts, and what that in turn means is they're going to require more land again, because we're trying to protect the precious farmland, that's driving them to utilize and require more land than is necessary, so that no matter what conditions are out there, that they will produce at least two megawatts, even on cloudy days they can produce two megawatts.

So again, it comes back to utilizing more farmland than is necessary. The problem is in the language of the bill. Without technical input, the capacity and capability terms were not explained and understood when that wording was conceived. That is fundamental engineering.

MR. BELT: Just so you know that the point is driven home, and not that it's evidence in this, but it might have been this decision below or some position below, that ALJ Beverungen had made the point to economize the size to maintain the two megawatts, and we understand the

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point being made is that if we were to approve it, that the community's concerned that it be only big enough to do two megawatts, and that's what she was saying, that you can have all this area and if it's not being used properly, it's covered up or whatever. So if that's the point, I think we got the point, we don't need to belabor it forever, it's driven home.

MR. MOWELL: Thank you.

MS. MURPHY: Any objection to 31?

MR. MUDD: No objection.

MS. MURPHY: Thank you.

BY MR. MOWELL:

Q. Let me show you Exhibit 32. What is Exhibit 32 and where did you get it?

A. This is a slide within a Department of Natural Resources slide deck that you can see the URL at the bottom of the page, and I know Lynne Jones testified earlier a little bit about TEAs, but I thought it would be very helpful to understand, you know, she made the comment about

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being the best of the best. But these are the five criteria that are looked at in determining if a property is a TEA, and in order to be in a targeted ecological area it needs to rate exceptionally high and in fact in the top ten percent using these five criteria.

Q. All right, let's go back. Did you create this document or is this as it appears from the website?

A. This is exactly as it appears from the website, it's a slide within a deck in the PDF file with the URL at the bottom of the page.

Q. Okay, and you talked about the ten percent. Where did you get that information?

A. Other slides in that same deck.

Q. And that what is the ten percent again?

A. In order to be considered a targeted ecological area, the ranking across these five criteria needs to be in the top ten percent of the state's properties, State of Maryland. So these are the best of the best, these are special

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properties.

Q. And the maps below the criteria, what do they show?

A. They highlight in each particular case where that area is most predominant. For instance if you look at wetland adaptation area, you can see it's showing up hot all along the Chesapeake Bay, so it's kind of targeting in visually for you where those areas might be very important.

MR. MOWELL: We would offer this as the next exhibit.

MS. MURPHY: Any objection?

MR. MUDD: No objection.

MS. MURPHY: Thank you.

MR. MOWELL: 32?

MR. BELT: That was 32; I believe we are on 33.

BY MR. MOWELL:

Q. Let me show you what we will mark as Exhibit 33, and ask you to identify this document

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and where you got the information.

A. This is from that same presentation, that slide deck that I mentioned where I got the other one. I didn't alter these in any way, they are just images clipped right from it. The top one shows the targeted ecological areas across the State of Maryland in their entirety. The bottom one shows the areas that are not protected, and it's important to note that 20450 Middletown Road is an unprotected TEA, and what I mean by that is a protection would be some sort of a conservation easement or, you know, legacy easement, something that prevents development on that property.

One of -- David Martin testified earlier and I'm pretty sure it's in this case, though he's been in a couple of the other hearing that I have been to and he said if you've seen one farm, you've seen them all. And for me, when I think about TEAs and I think about that comment, it strongly suggests to me that he has a lack of

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concern about the soil, the wetlands and other environmental concerns on Middletown Road, especially when you consider that the State of Maryland considers this address, this site to be among the best of the best in the State of Maryland.

MS. MURPHY: But it's unprotected?

THE WITNESS: It's unprotected, it's not under conservation easement, that's correct.

MS. MURPHY: I just wanted to make sure you said unprotected, not protected.

THE WITNESS: Right. It's at risk, yeah, is the point I'm trying to make.

MS. MURPHY: Right.

BY MR. MOWELL:

Q. But the top graph says POS stateside; what does POS mean?

A. Project open space funding, so this would be for the State of Maryland, and these properties are viewed as a top priority to receive project open space funding. So for

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instance, if you were in an unprotected TEA, you would be a very attractive property to receive funding at that level.

Q. Funding for, where the state would buy the property?

A. I don't, I'm not familiar with the specific details, but it would protect the property from development, to conserve the resources there.

MR. MOWELL: We'd offer Exhibit 33 into evidence.

MS. MURPHY: But the protection, though, is up to the owner of the property, to decide whether or not they want to be conserved, in conservation?

THE WITNESS: Absolutely.

MS. MURPHY: Okay, so they could decide.

THE WITNESS: Right.

MS. MURPHY: Understood, okay. Any objection to 33?

MR. MUDD: No objection.

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MS. MURPHY: Thank you.

BY MR. MOWELL:

Q. Let me show you what we will mark as Exhibit 34, and ask you what this document is and where you got it.

A. This is from Project Green Print, which is focused on TEA areas. It is a custom report for 20450 Middletown Road. If you look at the illustration you can see the property outline in black, and there's like a pin in the middle of the property marking its location. And if you turn the page, you can see why, the weighing, the analysis ratings for why this property is a TEA, it rated exceptionally high for supportive aquatic life, proximity to protected lands. In fact if you look at this diagram and you see properties that are in all colors, like red and yellow and whatnot, these are properties that are protected under easement, so it's virtually surrounded by properties like that. It also rated very highly for forest, important for water

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quality protection.

The entire property is located within the Prettyboy watershed, all the runoff from this property drains through the forest buffer and into Dykes Creek and directly into the reservoir, and that is less than one mile away. Placing thousands of solar panels at the highest elevations of this property will increase runoff through the forest buffer and stress the ecosystem.

Q. Let's go back to the first page, the map on Exhibit 34, and there's a pin in the property. What is that?

A. That's marking the specific location, 20450 Middletown Road, and the black outline around that shape is the property line.

Q. Is the entire address 20450 Middletown Road, is that all within a TEA?

A. Yes. If you look at this map and you see the, it's a green tint that is covering pretty much the left side on a diagonal. That is

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property that is in a TEA. In contrast on the right side where you can see a much clearer view of the aerial image, that area is not within a TEA.

Q. And what is the red on the map which is the first page of Exhibit 34?

A. The red and the dark pink and the yellow are all various types of conservation easements that have been entered on those other properties. The pink down in this lower left-hand corner is actually the water of Prettyboy Reservoir.

Q. How do you know that?

A. From looking at the legend key for this site.

Q. I haven't gotten that far yet.

A. It's not in this one, it was like several pages long to print, I thought it might be over much, but I mean, basically I know that's the water, the actual reservoir itself, whereas this area, anything south of Middletown Road is considered within the watershed.

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my community, I'd just like to go down just kind of a quick list of what our concerns are.

MS. MURPHY: Are we going back to --

BY MR. MOWELL:

Q. What community are you talking about?

A. The North County Community Group that I represent.

Q. Okay.

A. Is that okay?

MS. MURPHY: I think you went through the Rule 8 paper; is it on there?

MR. BELT: There's a letter in the Rule 8.

THE WITNESS: There's a letter in the Rule 8.

MR. BELT: Are you offering a synopsis of whatever that is?

THE WITNESS: No. Let me just, I'll cherry pick some things that maybe need a little bit more explanation that I would like to give.

MS. MURPHY: All right.

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MR. MOWELL: I'm not going to read that letter.

MS. MURPHY: Okay, thank you.

THE WITNESS: So, I mean basically, we find the site is particularly problematic for this use for the reasons that we've talked about. It's very sad that basically, like many other of these solar projects, tillable land is being permanently removed from crop production, essentially permanently removed from crop production, and it's the tenant farmer that loses, it's not the property owner.

This site would essentially be all converted from agriculture to nonagricultural use, which is inconsistent with the Farmland Protection Policy Act.

Again, I feel very strongly that the special exception area is larger than necessary, and really hope that you as the Board specify that the max area not be any larger than what it takes to produce a two megawatt capacity, and the

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key word there is capacity of electricity.

Ah, Lynne had mentioned concern about the bond. One aspect of the way that Bill 37-17 is written that I don't think is in the best interests of Baltimore County residents is the fact that the bond is calculated essentially on removal, removal of the solar panel structures and you know, maybe, I don't know what else, it is pretty vague because it's uncharted territory. But there's one particular aspect that I think is very very important because soils have been a big part of what we've talked about, and that is that the bond should require to cover soil remediation, so that the condition that they obtain the farm in, when they're done with the farm, whatever steps are necessary to return it to the same level of productivity and use as farmland be covered in that. And this is not an unreasonable request, there are other states that have remediation as part of their security bond calculation, but it was in my, our opinion, it

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was remiss when this bill was crafted.

I think that pretty much covers it. You know, I tried to be as thorough as possible in the letter itself.

MR. MOWELL: That's all we have for Ms. Pieper.

MS. MURPHY: Are you going to have any questions, Mr. Zimmerman?

MR. MOWELL: I think I will not ask any questions.

MS. MURPHY: Okay. Then we'll have, how about if we take a lunch break, and come back for the cross from Mr. Mudd. How long does everyone need?

MS. MALONE: An hour.

MS. MURPHY: You need an hour, 1:30. I think we deserve an hour. Thank you.

(Recess from 12:31 to 1:41 p.m.)

MS. MURPHY: Back on the record after lunch, and we are going to the cross-examination of Ms. Pieper.

MS. MURPHY: All right, so we still have one witness?

MR. MUDD: Just one witness. We can go right away, if you're ready.

MS. MURPHY: Okay, we're ready.

MR. MUDD: Okay. Mr. Martin, would you please take the stand.

Whereupon,

DAVID MARTIN

being first duly sworn to tell the truth, the whole truth, and nothing but the truth, testified further, as follows:

MR. BELT: Would you state your name, business and address for the record, and spell your last name?

THE WITNESS: David Martin, M-A-R-T-I-N. I am vice president at DMW, 501 Fairmont Avenue here in Towson, 21286.

FURTHER DIRECT EXAMINATION

BY MR. MUDD:

Q. Good afternoon, Mr. Martin.

A. Hi.

Q. I'm going to ask you a few questions here. Were you here during the testimony of Mr. Altmeyer?

A. Yes.

Q. Did you hear his testimony regarding onsite slopes and the potential need for stormwater management on the site?

A. Yes.

Q. Are you familiar with the Maryland Department of the Environment policy that was introduced into evidence during his testimony?

A. I am.

Q. Had you reviewed that before?

A. Certainly, yeah.

Q. Did you examine the exhibit that Mr. Altmeyer prepared showing the slopes?

A. I saw it that day, I didn't see it afterwards or look at it in the file.

Q. Okay. Did you undertake any evaluation of your own?

A. Both before we started this project and also just recently to refresh our own memories, we ran a computer model on the slopes in the general area, the northern area of this property where the array is.

Q. And what did that evaluation show?

A. Well, not surprisingly, it showed the majority of the slope being zero to five percent, then there's some green areas, again, at the five to ten percent that we talked about, and on the western edges of the special exception area, there are some mixed patches of, let's say in excess of ten percent, and I believe he had one that was 11, one of them he had his math wrong, but that's what the computer told us, no surprises.

Q. Okay. Did that refresher, or did anything that Mr. Altmeyer testified about, does that change your understanding about how stormwater may or may not be managed on this site?

A. Not at all.

Q. Why not?

A. Well, because stormwater management is a component of any development, whether it's housing, commercial, parking lots, et cetera, there are lots of different methodologies to treat stormwater depending on slopes, depending on the kinds of runoff it's receiving. So in solar panel cases and the exhibit that he used from MDE that we use from MDE, and that the county is using as part of their policy for review of these things.

You have the zero to five percent slopes where basically you use the disconnect, that's the separation between the panels, that diagram on the second or third page is pretty clear about how that's done and what it looks like as a cross-section. Then the five to ten percent slopes, it talks about there may be the need for level spreaders, and that's an energy dissipator that basically follows the contours, it doesn't

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necessarily follow the lip of the array, of the panels, and it has to follow the contours so that it's level. I mean, the arrays are going down the hill.

The point being that, the idea, in the optimum situation, the idea is not ever to concentrate water. The MDE regs in 2007 were refocused on water quality and trying to minimize quantities, what they call structure storage, the old, I used to call them bomb craters of literally 238 dams with structural cores and clay. That's no longer acceptable except in certain interjurisdictional waterways where a hundred-year management is required, and even then, there are other methods to treat stormwater management for that purpose. The idea is to not concentrate flows and to minimize the drainage areas that are fed to these micro bioretention areas or in this case, the arrays themselves.

Q. So, I think you described what you would do on zero to five, five to ten percent slopes.

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What about any areas that are beyond ten?

A. So in some of those slope patches where the gradient changes, which is not surprising and you know, nothing's, unless it's manmade, is ever perfect in a natural environment as far as topography, so you get these rolling undulations and then over time for whatever reason, you may get these patches where the slopes are slightly steeper. And so in areas where that occurs, the evaluation would be how much drainage area are those areas receiving, and if need be, you would combine all three ideas, which is the disconnect, the vegetated disconnect, level spreaders, and micro bioretention basins.

Q. Let me take a step back for a second. Can you describe a little bit about your experience with stormwater management design in Maryland?

A. Yeah. So since 2007 with the advent of the new regs that are focused on water quality, there are several methods recommended that are

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nonstructural, that's the state's term, and by nonstructural what I mean are the ponds, the old fashioned stormwater management ponds that have dams and core trenches.

Q. Those are structural or non?

A. Those are structural.

Q. Okay.

A. So the idea is, and I heard an MDE person say this, the solution to pollution is dilution. So the idea is to break up the drainage areas into smaller, half acre, 20,000 square feet is the goal, and use these micro bioretention facilities or disconnect, rooftop disconnects or in this case solar panel disconnects, to not concentrate flows in large quantities. So in areas where these slope patches would occur that are in excess of five to ten, it may be necessary to design some of these micro bioretention areas.

Q. So how about, putting aside this case, since 2007, can you describe some of your

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experience in other cases for stormwater management design?

A. Well, as a site planner for projects, whether it's commercial, residential or anything, especially when you start grading out a site or looking at the topography of a site and how it drains, I mean, that's one of the principles that you have to pay attention to as far as how it impacts the layout of whatever it is you're doing on a particular site. And so as landscape architects, and as Maryland law says, we are the front, the front end of type, size and location, besides being really driven by the engineering support group, at least in DMW's case. But you know, I don't involve myself in structural stuff like dams and core trenches, but we certainly design the locations of these micro bioretention areas, they are sort of predesigned in the Maryland State Manual For Stormwater. They are basically small little basin areas excavated out of the site, and have organic soil mixes and peat

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in the bottoms of them, and then wetland vegetation, things like blue iris and spartina grasses, things that survive with wet root systems.

Q. Do you have a feel for how many cases you've worked on, or how many projects you've worked on with these types of devices?

A. Since 2007, maybe 30 or 40.

Q. Okay. And when you work on them, do you consult with any particular agencies from Baltimore County?

A. Absolutely.

Q. Who do you consult with?

A. That would be environmental protection, and specifically the stormwater management review section.

Q. Can you describe a little bit about that process?

A. Yeah, so there's a three-part process, there's a concept stormwater management -- once you're into the development process here in

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Baltimore County, there's a concept stormwater management plan. That would be the initial here's what we're thinking, here's generally the drainage areas, but it would not include, you know, site details and that sort of stuff. But it would be reviewed at that level and it also is reviewed by the soil conservation district.

Q. And when would you expect to undertake that review in this case?

A. In this case, it would be assuming an approval of the special exception use, that the development process as we've already stated, we've been to the DRC, the DRC said this is a minor sub that needs a refinement to show this, and at that point we would be in the, quote, development process for the county, and that's when these kinds of plans would start actually being developed in more detail and submitted for review.

Q. Okay. So you said developed in more detail; have you at least given it some

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preliminary thought at this point?

A. Sure.

Q. Okay. And is that the basis for your prior testimony earlier?

A. It is, and you know, again, the arrays are located on the natural topography in the flattest areas possible, they're not down the hill, they're, you know, so those kinds of early decisions are made up front.

Q. Okay. And when you get into that final design and those final details, do the specifics of that have any bearing on your opinion regarding the special exception standard in this case?

A. The specifics would be as it relates to special exception, this site would be treated no differently than any other solar array site, or even a residential or commercial development, you have to go through that process.

Q. Okay. And based on all the information that you have about the site and the thought that

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you've given to the management of stormwater on the site, how does that play into your evaluation of the special exception standard here?

A. The impact of this particular solar array as it relates to stormwater is no different than any other potential location, you still have to adhere to the regulations. You might be able to do it with just, on a dead flat site, Florida or out in the desert somewhere, with just rooftop disconnects, but that's typically not going to be the case either here in Maryland. At some point even edges, I believe, are going to have to be, they may overlap slopes that are in excess of the five to ten percent.

Q. So, you described a little bit about the process and working with the stormwater management division within Baltimore County DEPS?

A. Yes.

Q. Who is ultimately responsible for the determination as to whether or not a stormwater management design is approved or not?

A. Baltimore County.

Q. And who in Baltimore County?

A. Right now it's Jim Markle, his group, stormwater management review.

Q. I think, did you describe how that process works previously?

A. Well, I said there's three levels of plans, the concept plan, a preliminary plan and a final plan. The final plan are the actual construction plans of how to build these things with very specific specifications and details, and sequence of construction methods. And so, all three levels are reviewed by just not Baltimore County and Jim Markle's group, stormwater management, but also by the soil conservation district.

Q. Okay. And what's your understanding of the regulations -- you mentioned, are your designs, is there any guidance that you have in preparing your designs?

A. Guidance would be the MDE guidance

because that's what Baltimore County has adopted.

Q. Okay, and what's the purpose for that guidance or the purpose for the stormwater regs in general, in your opinion?

A. Well, right now they're focused on water quality, improving the water quality, not so much quantity anymore.

Q. Okay.

A. That's the purpose.

Q. Okay. Do you think that the stormwater design as approved by DEPS in this case will adequately protect downstream properties and area resources?

MR. MOWELL: Objection. What design are we talking about? I haven't seen the design.

MS. MURPHY: Ultimately, you mean the final plan?

MR. MUDD: Yeah.

MS. MURPHY: The final plan, there's three stages, concept, preliminary and final, so I think the question was the final plan, will

that stormwater management protect the properties down below.

MR. MOWELL: Well, how would he know, what is the plan? How can he say whether it's going to work if we don't know what the plan is?

MS. MURPHY: It hasn't been -- there hasn't been a concept plan, we haven't gotten there?

MR. MUDD: There is not, but he's testified so far that he's given some thought to it and that the final derivation of it -- my real question is the final plan as approved by DEPS, does he think that that will suffice.

MS. MURPHY: I think that's a fair question, whether he thinks it will or not.

THE WITNESS: I have no reason to doubt Baltimore County, I've been doing work here in this county since 1987. They review every stormwater management requirement, have been, will continue to do that, and ultimately if you cannot get their approval, you don't get a

permit. It's that simple.

MR. MUDD: Okay, thank you. I have no further questions.

EXAMINATION BY THE BOARD

BY MR. BELT:

Q. Just real briefly. In the process you just described in the course of your practice and your profession, when is that approval sought and done?

A. After you get your zoning relief, and I can explain that real crystal clear. If I were to take a plan, a solar array plan to the development review committee that was completely worked out with all of the litany of things that are included in the bill to the DRC, the DRC in their practice would table it and say subject to getting your zoning relief. It's a chicken and the egg process here in Baltimore County.

Q. And as Mr. Mowell has brought to our attention before, there's nothing codifying that procedure, you're speaking from experience and

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and if we could refresh your memory on the MDE's diagram, the upstream panel, the idea of the disconnect is to allow enough vegetated space from that upstream panel to absorb that water, to intercept it basically and allow it to permeate into the ground. The next panel down does the same thing, that's the idea. I mean, the most efficient system as far as stormwater is basically to let Mother Nature and the vegetation do the work for you.

There may be instances where the slopes, you know, start to roll a little bit steeper and may require, depending on the amount of runoff that you brought up, require a level spreader, so that that energy doesn't concentrate in a focus, but it is spread out like the arm of the bannister here.

Q. So there is technically a way if done properly and if the slopes aren't that great to require level spreaders, to space them in a way that the runoff would be absorbed by space?

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A. Absolutely.

MR. MCCOMAS: So to ask another question -- were you done?

MR. BELT: Yeah, I'm done.

BY MR. MCCOMAS:

Q. Asking it another way, is there any additional adverse effect by having these panels on the property to the peoples' downstream property because the panels are there?

A. That's the whole point of the stormwater, is to intercept, keep the runoff that's generated from the panels within the area, certainly within the property. This particular property, as I stated earlier in my testimony, is a minor subdivision that already has dedicated buffers that were generated from either streams or wetland, physical wetlands, and/or a floodplain, so the county's not, already protected those resources, they're recorded in the land records.

The stormwater will obviously have to be

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outside of those areas and the object, again, to answer your question, is to limit or contain or control the runoff that's coming from the panels at that particular discharge area, and the discharge area in this case could be multiple discharge areas, and that is the whole principle behind the 2007 regulations.

BY MS. MURPHY:

Q. So are you anticipating, then, that you're going to have to design one of these potential facilities, or do you anticipate that just arranging the solar arrays with the disconnects is enough?

A. I can't say yet.

Q. Okay.

A. My guess right now would be all three, we would probably have to do all three.

Q. Okay, and why do you guess that?

A. Just because of the western edge. We don't want to start concentrating flows, and I, you know, with the slopes that were brought up in

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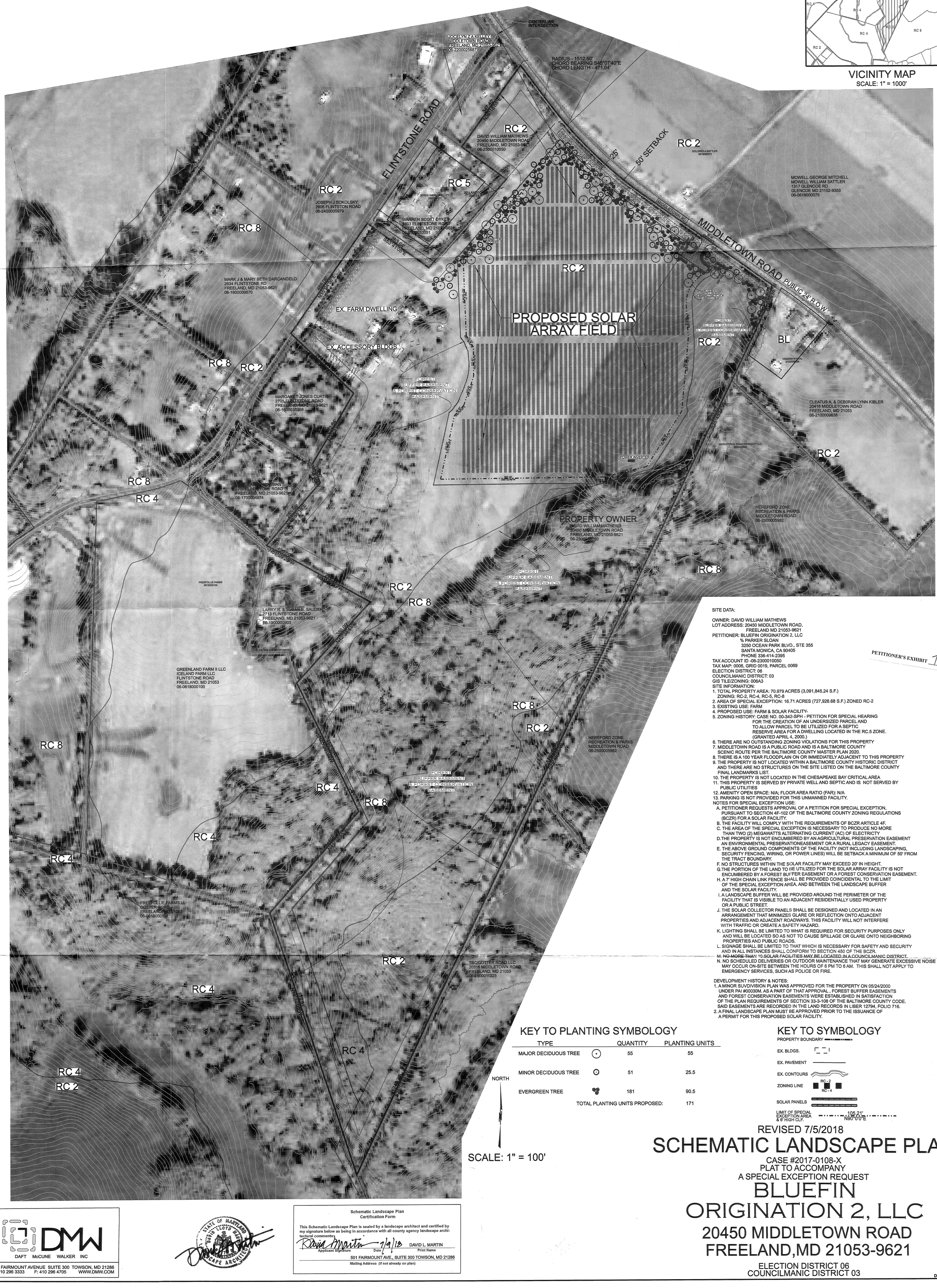
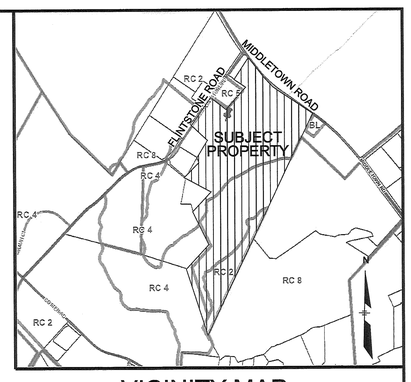
our own slope assessment, I'm pretty sure that we probably might some of these micro bioretention, but they consist of, they could be long linear trenches with gravel fill in them, again, to dissipate water and store it, they could be small built little basins with wetland plant species in them, there's several methods that are in the MDE stormwater management regs that could be used. It's not just one, there's lots of potential for choosing, and you choose the one that best fits whatever the site is dictating.

Q. And you think that we're going to have to do it here because the buffers that currently exist that you just said were part of the minor sub probably won't be enough, like the buffers in the wetlands?

A. The buffers are, they're a hundred feet, so the vegetated, or regenerated vegetation in those buffers, that is the point of the buffer, to protect those resources an add additional filtration. But above and beyond that, the MDE,





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REVISED 7/5/2018

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CASE #2017-0108-X
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A SPECIAL EXCEPTION REQUEST

BLUEFIN ORIGINATION 2, LLC

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FREELAND,MD 21053-9621

ELECTION DISTRICT 06
COUNCILMANIC DISTRICT 03

DATE: 09/28/2017
P.N. 16-1237

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

STATE OF MARYLAND — DAVID LLOYD MARTIN — LANDSCAPE ARCHITECT

Schematic Landscape Plan
Certification Form

This Schematic Landscape Plan is sealed by a landscape architect and certified by my signature below as being in accordance with all county agency landscape architectural comments.

Applicant Signature — Date 7/9/18 — DAVID L. MARTIN Print Name

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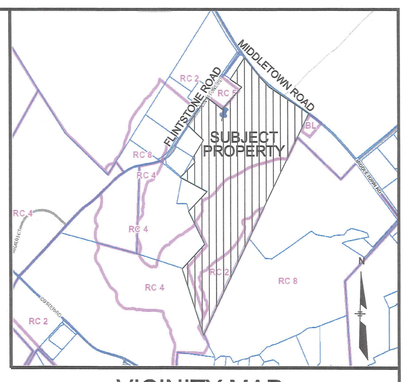

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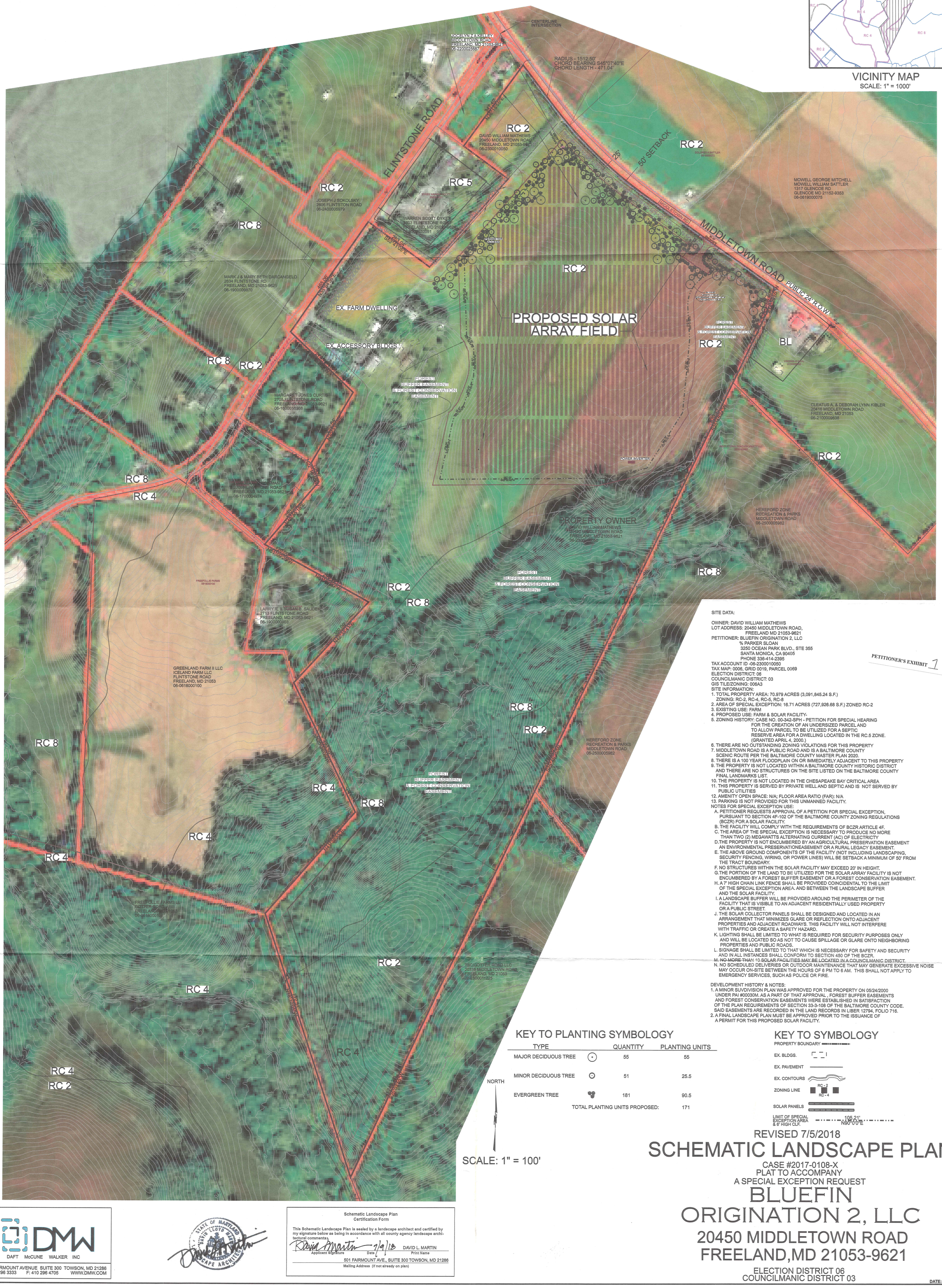

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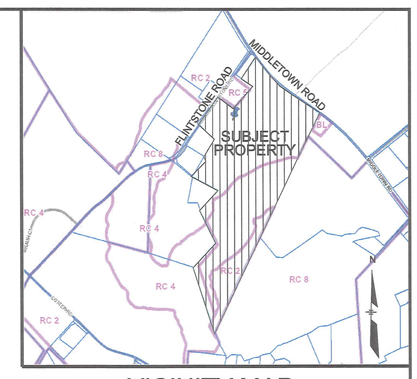

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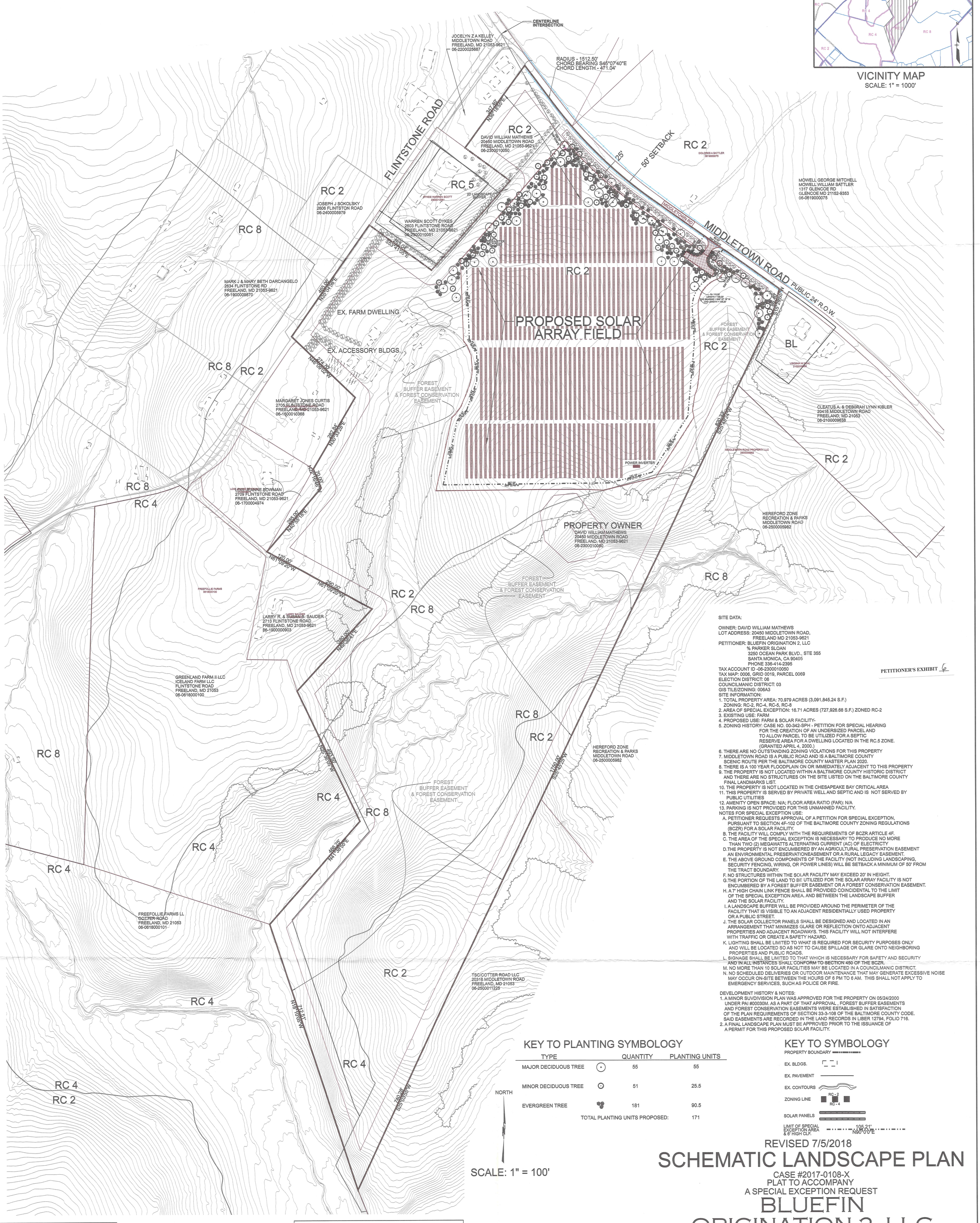

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G. THE PORTION OF THE LAND TO BE UTILIZED FOR THE SOLAR ARRAY FACILITY IS NOT ENCUMBERED BY A FOREST BUFFER EASEMENT OR A FOREST CONSERVATION EASEMENT.
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DEVELOPMENT HISTORY & NOTES:
1. A MINOR SUVDIVISION PLAN WAS APPROVED FOR THE PROPERTY ON 05/24/2000 UNDER PAI #00030M. AS A PART OF THAT APPROVAL , FOREST BUFFER EASEMENTS AND FOREST CONSERVATION EASEMENTS WERE ESTABLISHED IN SATISFACTION OF THE PLAN REQUIREMENTS OF SECTION 33-3-108 OF THE BALTIMORE COUNTY CODE. SAID EASEMENTS ARE RECORDED IN THE LAND RECORDS IN LIBER 12794, FOLIO 716.
2. A FINAL LANDSCAPE PLAN MUST BE APPROVED PRIOR TO THE ISSUANCE OF A PERMIT FOR THIS PROPOSED SOLAR FACILITY.

PETITIONER'S EXHIBIT 6

KEY TO PLANTING SYMBOLOGY

TYPE	QUANTITY	PLANTING UNITS
MAJOR DECIDUOUS TREE	55	55
MINOR DECIDUOUS TREE	51	25.5
EVERGREEN TREE	181	90.5
TOTAL PLANTING UNITS PROPOSED:	171	

KEY TO SYMBOLOGY

PROPERTY BOUNDARY
EX. BLDGS.
EX. PAVEMENT
EX. CONTOURS
ZONING LINE (RC - 2 / RC - 4)
SOLAR PANELS
LIMIT OF SPECIAL EXCEPTION AREA & 6' HIGH CLF. — 105.21' N90°0'0"E

REVISED 7/5/2018

SCHEMATIC LANDSCAPE PLAN

CASE #2017-0108-X
PLAT TO ACCOMPANY
A SPECIAL EXCEPTION REQUEST

BLUEFIN ORIGINATION 2, LLC

20450 MIDDLETOWN ROAD FREELAND,MD 21053-9621

ELECTION DISTRICT 06
COUNCILMANIC DISTRICT 03

DATE: 09/28/2017
P.N. 16-1237

DMW
DAFT McCUNE WALKER INC
501 FAIRMOUNT AVENUE SUITE 300 TOWSON, MD 21286
P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

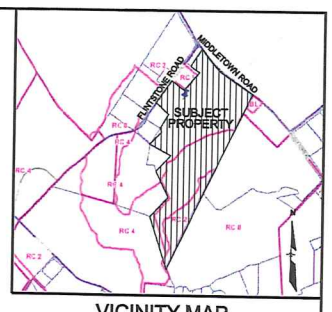
STATE OF MARYLAND — DAVID LLOYD MARTIN — LANDSCAPE ARCHITECT

Schematic Landscape Plan
Certification Form

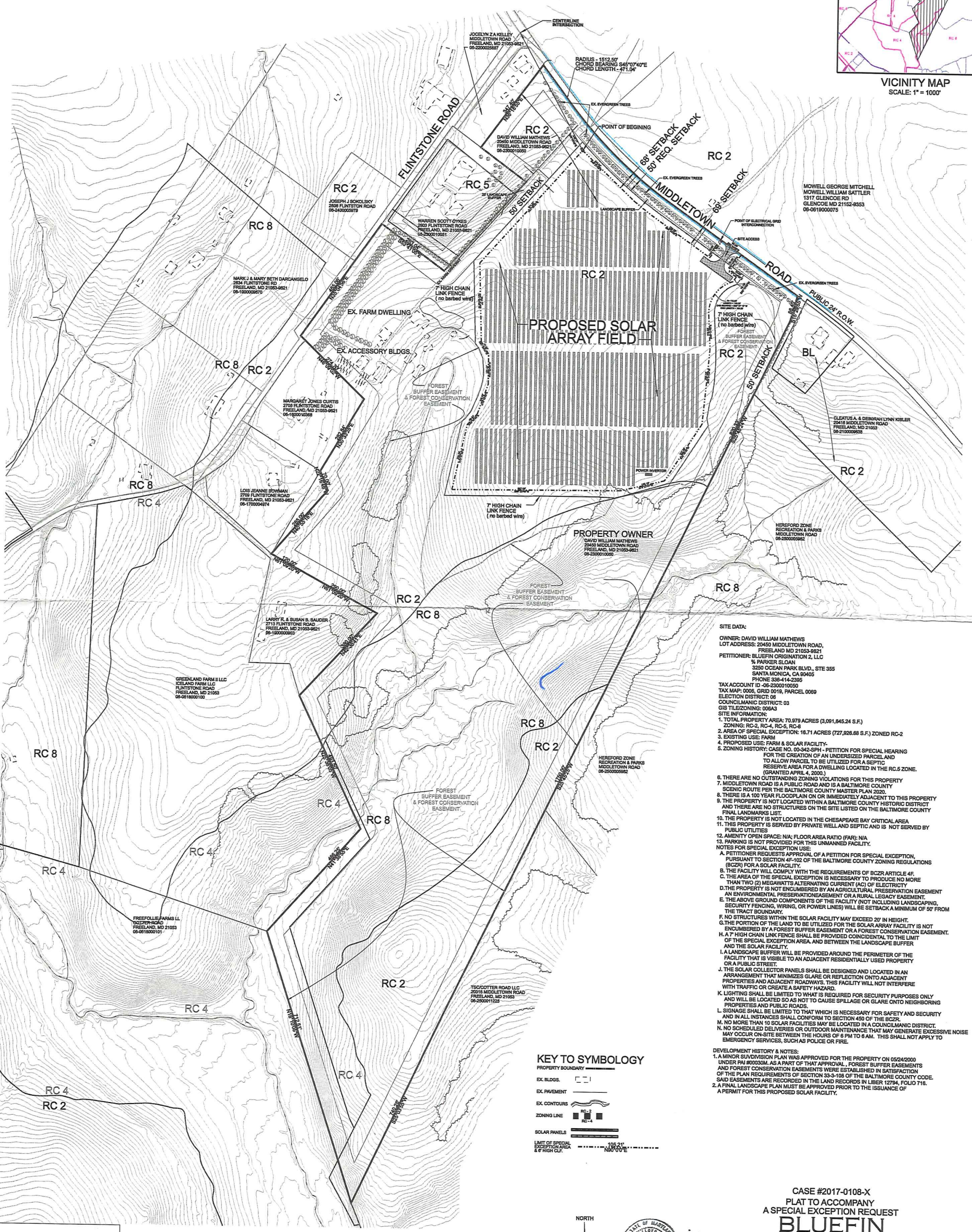
This Schematic Landscape Plan is sealed by a landscape architect and certified by my signature below as being in accordance with all county agency landscape architectural comments.

David Martin — 2/9/18 — DAVID L. MARTIN
Applicant Signature — Date — Print Name

501 FAIRMOUNT AVE., SUITE 300 TOWSON, MD 21286
Mailing Address (If not already on plan)



VICINITY MAP
SCALE: 1" = 1000'



KEY TO SYMBOLOGY

PROPERTY BOUNDARY
EX. BLDGS.
EX. PAVEMENT
EX. CONTOURS
ZONING LINE (RC-2 / RC-4)
SOLAR PANELS
LIMIT OF SPECIAL EXCEPTION AREA & 6' HIGH CLF. — 105.21' N90°00'E

SITE DATA:

OWNER: DAVID WILLIAM MATHEWS
LOT ADDRESS: 20450 MIDDLETOWN ROAD, FREELAND MD 21053-9821
PETITIONER: BLUEFIN ORIGINATION 2, LLC
% PARKER SLOAN
3250 OCEAN PARK BLVD., STE 355
SANTA MONICA, CA 90405
PHONE 336-414-2395
TAX ACCOUNT ID -06-2300010050
TAX MAP: 0006, GRID 0019, PARCEL 0069
ELECTION DISTRICT: 06
COUNCILMANIC DISTRICT: 03
GIS TILE/ZONING: 006A3
SITE INFORMATION:
1. TOTAL PROPERTY AREA: 70.979 ACRES (3,091,845.24 S.F.)
ZONING: RC-2, RC-4, RC-5, RC-8
2. AREA OF SPECIAL EXCEPTION: 16.71 ACRES (727,926.68 S.F.) ZONED RC-2
3. EXISTING USE: FARM
4. PROPOSED USE: FARM & SOLAR FACILITY-
5. ZONING HISTORY: CASE NO. 00-342-SPH - PETITION FOR SPECIAL HEARING FOR THE CREATION OF AN UNDERSIZED PARCEL AND TO ALLOW PARCEL TO BE UTILIZED FOR A SEPTIC RESERVE AREA FOR A DWELLING LOCATED IN THE RC.5 ZONE. (GRANTED APRIL 4, 2000.)
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DMW
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P: 410 296 3333 F: 410 296 4705 WWW.DMW.COM

NORTH

SCALE: 1" = 100'

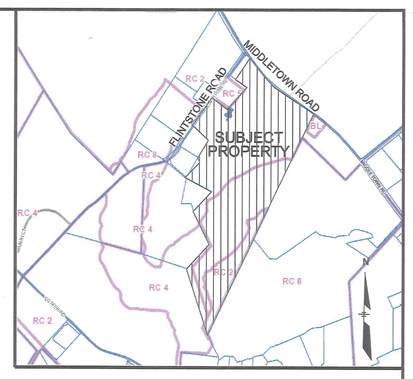
CASE #2017-0108-X
PLAT TO ACCOMPANY
A SPECIAL EXCEPTION REQUEST

BLUEFIN ORIGINATION 2, LLC

20450 MIDDLETOWN ROAD
FREELAND,MD 21053-9621

ELECTION DISTRICT 06
COUNCILMANIC DISTRICT 03

AMENDED PLAN DATE: 07/05/2018
DATE: 09/28/2017
P.N. 16-1227



VICINITY MAP
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EX. PAVEMENT
EX. CONTOURS
ZONING LINE (RC - 2 / RC - 4)
SOLAR PANELS
LIMIT OF SPECIAL EXCEPTION AREA & 6' HIGH CLF.

PETITIONER'S EXHIBIT 2

NORTH

SCALE: 1" = 100'

DMW
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CASE #2017-0108-X
PLAT TO ACCOMPANY
A SPECIAL EXCEPTION REQUEST

BLUEFIN ORIGINATION 2, LLC

20450 MIDDLETOWN ROAD
FREELAND,MD 21053-9621

ELECTION DISTRICT 06
COUNCILMANIC DISTRICT 03

AMENDED PLAN DATE: 07/05/2018
DATE: 09/28/2017
P.N. 16-1237

Baltimore County - My Neighborhood

PETITIONER'S EXHIBIT 13

17-108X 7/12/18
Mathews

Legend

- Agriculture Priority Preservation Area
- Community Conservation Area
- Employment Center; Employment Center - Hunt Valley
- Middle River Redevelopment Area
- Owings Mills Growth Area
- Resource Preservation Area
- Rural Commercial Center
- Rural Residential Area
- Urban Center
- County Boundary

1:144,448

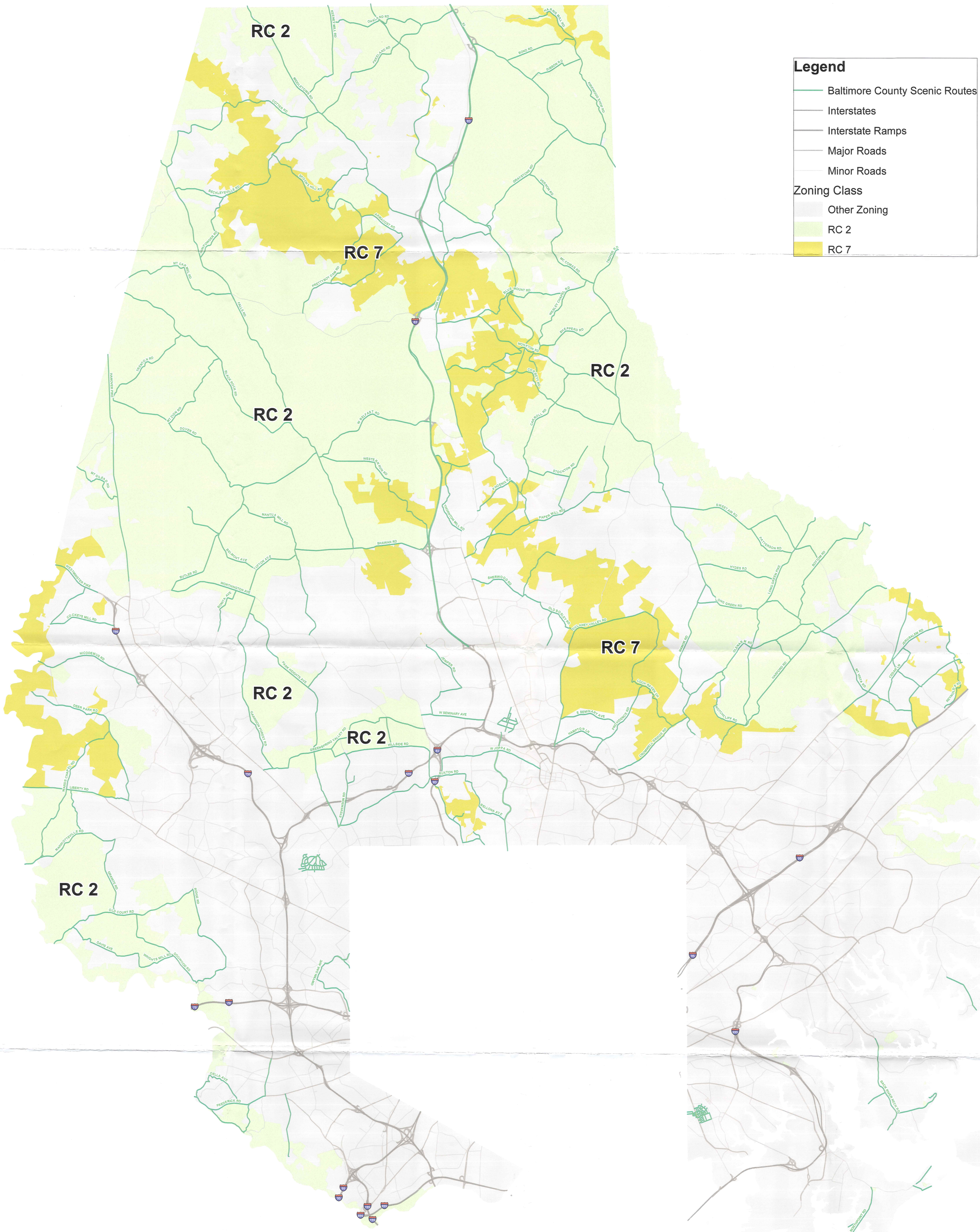
0 6,000 12,000 24,000 Feet

0 1 2 4 Miles

July 12, 2018

ZONING: RG 7
ZONING: RG 8
ZONING: RG 2
ZONING: RG 4
ZONING: EL GR
ZONING: EL
ZONING: RG 6
BECKLEYSVILLE RD
GOTTIER RD
BOULINGER RD
FLINTSTONE RD
RAUH CT
DRIVEWAY
KEENEY MILL RD
MIDDLETOWN RD
ROCKDALE RD
T2SCOTTIEROAD LLC
GREENLAND FARM LLC
PETERSON FARMS LLC
Prepared by Geographic Information Services
Date: Jun 27, 2018
2017 Imagery
1 Inch = 183 feet
0 80 160 320 480 640
Feet
People's Counsel
CBA Exhibit
N
S
W
E

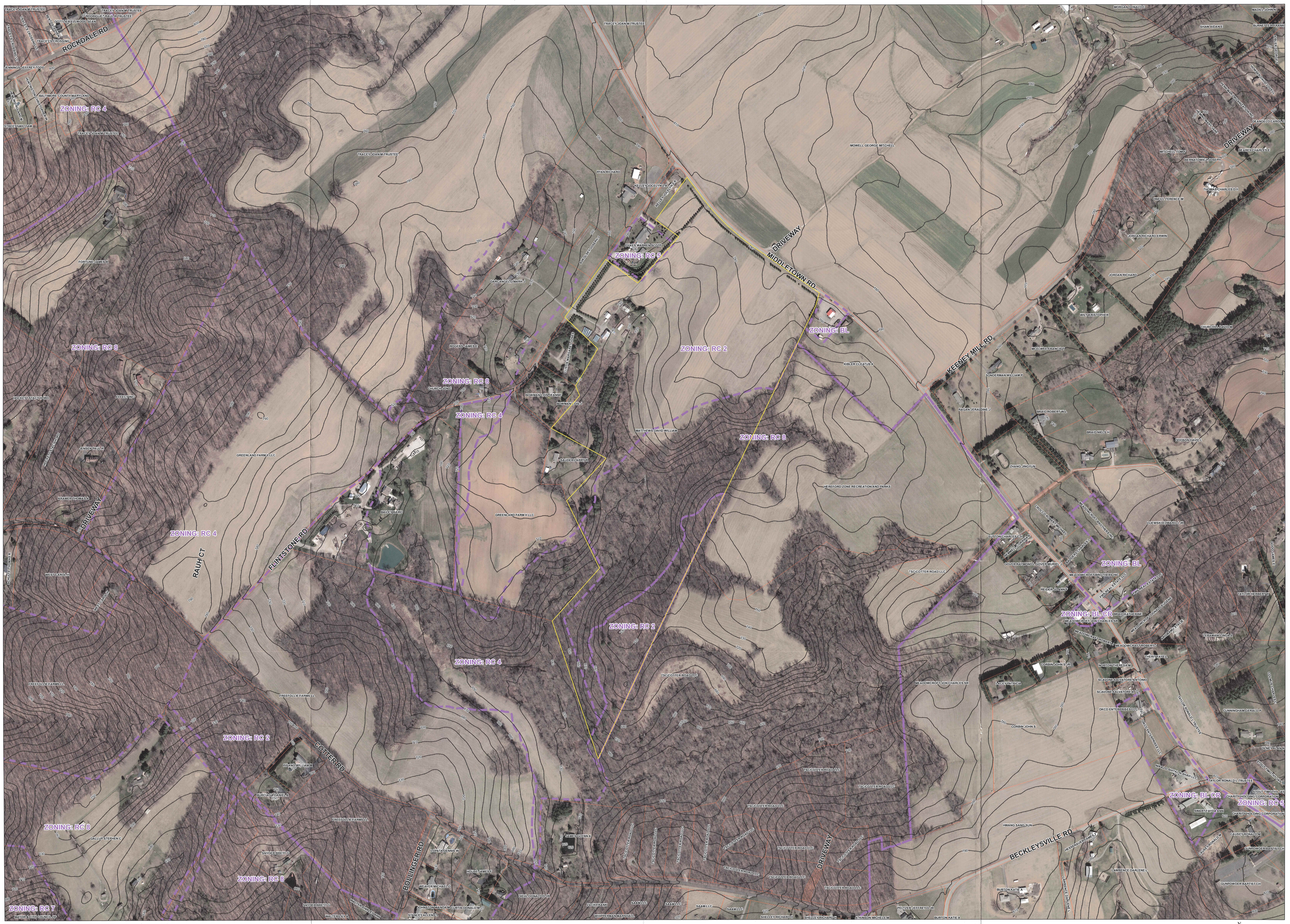
Zoning 2018



Total Zoning Area:
RC 2 = 139,053.40 Acres
RC 7 = 36,290.24 Acres

People's Counsel
CBA Exhibit
8

Prepared by Geographic Information Services
Baltimore County Office of Information Technology
Zoning and Scenic Routes Data Source:
Baltimore County Department of Planning
Date: October 23, 2018


ROCKDALE RD
ZONING: RC 4
ZONING: RC 8
ZONING: RC 5
ZONING: RC 2
ZONING: BL
ZONING: BL CR
DRIVEWAY
MIDDLETOWN RD
KEENEY MILL RD
FLINTSTONE RD
RAUH CT
COTTER RD
ROLLINGER RD
BECKLEYSVILLE RD
TRACEY JOAN M TRUSTEE
BALTIMORE COUNTY MARYLAND
MOWELL GEORGE MITCHELL
HEREFORD ZONE RECREATION AND PARKS
GREENLAND FARM II LLC
TSC/COTTER ROAD LLC
MEADOWCROFT JON CHARLES SR
Prepared by Geographic Information Services
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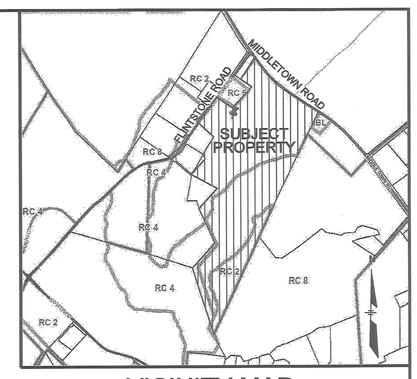

VICINITY MAP
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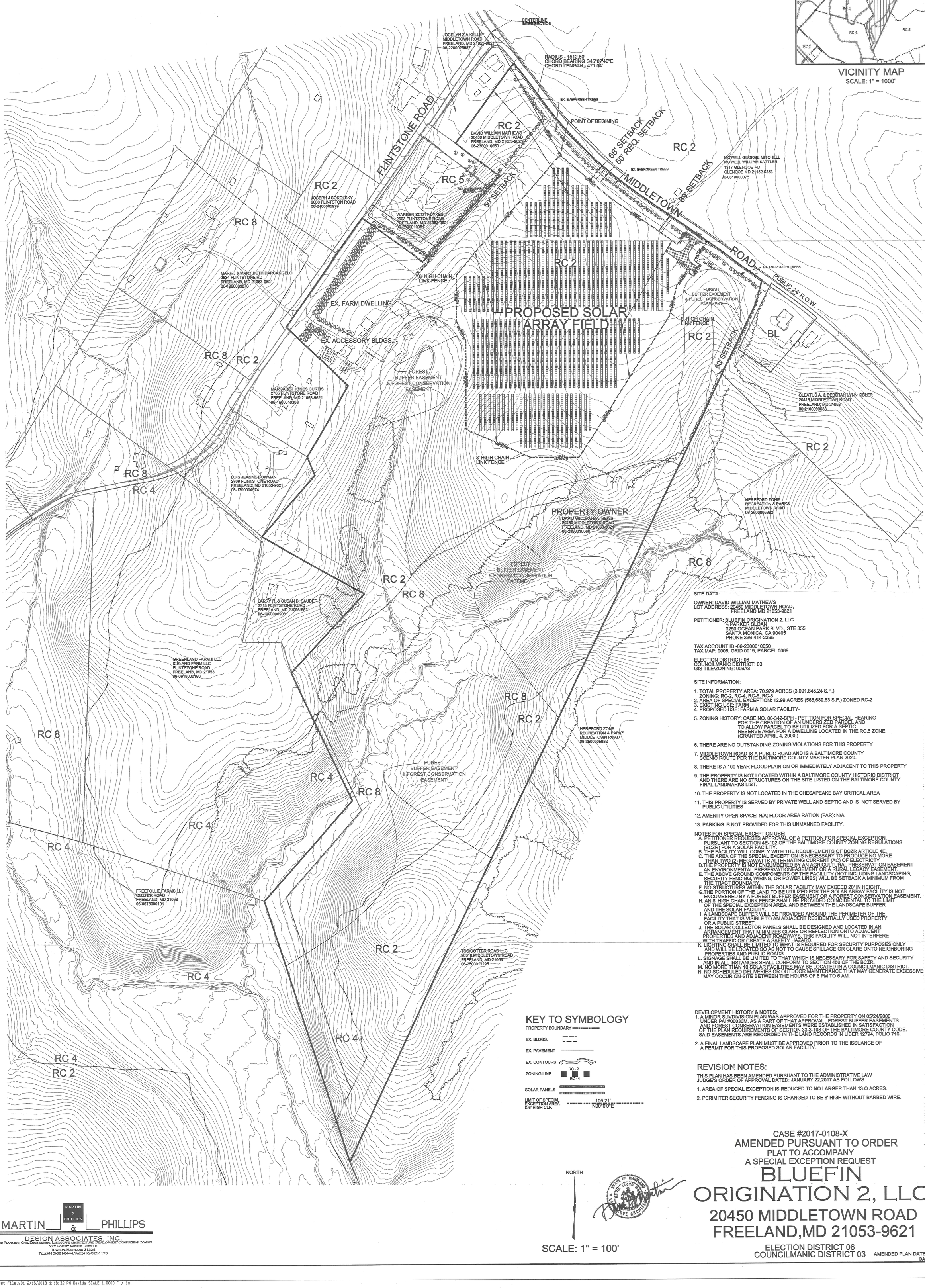

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TAX ACCOUNT ID -06-2300010050
TAX MAP: 0006, GRID 0019, PARCEL 0069

ELECTION DISTRICT: 06
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SITE INFORMATION:

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   ZONING: RC-2, RC-4, RC-5, RC-8
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LIMIT OF SPECIAL EXCEPTION AREA & 8' HIGH CLF. (105.21' N90°0'0"E)

DEVELOPMENT HISTORY & NOTES:
1. A MINOR SUVDIVISION PLAN WAS APPROVED FOR THE PROPERTY ON 05/24/2000 UNDER PAI #00030M. AS A PART OF THAT APPROVAL , FOREST BUFFER EASEMENTS AND FOREST CONSERVATION EASEMENTS WERE ESTABLISHED IN SATISFACTION OF THE PLAN REQUIREMENTS OF SECTION 33-3-108 OF THE BALTIMORE COUNTY CODE. SAID EASEMENTS ARE RECORDED IN THE LAND RECORDS IN LIBER 12794, FOLIO 716.
2. A FINAL LANDSCAPE PLAN MUST BE APPROVED PRIOR TO THE ISSUANCE OF A PERMIT FOR THIS PROPOSED SOLAR FACILITY.

REVISION NOTES:

THIS PLAN HAS BEEN AMENDED PURSUANT TO THE ADMINISTRATIVE LAW JUDGE'S ORDER OF APPROVAL DATED: JANUARY 22,2017 AS FOLLOWS:

1. AREA OF SPECIAL EXCEPTION IS REDUCED TO NO LARGER THAN 13.O ACRES.
2. PERIMITER SECURITY FENCING IS CHANGED TO BE 8' HIGH WITHOUT BARBED WIRE.

NORTH

SCALE: 1" = 100'

MARTIN & PHILLIPS
DESIGN ASSOCIATES, INC.
LAND PLANNING, CIVIL ENGINEERING, LANDSCAPE ARCHITECTURE, DEVELOPMENT CONSULTING, ZONING
223 BOSLEY AVENUE, SUITE 51
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TELE:(410)-321-8444/FAX:(410)-321-1175

CASE #2017-0108-X
AMENDED PURSUANT TO ORDER
PLAT TO ACCOMPANY
A SPECIAL EXCEPTION REQUEST

BLUEFIN ORIGINATION 2, LLC

20450 MIDDLETOWN ROAD
FREELAND,MD 21053-9621

ELECTION DISTRICT 06
COUNCILMANIC DISTRICT 03

AMENDED PLAN DATE: 02/14/2018
DATE: 09/28/2017

P.N. 16-1237

Zoning Plat Sheet File.s01 2/16/2018 1:18:32 PM Davids SCALE 1.0000 * / in.

MIDDLETOWN ROAD

FLINTSTONE ROAD

8.7%

13.1%

1

2

3

N

AREA 1

770'
736'

34' ELEVATION DIFFERENCE

DISTANCE
390'

$390' \overline{)34.000}$ → .087

100
X .087

8.7% SLOPE

AREA 2

764'
726'

38' ELEVATION DIFFERANCE

DISTANCE
290'

$290' \overline{)38.000}$ → .131 (~~.161~~)

100
X .131

13.1% SLOPE

AREA 3

756'
706'

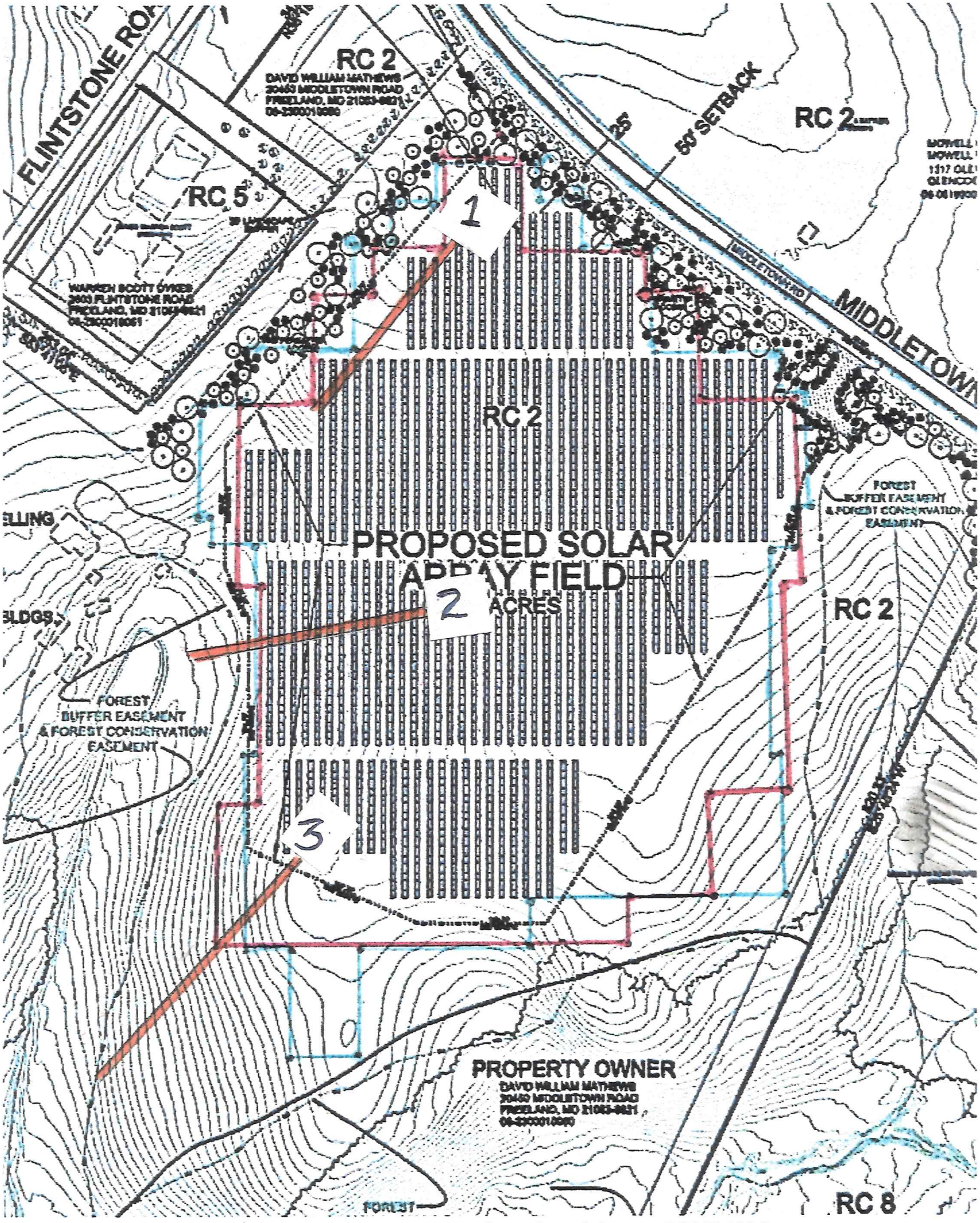
50' ELEVATION DIFFERANCE

DISTANCE
290'

$290 \overline{)50.00}$ → .17

100
X .17

17% SLOPE



20450 MIDDLETOWN ROAD, Panel Locations, Solar case # 2017-108-X

Plan 1: Blue outline (dated 6 or 8/28/2017)

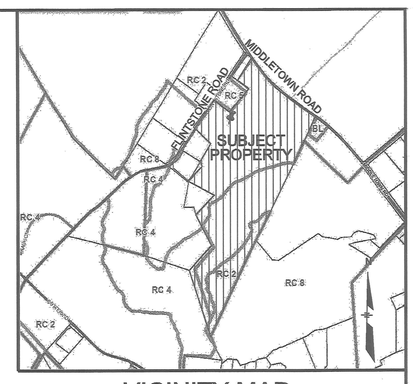
Plan 2: Background plan (dated 1/31/2018)

Plan 3: Red outline (dated 7/2/2018)

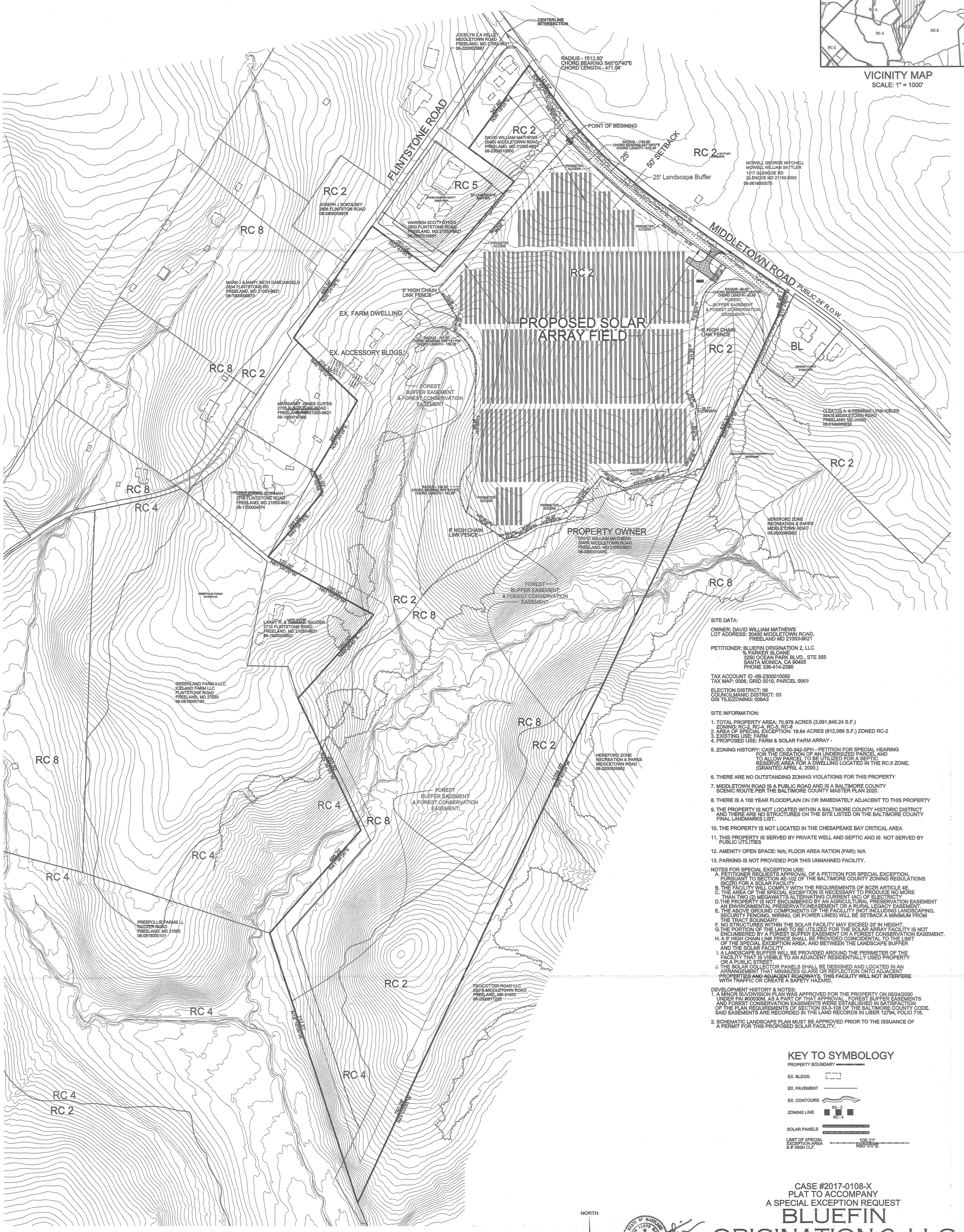
MIDDLETOWN ROAD

FLINTSTONE ROAD

Protestant
CBA Exhibit



VICINITY MAP
SCALE: 1" = 1000'



SITE DATA:

OWNER: DAVID WILLIAM MATHEWS
LOT ADDRESS: 20450 MIDDLETOWN ROAD,
FREELAND MD 21053-9621

PETITIONER: BLUEFIN ORIGINATION 2, LLC
% PARKER SLOANE
3250 OCEAN PARK BLVD., STE 355
SANTA MONICA, CA 90405
PHONE 336-414-2395

TAX ACCOUNT ID -06-2300010050
TAX MAP: 0006, GRID 0019, PARCEL 0069

ELECTION DISTRICT: 06
COUNCILMANIC DISTRICT: 03
GIS TILE/ZONING: 006A3

SITE INFORMATION:

1. TOTAL PROPERTY AREA: 70.979 ACRES (3,091,845.24 S.F.)
ZONING: RC-2, RC-4, RC-5, RC-8
2. AREA OF SPECIAL EXCEPTION: 18.64 ACRES (812,088 S.F.) ZONED RC-2
3. EXISTING USE: FARM
4. PROPOSED USE: FARM & SOLAR FARM ARRAY -

5. ZONING HISTORY: CASE NO. 00-342-SPH - PETITION FOR SPECIAL HEARING FOR THE CREATION OF AN UNDERSIZED PARCEL AND TO ALLOW PARCEL TO BE UTILIZED FOR A SEPTIC RESERVE AREA FOR A DWELLING LOCATED IN THE RC.5 ZONE. (GRANTED APRIL 4, 2000.)

6. THERE ARE NO OUTSTANDING ZONING VIOLATIONS FOR THIS PROPERTY

7. MIDDLETOWN ROAD IS A PUBLIC ROAD AND IS A BALTIMORE COUNTY SCENIC ROUTE PER THE BALTIMORE COUNTY MASTER PLAN 2020.

8. THERE IS A 100 YEAR FLOODPLAIN ON OR IMMEDIATELY ADJACENT TO THIS PROPERTY

9. THE PROPERTY IS NOT LOCATED WITHIN A BALTIMORE COUNTY HISTORIC DISTRICT AND THERE ARE NO STRUCTURES ON THE SITE LISTED ON THE BALTIMORE COUNTY FINAL LANDMARKS LIST.

10. THE PROPERTY IS NOT LOCATED IN THE CHESAPEAKE BAY CRITICAL AREA

11. THIS PROPERTY IS SERVED BY PRIVATE WELL AND SEPTIC AND IS NOT SERVED BY PUBLIC UTILITIES

12. AMENITY OPEN SPACE: N/A; FLOOR AREA RATION (FAR): N/A

13. PARKING IS NOT PROVIDED FOR THIS UNMANNED FACILITY.

NOTES FOR SPECIAL EXCEPTION USE:
A. PETITIONER REQUESTS APPROVAL OF A PETITION FOR SPECIAL EXCEPTION, PURSUANT TO SECTION 4E-102 OF THE BALTIMORE COUNTY ZONING REGULATIONS (BCZR) FOR A SOLAR FACILITY.
B. THE FACILITY WILL COMPLY WITH THE REQUIREMENTS OF BCZR ARTICLE 4E.
C. THE AREA OF THE SPECIAL EXCEPTION IS NECESSARY TO PRODUCE NO MORE THAN TWO (2) MEGAWATTS ALTERNATING CURRENT (AC) OF ELECTRICTY
D. THE PROPERTY IS NOT ENCUMBERED BY AN AGRICULTURAL PRESERVATION EASEMENT AN ENVIRONMENTAL PRESERVATIONEASEMENT OR A RURAL LEGACY EASEMENT.
E. THE ABOVE GROUND COMPONENTS OF THE FACILLITY (NOT INCLUDING LANDSCAPING, SECURITY FENCING, WIRING, OR POWER LINES) WILL BE SETBACK A MINIMUM FROM THE TRACT BOUNDARY.
F. NO STRUCTURES WITHIN THE SOLAR FACILITY MAY EXCEED 20' IN HEIGHT.
G. THE PORTION OF THE LAND TO BE UTILIZED FOR THE SOLAR ARRAY FACILITY IS NOT ENCUMBERED BY A FOREST BUFFER EASEMENT OR A FOREST CONSERVATION EASEMENT.
H. A 6' HIGH CHAIN LINK FENCE SHALL BE PROVIDED COINCIDENTAL TO THE LIMIT OF THE SPECIAL EXCEPTION AREA. AND BETWEEN THE LANDSCAPE BUFFER AND THE SOLAR FACILITY.
I. A LANDSCAPE BUFFER WILL BE PROVIDED AROUND THE PERIMETER OF THE FACILITY THAT IS VISIBLE TO AN ADJACENT RESIDENTIALLY USED PROPERTY OR A PUBLIC STREET.
J. THE SOLAR COLLECTOR PANELS SHALL BE DESIGNED AND LOCATED IN AN ARRANGEMENT THAT MINIMIZES GLARE OR REFLECTION ONTO ADJACENT PROPERTIES AND ADJACENT ROADWAYS. THIS FACILITY WILL NOT INTERFERE WITH TRAFFIC OR CREATE A SAFETY HAZARD.

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2. SCHEMATIC LANDSCAPE PLAN MUST BE APPROVED PRIOR TO THE ISSUANCE OF A PERMIT FOR THIS PROPOSED SOLAR FACILITY.

KEY TO SYMBOLOGY

PROPERTY BOUNDARY
EX. BLDGS.
EX. PAVEMENT
EX. CONTOURS
ZONING LINE (RC-2 / RC-4)
SOLAR PANELS
LIMIT OF SPECIAL EXCEPTION AREA & 6' HIGH CLF. (105.21' N90°00'E)

NORTH

SCALE: 1" = 100'

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