



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

MEMORANDUM

TO: Geoff Goins
Division of Zoning Administration and Public Service

FROM: Jeff Williams
Program Supervisor, Well & Septic Program
Bureau of Environmental Health

RE: **BA-18-013C**

DATE: July 25, 2018

The Health Department has reviewed the above referenced petition and has the following comments.

1. Any wells on the parcel must be shown on all plans and properly abandoned by a licensed well driller with report submitted to the Health Department prior to Health approval of a building permit.

Department of Planning and Zoning
Howard County, Maryland
Recommendations/Comments

Date: July 17, 2018

Hearing Examiner August 13, 2018

Planning Board _____ Board of Appeals _____ Zoning Board _____

Petition No. BA-18-013C Map No. _____ Block _____ Parcel _____ Lot _____

Petitioner: _____ Power 52 Energy Solutions

Petitioner's Address: _____

Address of Property: _____ SEE PETITION

Return Comments by ASAP to Public Service and Zoning Administration

Owner: (if other than applicant) _____

Owner's Address: _____

Petition: _____ SEE APPLICATION

- To:
- _____ MD Department of Education – Office of Child Care
 - _____ 3300 N. Ridge Road, Ste. 190, EC, MD 21043 (Louis Valenti)
 - _____ Bureau of Environmental Health
 - _____ Development Engineering Division
 - _____ Department of Inspections, Licenses and Permits
 - _____ Department of Recreation and Parks
 - _____ Department of Fire and Rescue Services
 - _____ State Highway Administration
 - _____ Sgt. Karen Shinham, Howard County Police Dept.
 - _____ James Irvin, Department of Public Works
 - _____ Office on Aging, Terri Hansen (senior assisted living)
 - _____ Police Dept., Animal Control, Deborah Baracco, (kennels)
 - _____ Susan Fitzpatrick, Health Dept. (Nursing & Res. Care)
 - _____ Land Development - (Religious Facility & Age-Restricted Adult Housing)
 - _____ Housing and Community Development
 - _____ Resource Conservation Division – Beth Burgess
 - _____ Route 1 Cases – DCCP – Kristen O'Connor
 - _____ Telecommunication Towers – (Comm. Dept.) Mike Harrod
 - _____ Division of Transportation – Dave Cookson

COMMENTS:
see memo


SIGNATURE



For DPZ Office use only:

BA CASE NO. BA-18-013C
Date Submitted 4/9/18

**CONDITIONAL USE PETITION
TO THE HOWARD COUNTY HEARING AUTHORITY**

(This application will only be accepted after a pre-submission meeting. See attached info.)

APR 9 2018

1. Conditional Use Request

Conditional Use Category Commercial Solar Facility

Section 131.N.52

Specific Use Requested Commercial solar facility

2. Name of Petitioner Power52 Energy Solutions, LLC

Trading as (If applicable) _____

Mailing Address 10020 Baltimore National Pike #7031, Ellicott City, MD 21042

Phone Number(s) 443-668-7210

E-Mail Address jjannati@power52energy.com

Name of Principal Contact (If different) Jason Jannati

3. Counsel for Petitioner Thomas G. Coale

Mailing Address 5100 Dorsey Hall Drive, Ellicott City, MD 21042

Phone Number(s) 410-964-0300

E-Mail Address tcoale@talkin-oh.com

4. Conditional Use Site Description

Address/Street for Property 1755 Henryton Road, Marriottsville, MD 21104

Tax Map 10 Grid/Block 19 Parcel 18 Lot _____

Department of Assessments and Taxation Account No. 03-287483

Total Land Area of Property 72.717 (Acres) (_____ Square Feet) Check one.

Election District 3rd Zoning of Property RR-DEO

Subdivision Name and Plat No. (If Applicable) _____

Total Land Area of Use (If different than above) 27.1 (Acres) (_____ Square Feet)

5. Petitioner's Interest in Subject Property

- OWNER (Including joint ownership)
- OTHER (Described and give name and address of owner)

Name of Owner Austin Horman

Mailing Address 1730 Henryton Road, Marriottsville, MD 21104

If the Petitioner is not the owner, written authorization for this petition from the owner must be submitted.

6. Conditional Use Plan Requirements

If the petition is approved, the conditional use plan will be made a part of the Hearing Examiner's Decision and Order, subject to modifications and conditions required by the Hearing Examiner. The conditional use plan must be drawn to scale and must include the items listed below:

- (a) Courses and distances of outline boundary lines and the size of the property
- (b) North arrow
- (c) Zoning of subject property and adjoining properties
- (d) Scale of plan
- (e) Existing and proposed uses, structures, natural features and landscaping
- (f) Location and surface material of existing and proposed parking spaces, driveways, and points of access; number of existing and proposed parking spaces
- (g) Same as (e) and (f) above, of adjoining properties
- (h) Location of existing and/or proposed well and private septic easement area, if property is to be served by private water and septic facilities
- (i) Election District in which the subject property is located
- (j) Tax Map and Parcel Number(s) of the subject property
- (k) Name of local community in which the subject property is located or name of nearby community
- (l) Name, mailing address, telephone number (and e-mail address, if any) of the Petitioner
- (m) Name, mailing address, telephone number (and e-mail address, if any) of Counsel
- (n) Name, mailing address, telephone number of property owner
- (o) Floor area and height of structures, setback distances from property lines, and other numerical values necessary for the examination of the petition
- (p) Location of subject property in relation, by approximate dimension, to the center line of nearest intersection of two public roads
- (q) Ownership of abutting roads, right-of-way width, and existing pavement width
- (r) Any other information as may be necessary for full and proper consideration of the petition

7. Additional Information Requirements

- a. Information regarding noise, dust, fumes, odors, lighting, vibrations, hazards or other physical conditions resulting from the use.
- b. Supporting documentation, such as traffic studies, market studies, and noise studies as may be required by the Department of Planning and Zoning or by the Zoning Regulations.
- c. For expansions and enlargements, previous case number(s) and information regarding compliance with previous requirements and conditions.

8. Summary of Request

The following items should be answered by summary statements. If additional space is needed, please attach a Supplement to this petition.

- a. The present use of the subject property Vacant/Agriculture
- b. Details of the proposed use, including, **where applicable:** types of indoor and outdoor activities; hours of operation; number of employees, occupants, and/or customers; quantity and types of vehicles or equipment used; outdoor lighting to be used; quantities and capacities of materials stored; etc.
See attached Supplemental Statement

- c. Any additional information which will be useful in the evaluation of whether the conditional use complies with the specific criteria for the conditional use category within Section 131.N.
See attached Supplemental Statement

- d. Will the conditional use generate any physical conditions such as noise, dust, fumes, odors, lighting, or vibrations which would be discernible from abutting and vicinal properties?
See attached Supplemental Statement

- e. Will the number of parking spaces be appropriate to serve the use and will the parking areas, loading areas, driveways, and trash receptacle areas be appropriately located and buffered from public roads and residential areas?
See attached Supplemental Statement

- f. Will the ingress and egress driveway(s) provide safe access with adequate sight distance?
See attached Supplemental Statement

- g. Are there any environmentally sensitive areas in the vicinity of the property and, if so, will the proposed use have any potential to affect such areas?
Petitioner is not aware of any environmentally sensitive areas in the vicinity of the property.

- h. Are there any historic sites in the vicinity of the property and, if so, will the proposed use have any potential to diminish the character and significance of such sites?

Petitioner is not aware of any historic sites in the vicinity of the property.

9. Prior Petitions

Has any petition for the same, or substantially the same, conditional use as noted above for the subject property been denied by the Hearing Examiner within twenty four (24) months of the date of this petition?

() Yes (X) No

If yes, and six (6) months have elapsed since the last hearing, an affidavit must be attached which states the new and different grounds on which this re-submittal is based.

10. Additional Materials, Fees, Posting and Advertising Requirements

a. Supplemental pages may be attached to the petition. **You must submit one original petition with original signatures, and one original of any other signed documents.** The following number of sets including petitions, plans and supplemental pages must be submitted:

- *If the subject property adjoins a State road- original and 20 copies (application & plans)*
- *If the subject property adjoins a County road- original and 18 copies (application & plans)*

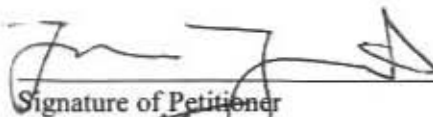
b. The Petitioner signing below hereby agrees to furnish such additional plats, plans, reports or other material as may be required by the Department of Planning and Zoning and/or the Hearing Examiner in connection with this petition.

c. The Petitioner hereby agrees to pay all costs in accordance with the current schedule of fees.


d. The Petitioner hereby agrees to properly post the property at least thirty (30) days immediately prior to the Hearing Examiner public hearing; to maintain the public notice posters until the public hearing is concluded; and to submit an affidavit of posting at, or before the time of the initial public hearing. The Petitioner also hereby agrees to advertise the public hearing by means of legal notices as prepared and approved by the Department of Planning and Zoning to be published one (1) time in at least two (2) newspapers of general circulation in Howard County, at least thirty (30) days prior to the Hearing Examiner public hearing, and to pay for such advertising costs; and agrees to submit two (2) approved certificates of the text and publication date(s) of the advertisement at or before the time of the hearing.

11. Signatures

The Petitioner hereby affirms that he/she has read the instructions on this form, filing herewith all of the required accompanying information, and affirms that all of the statements and information contained in, or filed with, this petition are true and correct.

 4/4/18
Signature of Petitioner Date

JASON JANNATI
Print Name of Petitioner

 4/5/18
Signature of Attorney Date

Tom Coale
Print Name of Attorney

12. General Standards for Conditional Uses

All requests for conditional uses must meet the following general standards set forth in Section 131.B. of the Zoning Regulations for approval:

1. The proposed conditional use plan will be in harmony with the land uses and policies indicated in the Howard County General plan for the district in which it is located. In Evaluating the plan under this standard, the Hearing Examiner shall consider:
 - a. The nature and intensity of the use, the size of the site in relation to the use, and the location of the site with respect to streets giving access to the site; and
 - b. If a conditional use is combined with other conditional uses or permitted uses on a site, the overall intensity and scale of uses on the site is appropriate given the adequacy of proposed buffers and setbacks.
2. The proposed use at the proposed location will not have adverse effects on vicinal properties above and beyond those ordinarily associated with such uses. In evaluating the plan under this standard, the Hearing Examiner shall consider whether:
 - a. The impact of adverse effects such as noise, dust, fumes, odors, lighting, vibrations, hazards or other physical conditions will be greater at the subject site than it would generally elsewhere in the zone or applicable other zones.
 - b. The location, nature and height of structures, walls and fences, and the nature and extent of the landscaping on the site are such that the use will not hinder or discourage the development and use of adjacent land and structures more at the subject site than it would generally in the zone or applicable other zones.
 - c. Parking areas will be of adequate size for the particular use. Parking areas, loading areas, driveways and refuse areas will be properly located and screened from public roads and residential uses to minimize adverse impacts o adjacent properties.
 - d. The ingress and egress drives will provide safe access with adequate sight distance, based on actual conditions, and with adequate acceleration and deceleration lanes where appropriate.

In addition to the specific requirements of the appropriate subsection within Section 131.0.N of the Zoning Regulations, conditional uses within residential developments in the R-ED, R-SC, R-SA-8, R-H-ED, R-APT, R-A-15, R-MH or R-VH districts are subject to the standards enumerated in Section 131.0.C.

PETITIONER Power52 Energy Solutions, LLC

ADDRESS 10020 Baltimore National Pike, Ellicott City, MD 21042

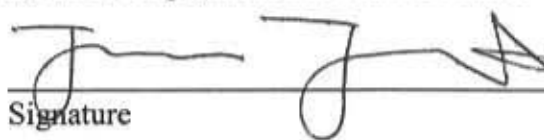
Affidavit made pursuant to the pertinent provisions of Title 22 of the Howard County Code as amended:

The person(s) signing below hereby declare(s) that no officer or employee of Howard County, whether elected or appointed, has received prior hereto or will receive subsequent hereto, any monetary or material consideration, any service or thing of value, directly or indirectly, upon more favorable terms than those granted to the public generally in connection with the submission, processing, issuance, grant or award of the attached petition to the Hearing Examiner for a conditional use as requested.

I, we, do solemnly declare and affirm under the penalties of perjury that the contents of the foregoing affidavit are true and correct to the best of my, our, knowledge, information and belief.



Witness



Signature 4/4/18
Date

Witness

Signature Date

Witness

Signature Date

Application Fee: \$500.00 Poster Fee: \$25.00 per sign/poster

Make check payable to: Director of Finance.

For DPZ use only:	Hearing fee: \$ _____ Poster fee: \$ _____ Total: \$ _____
Receipt No. _____	

County Website: www.howardcountymd.gov

PLEASE CALL 410-313-2350 FOR AN APPOINTMENT TO SUBMIT YOUR APPLICATION.

Please access the online application process for the pre-submission meeting by using the link below:

<https://pdox.howardcountymd.gov/ProjectDox/workflowforms/Anonymous Form CZ Presub.aspx>

Pre-Submission Community Meeting

A pre-submission community meeting is required prior to the initial submittal of a petition for a Conditional Use subject to the same procedures for such meetings as specified in Section 16.128 of the Subdivision and Land Development Regulations.

Please use the following web address to access the community notification list

http://data.howardcountymd.gov/HOA_Register/GCommunityView_new.asp. You will be prompted to enter the three-digit sign code assigned to your development. Once your sign code has been entered, you will be provided with a list of community contacts that have requested information about your development.

T:\DPZ\Shared\Public Service and Zoning\Applications\Hearing Examiner\Conditional Use Application.doc REV 08/14

IN RE:	*	BEFORE THE
P52 ES HENRYTON SOLAR 1, LLC	*	HOWARD COUNTY
REQUEST FOR	*	HEARING EXAMINER
CONDITIONAL USE	*	Case No: BA-_____

**NARRATIVE SUPPLEMENT TO
CONDITIONAL USE PETITION**

8. Summary of Request

c. Any additional information which will be useful in the evaluation of whether the conditional use complies with the specific criteria for the conditional use category within Section 131.0.N.

Under Section 131.0.N.52 (Solar Facility, Commercial) of the Howard County Zoning Regulations (the "Regulations"), a Conditional Use for a commercial solar facility may be granted for property located in the RC or RR zone. This use complies with the specific criteria for a commercial solar facility as stated below.

a. The maximum size of a solar facility shall be 75 acres notwithstanding the size of the parcel. The parcel on which the commercial solar facility is proposed must be a minimum of 10 acres in size.

The area of the conditional use is 27.1 acres.

b. All structures and uses must meet a minimum 50 foot setback from all property lines.

This criterion is met as shown on the additional Conditional Use Exhibit.

c. No structure or use may be more than 20 feet in height.

No structures exceed 20' in height.

d. A 'Type D' landscaping buffer must be provided around the perimeter of the proposed commercial solar facility unless the Hearing Authority determines that an alternative buffer is sufficient.

A Type D landscape buffer is proposed along the perimeter of the conditional use area. There is also significant natural landscaping along the eastern and southern borders of the parcel.

e. All security fencing must be located between the landscaping buffer and the commercial solar facility.

Security fencing will be installed between the landscape buffer and the solar panels.

f. The systems shall comply with all applicable local, state, and federal laws and provisions.

All systems will comply with applicable local, state, and federal laws.

g. A commercial solar facility that is no longer used shall be removed from the site within one year of the date that the use ceases.

Petitioner agrees to comply with this criterion.

h. The premises shall be maintained at all times in a clean and orderly condition, including the care or replacement of plant materials required in the landscaping plan. The responsibility for compliance with this provision shall be with all parties having a lease or ownership interest in the commercial solar facility. The applicant shall provide the Hearing Authority with details regarding maintenance and access for the site.

Petitioner agrees to comply with this criterion and will maintain the site in a clean and orderly fashion.

i. A solar collector or combination of solar collectors shall be designed and located to avoid glare or reflection onto adjacent properties and adjacent roadways and shall not interfere with traffic or create a safety hazard. The petitioner shall include a glare study with the Conditional Use petition.

A glare study conducted by Barrett Energy Resources Group is attached to this Petition. Petitioner will be utilizing single axis tracking design, which will ensure that there will be no glare impacts on adjacent properties or roadways. Axis tracking design allows the panels to move and be synchronized so that they do not reflect glare onto surrounding properties.

j. The applicant shall agree to register all solar collectors with the Department of Fire and Rescue Services. The registration shall include a map of the solar facility noting the location of the solar collectors and the panel disconnect.

Petitioner agrees to comply with this criterion.

k. Tree removal shall be minimized and reforestation shall be done in accordance with Section 16.1026 of the Howard County Code.

Tree removal will be minimized and reforestation will be provided in accordance with Section 16.1026 of the Howard County Code

l. Scenic Views

(1) The applicant shall demonstrate that the solar facility does not harm the scenic characteristics of the view of or from:

A. A public park;

- B. A national or state designated scenic byway;
- C. A road listed in the Scenic Roads Inventory adopted under Section 16.1403 of the Howard County Code; or
- D. A historic structure as defined in Section 16.601 of the Howard County Code.

(2) **Visual Impact Analysis Required to Demonstrate Minimal Impact to or from Scenic Views**

A. The Conditional Use petition shall include a visual impact analysis mapping all viewshed impacts and any proposed mitigation. This analysis shall include mapped visual impact assessments of all important or critical viewpoints or elevations from which the solar facility can be seen from a fixed vantage point. For purposes of this subsection, A viewshed is a topographically defined area including all critical observation points from which the solar facility is viewed.

B. If the visual impact assessment as mapped particularly interferes with and compromises critical observation points within the viewshed that warrant viewshed protection, the petitioner shall mitigate the view through additional landscaping or other forms of mitigation, including reconfiguration of the solar panels, or as may be required by the Hearing Authority.

C. Fencing along road frontage or the perimeters of the commercial solar facility site where the fencing would be visible shall be constructed of a material and design consistent with the character of the roadway or area.

D. The petition shall include a landscape plan.

Although the Site does not front on a scenic road, it is located at the terminus of Henryton Road, which is included in the Scenic Roads Inventory. Petitioner has included with this submission a Visual Impact Analysis, which demonstrates minimal impact to the scenic view of Henryton Road as it intersects with Old Frederick Road.

(Criteria M. and N. are not applicable to the proposed Commercial Solar Facility)

This use also complies with the General Standards Required for Approval under Section 131.0.B. of the Regulations:

1. The proposed Conditional Use plan will be in harmony with the land uses and policies in the Howard County General Plan which can be related to the proposed use.

The proposed Commercial Solar Facility is consistent with the PlanHoward 2030 and the land uses prescribed for the RR zone. Policy 4.12 specifically supports the development of renewable energy resources such as solar power.

2. The nature and intensity of the use, the size of the site in relation to the use, and the location of the site with respect to streets giving access to the site are such that the overall intensity and scale of the use(s) are appropriate for the site.

The Property fronts on Old Frederick Road, which is a minor arterial road. This is a low intensity use that is appropriate for the site and the surrounding community.

3. The proposed use at the proposed location will not have adverse effects on vicinal properties above and beyond those ordinarily associated with such uses. In evaluating the proposed use under this standard, the Hearing Authority shall consider whether or not:

a. The impact of adverse effects such as, but not limited to, noise, dust, fumes, odors, intensity of lighting, vibrations, hazards or other physical conditions will be greater at the proposed site than it would generally be elsewhere in the same zoning district or other similar zoning districts.

The proposed commercial solar facility at the proposed location will not have adverse effects on vicinal properties above and beyond those ordinarily associated with the use. As indicated above, Petitioner will be utilizing single axis tracking design, which will ensure that there will be no glare impacts on adjacent properties or roadways. In this respect, Petitioner's proposal will have less adverse impacts on the vicinal properties than what may be ordinarily associated with a commercial solar facility that does not have axis tracking. The use will not produce dust, fumes, odors, lighting vibrations or other hazards.

b. The location, nature and height of structures, walls or fences, and the nature and extent of the existing and/or proposed landscaping on the site are such that the use will not hinder or discourage the development and/or use of adjacent land and structures more at the subject site than it would generally elsewhere in the same zoning district or other similar zoning districts.

The area of the conditional use is 27.1 acres in size. The conditional use area will be enclosed with a 6' fence with landscaping installed between the fencing and the property line so that the solar panels and the fencing are adequately screened from the view of vicinal properties and the roadways. The location, nature, and height of fences and solar panels are such that the use will not hinder or discourage the development and use of adjacent land.

c. The number of parking spaces will be appropriate to serve the particular use. Parking areas, loading areas, driveways and refuse areas will be appropriately located and buffered or screened from public roads and residential uses to minimize adverse impacts on adjacent properties.

This use does not require parking spaces.

d. The ingress and egress drives will provide safe access with adequate sight distance, based on actual conditions, and with adequate acceleration and deceleration lanes where appropriate. For proposed Conditional Use sites which have driveway access that is shared with other residential properties, the proposed Conditional Use will not adversely impact the convenience or safety of shared use of the driveway.

The proposed Site is accessed via Sand Hill Road. There is safe access and adequate sign distance providing access to the Site.

e. The proposed use will not have a greater potential for adversely impacting environmentally sensitive areas in the vicinity than elsewhere.

Petitioner is not aware of environmentally sensitive areas in the vicinity of the site.

f. The proposed use will not have a greater potential for diminishing the character and significance of historic sites in the vicinity than elsewhere.

Petitioner is not aware of historic sites in the vicinity of the proposed Commercial Solar Facility.

8.d: Will the conditional use generate any physical conditions such as noise, dust, fumes, odors, lighting, or vibrations which would be discernible from abutting and vicinal properties?

The proposed use will not generate physical conditions such as noise, dust, fumes, odors, lighting, or vibrations that would be discernible from abutting and vicinal properties and will not create any adverse impacts greater at the Property than elsewhere in the zone or applicable other zones.

Austin Horman
1730 Henryton Road
Marriottsville, MD 21104

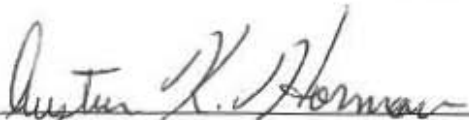
April 3, 2018

Howard County Planning & Zoning
3430 Courthouse Drive
Ellicott City, Maryland 21043

Re: Conditional Use Petition – Commercial Solar Facility
1755 Henryton Road, Marriottsville, MD 21104
Tax Map 10, Block 19, Parcel 18

To Whom It May Concern:

Please accept this letter as documentation of permission from the property owner of the above referenced parcel to allow Power52 Energy Solutions to submit the accompanying Conditional Use Petition. I am aware of the filing of this petition and support the request.


Austin Horman

APRIL 3, 2018
Date

POWER 52 ENERGY
10020 Baltimore National Pike, #7031
Ellicott City, Maryland 21042

Notice of Pre-Submission Community Meeting

In accordance with Section 131.0 of the Howard County Zoning Regulations, this is notice that Power 52 Energy, Petitioner, intends to submit a Conditional Use Petition for a commercial solar facility. The subject property is currently zoned RR-DEO (Rural Residential-Density Exchange Option) and consists of approximately 72.717 acres, more or less, and is located at 1755 Henryton Road, Marriottsville, Maryland 21104 (Tax Map 10, Grid 19, P/O Parcel 18) (see enclosed site location map). The proposed Conditional Use Plan is for a commercial solar facility.

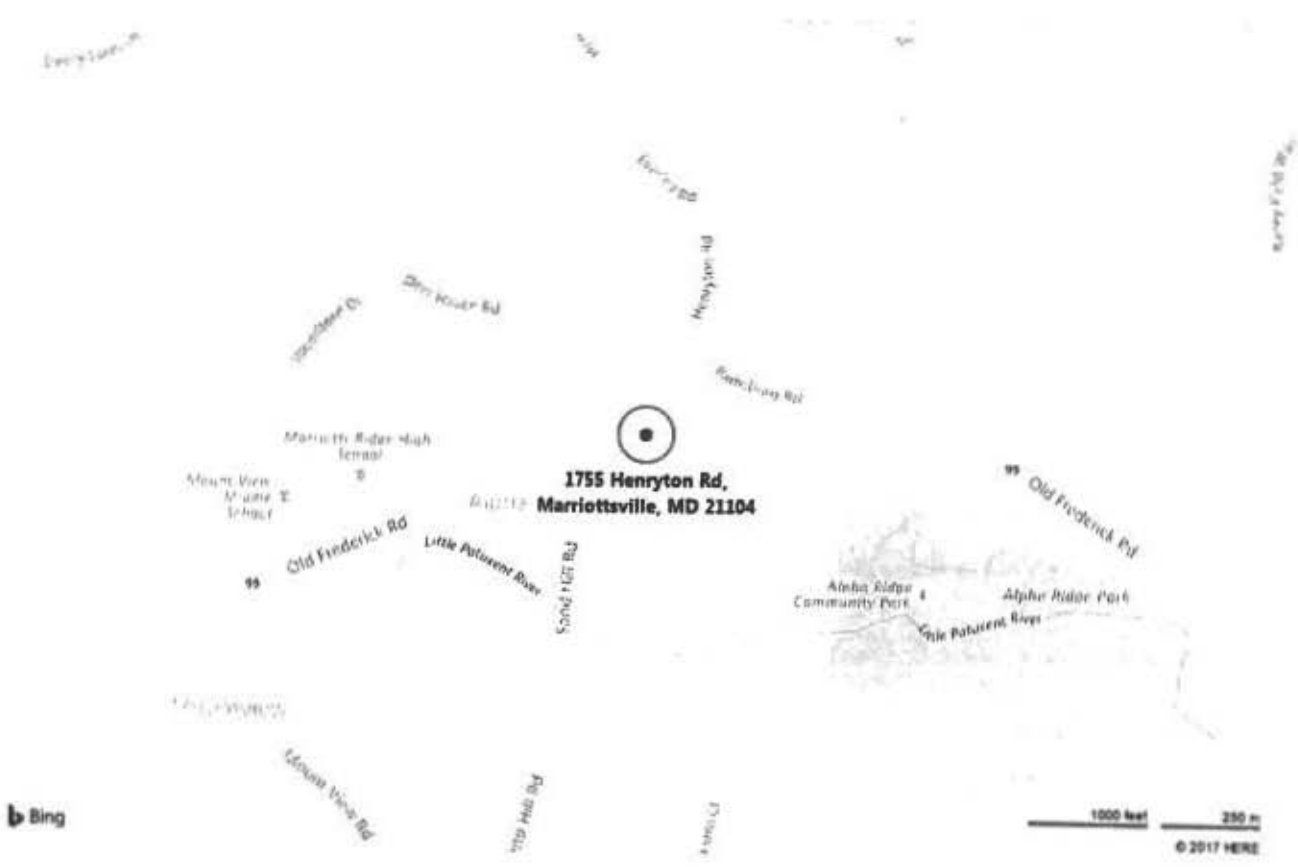
You are invited to attend a pre-submission community meeting to meet with the Petitioner, who will provide information concerning the Petition, and to ask questions, make comments and discuss this project.

The presubmission community meeting will be held on Wednesday, October 11, 2017 at 6:00 p.m. at the West Friendship Volunteer Fire Department, 12535 Old Frederick, Road, Sykesville, Maryland 21784.

General information regarding the pre-submission community meeting can be found on the Department of Planning and Zoning's webpage at:
http://data.howardcountymd.gov/Search_Plans/Search_Plans_Web.aspx

If you are unable to attend the meeting, you may contact Tom Coale at (410) 964-0300 to receive meeting minutes and follow-up correspondence.

1755 Henryton Rd, Marriottsville, MD 21104



List of Adjoining and Confronting Property Owners/Power 52 Energy—Conditional Use

Subject Property: 1755 Henryton Road
Marriottsville, Maryland 21104
Tax Map 10, Grid 19, P/O Parcel 18

Adjoiners:

Parcel 22: Jerome and Janene Starr
11795 Old Frederick Road
Marriottsville, Maryland 21104

Parcel 301/
Lot 1: John R. and Gwenn Streaker
11995 Old Frederick Road
Marriottsville, Maryland 21104

Mailing address: 1805 Sand Hill Road
Marriottsville, Maryland 21104

Parcel 301/
Lot 2: John R. and Gwenn Streaker
1805 Sand Hill Road
Marriottsville, Maryland 21104

Parcel 46: Gladys M. and Norma Dehaven, J/T
11820 Old Frederick Road
Marriottsville, Maryland 21104

Parcel 231: Ann Carol Stafford
1820 Sand Hill Road, Apt. 2D
Marriottsville, Maryland 21104

Parcel 16: Sebastian Brown Cissel
12025 Old Frederick Road
Marriottsville, Maryland 21104

Parcel 150: J.G. and Laura J. Warfield, Trustee
1970 Sand Hill Road
Marriottsville, Maryland 21104

Parcel 169: Jeffrey and Darlene Heflin
1985 Sand Hill Road
Marriottsville, Maryland 21104

Raymond and Alicia Holter
11853 Ramsburg Road
Marriottsville, Maryland 21104

Louis Tringali, Trustee
Deborah Tringali, Trustee
11857 Ramsburg Road
Marriottsville, Maryland 21104

Craig and Livia Hanson
11861 Ramsburg Road
Marriottsville, Maryland 21104

Joseph DiCarlo
11865 Ramsburg Road
Marriottsville, Maryland 21104

Frank Muhlbauer
1725 Henryton Road
Marriottsville, Maryland 21104

Austin and Judith Horman
1730 Henryton Road
Marriottsville, Maryland 21104

Phillip Brew
12000 Old Frederick Road
Marriottsville, Maryland 21104

School Principals

West Friendship Elementary School
12500 Frederick Road
West Friendship, Maryland 21794
Attention: Kaye Breon, Principal

Mount View Middle School
12101 Woodford Drive
Marriottsville, Maryland 21104
Attention: Allen Cosentino, Principal

Marriotts Ridge High School
12100 Woodford Drive
Marriottsville, Maryland 21104
Attention: Tammy Goldeisen, Principal

PTA Presidents

West Friendship Elementary School
12500 Frederick Road
West Friendship, Maryland 21794
Attention: PTA PRESIDENT

Mount View Middle School
12101 Woodford Drive
Marriottsville, Maryland 21104
Attention: PTA PRESIDENT

Marriotts Ridge High School
12100 Woodford Drive
Marriottsville, Maryland 21104
Attention: PTA PRESIDENT

POWER52 ENERGY – CONDITIONAL USE

1755 Henryton Road, Marriottsville, Maryland 21104
Tax Map 10, Grid 19, Parcel 18
5.20 AC±

REPORT OF PRE-SUBMISSION COMMUNITY MEETING
HELD AT 6 P.M. ON WEDNESDAY, OCTOBER 11, 2017 AT
THE WEST FRIENDSHIP VOLUNTEER FIRE DEPARTMENT,
12535 Old Frederick Road
Sykesville, Maryland 21784

A Pre-Submission Community Meeting was held on Wednesday, October 11, 2017 at 6:00 p.m. at the West Friendship Volunteer Fire Department

The following people were in attendance at that meeting of behalf of the Petitioner:

Jason Jannati (*Petitioner*), Rob Vogel (*Consultant*), Chip Horman (*Property Owner*) and Thomas G. Coale (*attorney*).

After a brief presentation by Petitioner of its request for a commercial solar facility at 1755 Henryton Road, Marriottsville, Maryland 21104 (the "Property"), the following questions and answers were provided:

- 1) This is part of a larger parcel that is separated by Route 99, correct?
 - a. *Yes. The solar panels will be on a parcel that is approximately 22 acres on the south side of Route 99/Old Frederick Road.*
- 2) How many acres will be under this conditional use?
 - a. *The parcel is 22 acres, but the solar panels themselves will cover about 10 acres.*
- 3) Will you be able to see the solar panels from Old Frederick Road?
 - a. *Our goal is to obscure visibility as much as possible with landscaping and berming. We expect that these efforts will cut down on visibility significantly, but you may still see the panels from the road and surrounding properties.*
- 4) Are you familiar with the Nixon's Farm solar facility? How similar or dissimilar will this be to that?
 - a. *Power52 is involved in that project, but this will be very different. While the Nixon's Farm project was done in phases, this proposal will be done in one phase.*
 - b. *This solar facility will have similar panels and use the same type of fence as the Nixon's Farm project.*
- 5) If the fence is 8 feet tall, there is no way that 7 foot tall trees or berming will block visibility.
 - a. *We expect it to due to the topography of the property.*

- 6) Do the site plans show what the visibility of the panels will be from the road?
 - a. *No. We're not at that stage in the process yet.*
- 7) The sign for this meeting was originally on the north side of Old Frederick Road. Was that a mistake?
 - a. *We placed the sign in response to DPZ's directions. After additional consultation and the realization that the solar facility would not be on the north side of Old Frederick Road, DPZ agreed that the sign should be on the south side.*
- 8) Sand Hill Road is narrow and not good for big vehicles.
 - a. *The solar facility will only require 2-3 maintenance visits per year. Most of the vehicular traffic will be during construction.*
- 9) Solar panels are an eyesore. We should all be leery about the screening.
- 10) My property has the longest border with the proposed solar facility. I have three core concerns – 1. Noise pollution; 2. Light pollution; and 3. Storm water run-off. I also don't want to see these panels from my property.
 - a. *Addressing the last point first, this proposal will be in full compliance with state and local storm water regulations.*
 - b. *We expect the landscape buffer to limit visibility and will provide simulated viewsheds during the conditional use process.*
 - c. *Regarding light pollution, there is no lighting proposed and solar modules proposed are anti-glare.*
 - d. *The only anticipated noise will be from the inverters, which have a slight hum, but this sound will not be perceptible unless you are right next to it.*
- 11) I'm concerned about light coming off the property at night.
 - a. *Again, there is no lighting being proposed.*
- 12) There is a flood plain on the southern portion of the parcel.
- 13) Where does the 50 foot setback begin? How far will these parcels be from the surrounding properties?
 - a. *The setback begins at the property line.*
 - b. *The panels are 250 feet from the Starr property at its closest point and 250 feet from the Faulkner property at its closest point.*
- 14) Where will the fence be?
 - a. *Not determined yet, but likely close to the panels.*
- 15) Old Frederick Road is a very congested road.
 - a. *The access to the property will be via Sand Hill Road and there will only be 2-3 visits per year.*
- 16) Will you put any panels on the other side of Route 99/Old Frederick Road?
 - a. *No.*
- 17) What percentage of the 22 acres will be solar?
 - a. *10 acres – less than 50%*
- 18) I own property at the corner of Route 99 and Sand Hill Road. I'm concerned about ingress and egress, noise, dust and dirt, and lighting. Also concerned about my property value. There have also been drainage issues from the Horman property onto our property.
 - a. *We will look into the drainage issue and see about installing a swale.*
- 19) (Same questioner) We don't want to look at the panels. We want a privacy fence.

- a. *We will do what we can to obscure the panels with landscaping. If you think a privacy fence would do more, we would be happy to talk with you more about that.*
- 20) Are the buffer requirements for this proposal the same as those for Nixon's Farm?
a. *No. Nixon's Farm did not require the same amount of buffering.*
- 21) Is 50 feet enough room for evergreen trees to grow?
a. *Yes. More than enough.*
- 22) What is the zoning of the property?
a. *RR- Rural Residential. One of two zones in which this conditional use is allowed.*
- 23) Is the land in agricultural preservation?
a. *No.*
- 24) What is the solar heat gain for this project?
a. *We don't know at this time. Will look into it.*
- 25) What paving is being proposed?
a. *The site will have a gravel road – no paving is proposed. There may be concrete pads under the inverters.*
- 26) During the construction phase, how many trucks will be visiting the property?
a. *Difficult to say. Can't tell you at this time.*
- 27) How many workers does it take to install one of these projects?
a. *10 to 15 people.*
- 28) Old Frederick Road is very congested in the early morning and early afternoon when school starts and ends.
a. *Thank you for letting us know. We believe this project will have significantly less traffic than would a single-family detached residential development.*
- 29) Would single-family detached be an option for this parcel?
a. *Yes, it would. The property owner would rather lease it out for solar use and continue the operation of their farm, but if they can't do this, it may need to be sold for development.*
- 30) Are the Hormans selling the property?
a. *No. The property will be leased by Power52. The standard term for one of these projects is 20 years.*
- 31) How many projects has Power52 done in Maryland?
a. *The entity itself only started 2 years ago, but the members that make up Power52 have done 15-20 projects across the region (not just Maryland).*
- 32) Have Power52 or its members gone into bankruptcy?
a. *I am not comfortable discussing the background of Power52's partners. If there was a bankruptcy, it would be public record.*
- 33) How many megawatts will this facility produce?
a. *Two to four megawatts.*
- 34) Will you be installing new transmission lines?
a. *No.*
- 35) Will there be noise from the property?
a. *None. As indicated earlier, the inverters are the only components that make noise and even that noise will not be perceptible at lot lines.*

- 36) Will there be any emissions?
a. *No.*
- 37) How many other conditional uses could be put on this property?
a. *Hard to say, but there are dozens of conditional uses in Howard County, many of which are available in the RR.*
- 38) Will the berming begin at the property line?
a. *Uncertain at this time. We are open to community feedback on that.*
- 39) Have there been any studies on what solar farms do to property values? Our preference is to ensure that you can't see the panels.
a. *We know screening is important to the community and will meet that concern. We do not know of any studies of the effect of solar facilities on property values.*
- 40) We would like to see visual "3D" renderings in color of what the site will look like.
a. *We will be sure to provide viewshed renderings during the conditional use process.*
- 41) How many homes will this site power?
a. *We estimate it will power 150 homes.*
- 42) Can you negotiated a credit with BGE for surrounding property owners?
a. *As much as we would like to do that, BGE makes their own determinations on energy costs. We have no influence on that.*
- 43) How will this project benefit us?
a. *Other than environmental benefits, we're open to any other reasonable suggestions you may have.*
- 44) Isn't solar energy more expensive than energy from fossil fuels?
a. *No.*
- 45) Not that we would encourage it, but if someone were to trespass onto the property, would it be dangerous?
a. *No. There are no open hazards to people who are on-site. We have OSHA requirements for our employees to wear protective equipment, but there are no dangers presented to the general public.*
- 46) What voltage will come off each panel?
a. *Not determined yet, but these are 340 watt panels.*
- 47) Is there a percentage limitation on how much can be covered by solar?
a. *No. There may be a limit in Agriculturally Preserved parcels.*
- 48) If there is a change in the plans, will the community be informed?
a. *Yes. Any plans submitted to the Hearing Examiner will bind the use of the property. Similarly, the Hearing Examiner may place conditions on the use, which must be complied with.*
- 49) What is the life of the panels?
a. *30 years.*
- 50) What happens when the land is sold?
a. *Our lease would run with the land.*
- 51) I am aware of dragonflies in the area and presume they are living on this parcel. I would recommend you hire an etymologist.
- 52) What will the landscaping height be at planting?

- a. *7 feet.*
- 53) If the landscaping dies, will you replace it?
 - a. *Yes. The landscape buffer is required for the use, so we will ensure it is maintained and replaced as necessary.*
- 54) I would recommend you set up meetings with all of the surrounding property owners.
 - a. *We will meet with anyone who wants to meet with us.*
- 55) I am concerned about the future proliferation of solar farms along Old Frederick Road.
 - a. *We can only speak to this proposal. Our analysis would suggest that it would not be feasible to put any additional solar in this area, but we cannot project into the future.*
- 56) This is a residential area. Your proposal does not fit.
- 57) You said earlier that Power52 has been in operation for 2 years, but also said it has been around since 2002.
 - a. *I misspoke. We have only been in operation for 2 years.*
- 58) Is Power52 based in Howard County? Are its employees from Howard County?
 - a. *Yes to both.*
- 59) You said this would be built by June 2018?
 - a. *I likely misspoke there as well. We have an 18 month construction schedule, but have little control over when this may be approved.*

The meeting concluded at approximately 7:45 p.m.

POWER 52 ENERGY
 10020 Baltimore National Pike, #7031
 Ellicott City, Maryland 21042
 1755 Henryton Road, Marriottsville, Maryland 21104
 Tax Map 10, Grid 19, P/O Parcel 18

Presubmission Community Meeting
 held on Wednesday, October 11, 2017 at 6:00 p.m.
 West Friendship Volunteer Fire Department,
 12535 Old Frederick, Road
 Sykesville, Maryland 21784

10/30/17 sent
to attendees

SIGN IN SHEET

NAME	ADDRESS	EMAIL
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R Verbocki	12100 Mayapple Dr.	verbo1@verizon.net
Shelley Luzzi	1550 Henryton Road	shelleyluzzi@gmail
Lucille Ohler	1709 New Hampton Lane	
John Streaker	1805 Sand Hill Rd.	BWANN STREAKER @VERIZON.NET
Laura Corcoran	12030 Old Frederick Rd ²¹⁰⁴	lcorcora@umail. arizona.edu
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 Laura Schnake 11842 Ramsburg Rd Lnschnake@verizon.net

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Koruna & Rob Littlejohn	12032 Sand Hill Manor Dr.	littlejohnkr@yahoo.com
STEPHEN TRAGESER	1220 SHADY CREEK R. MARIOTTSVILLE MD 21104	STRAGND@GMAIL.COM

need Handout

Mina Factory

12078 Sand Hill Manor Dr
Marriottsville MD 21104

Mina Factory P.O. Box

**AFFIDAVIT OF POSTING
Pre-submission Meeting**

Case: Power 52 Energy

STATE OF MARYLAND)

COUNTY OF HOWARD)

I, Megan Ruggieri, HEREBY CERTIFY that to the
Vogel Engineering + Timmons Group

best of my information, knowledge and belief the property which is the subject of the above-captioned petition has been posted in accordance with the following requirements of the Department of Planning and Zoning:

1. The poster(s) shall be erected and shall remain on the subject property for three weeks prior to the pre-submission meeting.
2. The poster(s) shall be erected using 2 wooden stakes, one on each side of the poster.
3. The poster(s) shall be placed at the location indicated by the Department of Planning and Zoning.

I further certify that the poster(s) has been posted at least 21 days immediately prior to the pre-submission meeting scheduled for **October 11, 2017** giving notification of the place, date and time of the meeting.

Subscribed and sworn to before me on this 20th day of September, 2017

Megan Ruggieri
Petitioner's/Agent's Signature

Notary Public:

Ann M. Yingling

My Commission expires: 5/16/2020



Note: It is the responsibility of the Petitioner to ensure that all of the Posting requirements have been met. Failure to meet any of these requirements may result in the postponing and rescheduling a meeting in order to ensure the proper posting of the property. It is also the petitioner's responsibility to remove the poster 2 weeks after the meeting.



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REVISED



Technical Memorandum

To: Frank Bucceri, c/o Power 52 Energy Solutions, LLC
From: Stephen Barrett
Date: May 31, 2018
RE: Glare Study, Solar PV Project, P52ES, Henryton Road, Marriottsville, Maryland

Executive Summary

Power 52 Energy Solutions, LLC is developing a utility scale solar photovoltaic (PV) project at 1755 Henryton Road, Marriottsville, Maryland. The project is located in farmland south of Old Frederick Road (Route 99) and east of Sand Hill Road. As part of the local zoning approval process, the project is evaluated for glare impacts according to the following review standard:

"A solar collector or combination of solar collectors shall be designed and located to avoid glare or reflection onto adjacent properties and adjacent roadways and shall not interfere with traffic or create a safety hazard. The petitioner shall include a glare study with the Conditional Use petition."

Barrett Energy Resources Group (BERG) has utilized the Federal Aviation Administration's (FAA) glare modeling tool to evaluate potential impacts of glare on nearby sensitive receptors and assessed the results relative to the FAA's Interim Solar Policy and its ocular hazard standard. This memorandum describes the methodology and results of the glare study.

It shows that there is a no glare impacts on residential and motorist receptors near the proposed project. This is achieved through the use of a single axis tracking design which prevents glare from occurring close to the ground where the receptors are located. This methodology and results are described below.

Project Description

The Henryton Road Solar Project is proposed on private farmland land south of Old Frederick Road and east of Sand Hill Road in Marriottsville, Maryland. The project location is shown in **Figure 1**.



Figure 1. Henryton Road Solar Project



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The solar PV project is designed as a nominal 3.4 MWdc ground-mounted facility utilizing a single axis tracking design where the solar panels follow the path of the sun during the day. This design maximizes electricity generation by keeping the surface of the solar panels always perpendicular to the incidence of the sun.

Glare Methodology and Standard of Impact

Prediction of potential glare occurrence from a solar PV project requires knowledge of the sun position, observer location, and the solar module/array characteristics (e.g. tilt, azimuth or orientation, location, extent, etc.). Vector algebra is then used to determine if glare would be visible from the prescribed observation points. **Figure 2** provides a simple representation of how the sun can produce glare on a vehicle for a specific time and location. As the sun moves (i.e. rises in the morning), the incidence of glare subsides. Because receptors of glare are proximate to the ground (e.g., motorist in a vehicle, person standing in their backyard), glare impacts are typically experienced when the sun is also near the ground (i.e. near sunrise or sunset).

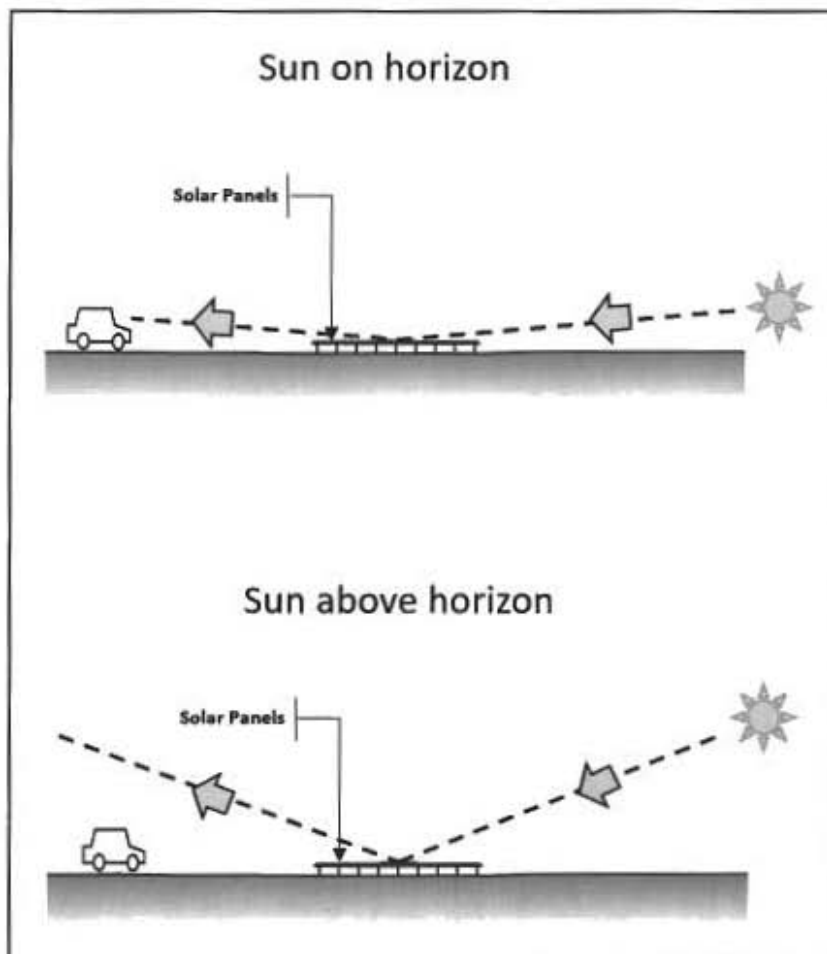


Figure 2. Geometric Representation of Potential Glare Impacts from the Sun



Given the potential for glare from solar PV projects to impact airport sensitive receptors, the Federal Aviation Administration (FAA) engaged the US Department of Energy to develop the Solar Glare Hazard Analysis Tool (SGHAT). It also developed a Solar Policy which requires airports seeking to develop solar PV projects to assess glare using SGHAT and to evaluate the significance of the results relative to an ocular hazard standard. The standard is based on SGHAT's predicted glare intensity as reported in a color-coded system at three levels:

- green for a low potential for an after-image²;
- yellow for a potential for an after-image; and
- red for a potential for retinal burn.

The standard prohibits any glare from impacting the air traffic control tower (ATCT) (i.e. results with green, yellow or red represent a significant impact), but allows for a low potential for an after image (green) for pilots on approach to the airport with yellow and red results representing a significant impact. **Table 1** presents the airport sensitive receptors that must be evaluated for glare using the SGHAT model, the potential results presented by the model, and whether the result complies with the FAA's Solar Policy.

Table 1. SGHAT Model Levels of Glare and Compliance with FAA Policy

Airport Sensitive Receptor	Level of Glare	Glare Color Result	Does Result Comply with FAA Policy?
ATCT	No glare	None	Yes
	Low Potential for After-Image	Green	No
	Potential for After-Image	Yellow	
	Potential for Permanent Eye Damage	Red	
Aircraft on approach	No glare	None	Yes
	Low Potential for After-Image	Green	No
	Potential for After-Image	Yellow	
	Potential for Permanent Eye Damage	Red	

BERG has used SGHAT and the guidance of the standard of impact to interpret the results and potential impacts on residences and motorists near the Henryton Road Solar Project site.

SGHAT Model Setup for the Proposed Project

For the Henryton Road Solar Project, the PV project polygon tool was used to draw the footprint of the solar array on SGHAT's interactive google map. As a single axis tracking design, the pertinent design elements are tracking axis tilt of 0°, tracking axis orientation of 180° (though 0° provides the same result), and a module off-set angle of 0°. The model also accommodates a maximum tracking angle which is the angle at which the tracking stops at the end of the day, as well as a resting angle at which the panel commences tracking at the beginning of the day. (These angles are typically the same.) For this project,

² An after-image occurs when you look into a bright light, then look away, and it takes several seconds for your vision to readjust and return. It is also referred to as a temporary visual disability or flash blindness.



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the maximum angle is 60°. A solar module with no anti-reflective coating was also selected to allow for maximum flexibility in panel selection. Figure 3 illustrates how the panels track the sun during a single day.

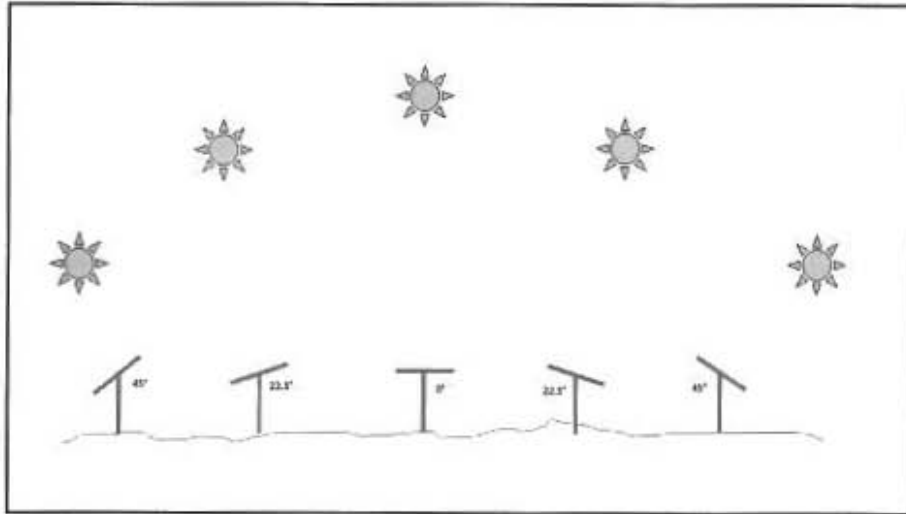


Figure 3. Schematic of Daily Movement of Single Axis Tracking Solar Panel

Next, the sensitive receptors required for analysis were selected. We identified ten viewpoints for motorists driving toward the project and eight residences adjacent to the project site and used the SGHAT observation point tool to select the receptors. Figure 4 shows the location of the solar project along with the motorist observation points analyzed while Figure 5 shows the residential observation points. The glare analysis button was activated and the model assessed glare from various sun angles at 1-minute intervals throughout the year to predict if glare could be observed by the sensitive receptors.



Figure 4. Motorist Sensitive Receptors near the Henryton Road Solar Project



Figure 5. Residence Sensitive Receptors near the Henryton Road Solar Project

Glare Model Results and Analysis

The SGHAT model output for motorist receptors and residential receptors are included as Attachments A and B, respectively. The model results show no glare predicted on any of the motor vehicle or residential receptors.

Based on experience, single axis tracker systems are effective at mitigating glare. This is primarily due to glare receptors being relatively close to the ground and glare impacts occurring when the sun is low on the horizon either in the first or last few hours of a day. Because the panels on tracking systems start and end the day facing the east and west horizon, glare is reflected upward and away from the view of sensitive receptors. In comparison, fixed tilt panels facing south will reflect sunlight to the west after sunrise and to the east coming upon sunset. Tracking systems prevent this occurrence from happening.

Conclusions

Barrett Energy Resources Group (BERG) has used the SGHAT model to evaluate the potential for glare to impact sensitive receptors near the Henryton Road Solar Project site in Marriottsville, Maryland. The receptors analyzed were ten motor vehicle sites and eight residential sites. No glare was recorded for any of the sensitive receptors. The glare has been avoided through the adoption of a single axis tracking design, which has been demonstrated to effectively mitigate glare impacts.



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Attachment A
Glare Modeling Results
Motorist Receptors



FORGESOLAR GLARE ANALYSIS

Project: **Bucceri Henryton**

Site configuration: **Henryton - Motorist - tracker revised**

Analysis conducted by Stephen Barrett (steve@barrettenergygroup.com) at 14:59 on 31 May, 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>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
 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: 18515.2262



PV Array(s)

Name: PV array 1
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	39.321091	-76.926787	596.81	6.00	602.81
2	39.319962	-76.926980	585.55	6.00	591.55
3	39.320028	-76.927903	573.57	6.00	579.57
4	39.318966	-76.928053	565.36	6.00	571.36
5	39.318501	-76.925907	561.35	6.00	567.35
6	39.318485	-76.923997	551.36	6.00	557.36
7	39.321091	-76.923397	600.39	6.00	606.39

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.321248	-76.923298	590.26	5.00
OP 2	2	39.321235	-76.921753	564.76	5.00
OP 3	3	39.321434	-76.920336	556.18	5.00
OP 4	4	39.321334	-76.927782	594.07	5.00
OP 5	5	39.321318	-76.929308	588.87	5.00
OP 6	6	39.321268	-76.930636	585.10	5.00
OP 7	7	39.321401	-76.926302	603.40	5.00
OP 8	8	39.322729	-76.926194	622.02	5.00
OP 9	9	39.319575	-76.928061	569.46	5.00
OP 10	10	39.318462	-76.928190	563.77	5.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array 1	SA tracking	SA tracking	0	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual 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
OP 9	0	0
OP 10	0	0

Results for: PV array 1

OP 1	0	0
------	---	---

Receptor	Green Glare (min)	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

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

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

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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Attachment B

Glare Modeling Results

Residential Receptors



FORGESOLAR GLARE ANALYSIS

Project: **Bucceri Henryton**

Site configuration: **Henryton - Residence - tracker revised**

Analysis conducted by Stephen Barrett (steve@barrettenergygroup.com) at 15:05 on 31 May, 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>

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m²
 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: 18517.2262



PV Array(s)

Name: PV array 1
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	39.321124	-76.926830	597.75	6.00	603.75
2	39.319962	-76.926980	585.55	6.00	591.55
3	39.320045	-76.927774	574.80	6.00	580.80
4	39.318900	-76.927861	564.43	6.00	570.43
5	39.318485	-76.925757	561.31	6.00	567.31
6	39.318518	-76.923954	551.53	6.00	557.53
7	39.321058	-76.923439	601.08	6.00	607.08

Discrete Observation Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.321118	-76.927096	598.12	5.00
OP 2	2	39.321434	-76.927847	594.28	5.00
OP 3	3	39.321168	-76.928962	592.81	5.00
OP 4	4	39.320239	-76.928641	586.06	5.00
OP 5	5	39.321417	-76.923105	594.08	5.00
OP 6	6	39.320670	-76.922740	587.54	5.00
OP 7	7	39.319741	-76.923212	571.15	5.00
OP 8	8	39.319641	-76.922611	567.33	5.00

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array 1	SA tracking	SA tracking	0	0	-

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual 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

Results for: PV array 1

Receptor	Green Glare (min)	Yellow Glare (min)
OP 1	0	0
OP 2	0	0
OP 3	0	0

Receptor	Green Glare (min)	Yellow Glare (min)
OP 4	0	0
OP 5	0	0
OP 6	0	0
OP 7	0	0
OP 8	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

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

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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GENERAL NOTES:

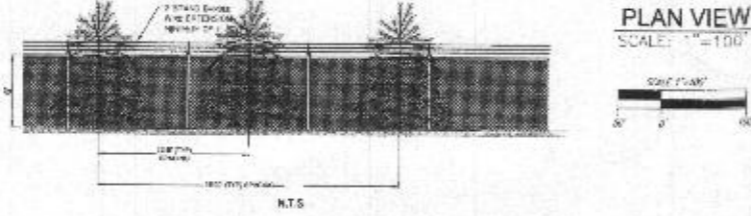
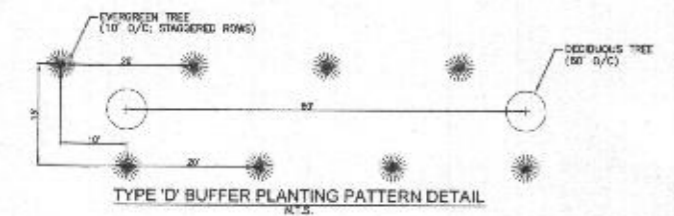
1. CONDITIONAL USE REQUIRED FOR SOLAR FACILITY, COMMERCIAL SECTION 131A-02
2. AREA OF CONDITIONAL USE IS 27.14 AC.
3. PROPERTY OF L.A. PREPARED BY ROBERT H. VOGEL ENGINEERING INC. BASED ON AIR PHOTO TAKEN IN 2014 AND 1:20' P. 2000.
4. TERRAIN SHOWN HEREON FROM HOWARD COUNTY, MARYLAND GIS.
5. D.C. FREEDERICK ROAD (MD ROUTE 29) IS A MAJOR ARTERIAL AND SAND HILL ROAD IS CLASSIFIED AS A MINOR COLLECTOR.
6. THE SUBJECT PROPERTY IS SERVED BY PUBLIC WATER AND SEWER SERVICES.
7. PLANNED AND ZONING HISTORY NONE.
8. PROPERTY ADDRESS: 1750 WENHOLM ROAD, MARYHOLLE, MD 21044.
9. PROPERTY IS LOCATED IN THE 3RD ELECTION DISTRICT.
10. THERE IS NO PROPOSED SITE LIGHTING.
11. THE SUBJECT PROPERTY IS ZONED RR-030 AND IS NOT IN THE AGRICULTURAL LAND PRESERVATION PROGRAM AND IS NOT SUBJECT TO ENVIRONMENTAL PRESERVATION EASEMENTS.
12. THE REQUESTED CONDITIONAL USE AREA IS 27.14 AC.
13. ALL STRUCTURES AND USES ARE SEPARATE FROM THE ADJACENT PROPERTY LINES AND THE ULTIMATE RIGHT OF WAY LINE IS:
14. ALL STRUCTURES SETBACK 20' IN HEIGHT.
15. A TYPE 'D' BUFFER WILL BE PROVIDED ALONG THE PERIMETER OF THE CONDITIONAL USE AREA.
16. THE BUFFER FENCING IS PROVIDED BETWEEN THE LANDSCAPING AND SOLAR FACILITY.
17. ALL SYSTEMS WILL COMPLY WITH APPLICABLE LAWS AND REGULATIONS.
18. THE SOLAR FACILITY WILL BE REMOVED WITHIN ONE YEAR FROM THE DATE THE OPERATION COMMENCES.
19. THE PREMISES WILL BE MAINTAINED IN A CLEAN AND ORDERLY CONDITION.
20. THE SOLAR COLLECTOR WILL BE ORIENTED SOUTH TO AVOID SHADING OR REFLECTION ON TO ADJACENT PREMISES AND WILL NOT CAUSE A TRAFFIC HAZARD.
21. THE FACILITY WILL BE RESTRICTED WITH FIRE RESCUE SERVICES AND A MAP WILL BE PROVIDED REGARDING THE SOLAR ARRAY AND PANEL ORIENTATION.
22. TREE REMOVAL WILL BE MINIMIZED AND REPLANTATION WILL BE PROVIDED IN ACCORDANCE WITH SECTION 16.1039 OF THE HOWARD COUNTY CODE.
23. THE APPLICANT SHALL SUBMIT TO THE SOLAR FACILITY WILL NOT HARM THE SCENIC CHARACTERISTICS OF THE VIEW OF OR FROM:
 1. PUBLIC MARKS
 2. NATIONAL AND STATE DESIGNATED HIGHWAY
 3. ROADWAYS IN THE SCENIC ROAD INVENTORY
 4. A HISTORIC STRUCTURE



VICINITY MAP
SCALE: 1"=2000'
AEC MAP 17 SHEET 07



- NOTES:**
1. FENCE SHALL BE CHAIN LINK INSTALLED AT A MINIMUM OF 6" R HEIGHT, WITH A MINIMUM OF 1 TIERED JOINTS AT LEAST 5 STRANDS OF BARBED WIRE PER LEG 11.03.1.
 2. TYPE 'D' BUFFER TREES SHALL CONSIST OF A DOUBLE ROW OF OFFSET EVERGREEN TREES PLANTED AT INTERVALS OF 10' ON CENTER ROWS OFFSET 10' AND DECIDUOUS TREES PLANTED AT 60' ON CENTER.
 3. EVERGREEN TREE SPECIES MAY INCLUDE:
 - a. SPRUCE, NORWAY (PLANTED 10' FROM ROW)
 - b. RED CEDAR / AMERICAN HULLY (10'-12' HGT.)
 - c. PINUS STROBUS / EASTERN WHITE PINE (15'-18' HGT.)
 4. DECIDUOUS TREE SPECIES MAY INCLUDE:
 - a. BIRCH, COMMON (PLANTED 12' FROM ROW)
 - b. BETULA NIGRA LINDLAYER / HERITAGE CLAMP BRN (12' 1/2" - 1 1/2" DIA.)
 - c. ALER HUBBARD / OCTOBER GLORY / OCTOBER GLORY RED WARP (12' 1/2" - 3' 1/2" DIA.)



PETITIONER
POWER 52 ENERGY SOLUTIONS
10320 BALTIMORE NATIONAL PIKE
ELLIOTT CITY, MD 21042

ATTORNEY
T-EMME COLETT
THE LAW OFFICES OF TARRA LACH
5100 CORSEY HALL DRIVE
ELLIOTT CITY, MD 21042

OWNER
AUSTIN A. HOPKIN
1750 WENHOLM ROAD
MARYHOLLE, MD 21044

NO.	REVISION	DATE

EXHIBIT TO ACCOMPANY PETITION FOR CONDITIONAL USE FOR SOLAR FACILITY, COMMERCIAL P52ES Under Armour Community Solar 1

TAX MAP TO BLOCK 19 3RD ELECTION DISTRICT ZONED RR-030 PARCEL 18 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MARK STREET, ELLIOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.6961

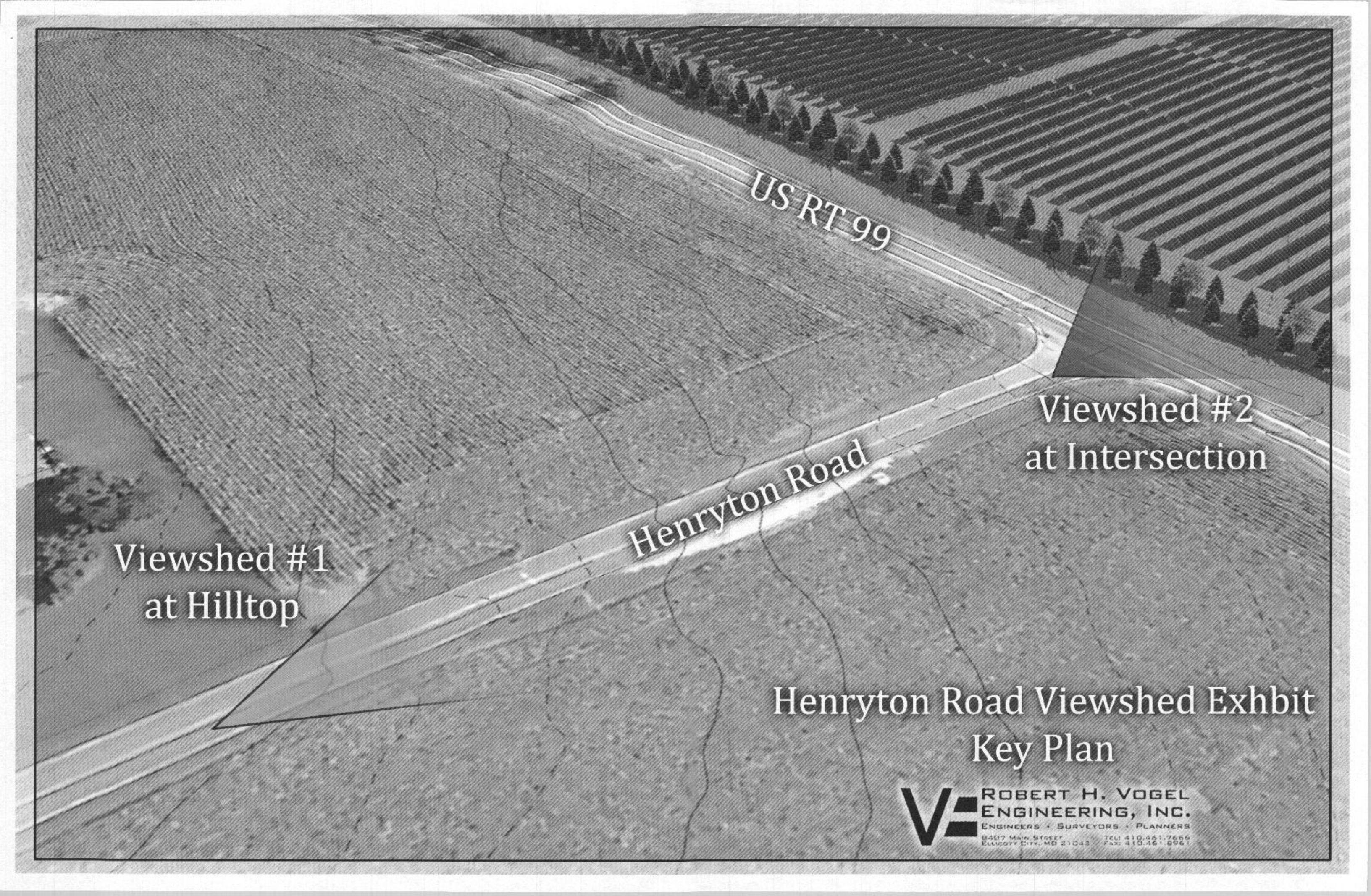
PROFESSIONAL CERTIFICATE

I HEREBY CERTIFY THAT THESE DOCUMENTS AND DRAWINGS OR MAPS WERE PREPARED BY ME OR THAT I AM A QUALIFIED PERSON TO PREPARE THEM AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER TITLE 19 OF THE CODE OF MARYLAND REGULATIONS.

DATE: MARCH 2018
SCALE: AS SHOWN
P.L. NO.: 80493

1 SHEET OF 1

80 NORTH BROAD STREET, BALTIMORE, MD 21202 • TEL: 410.528.1100 • FAX: 410.528.1101



US RT 99

Henryton Road

Viewshed #1
at Hilltop

Viewshed #2
at Intersection

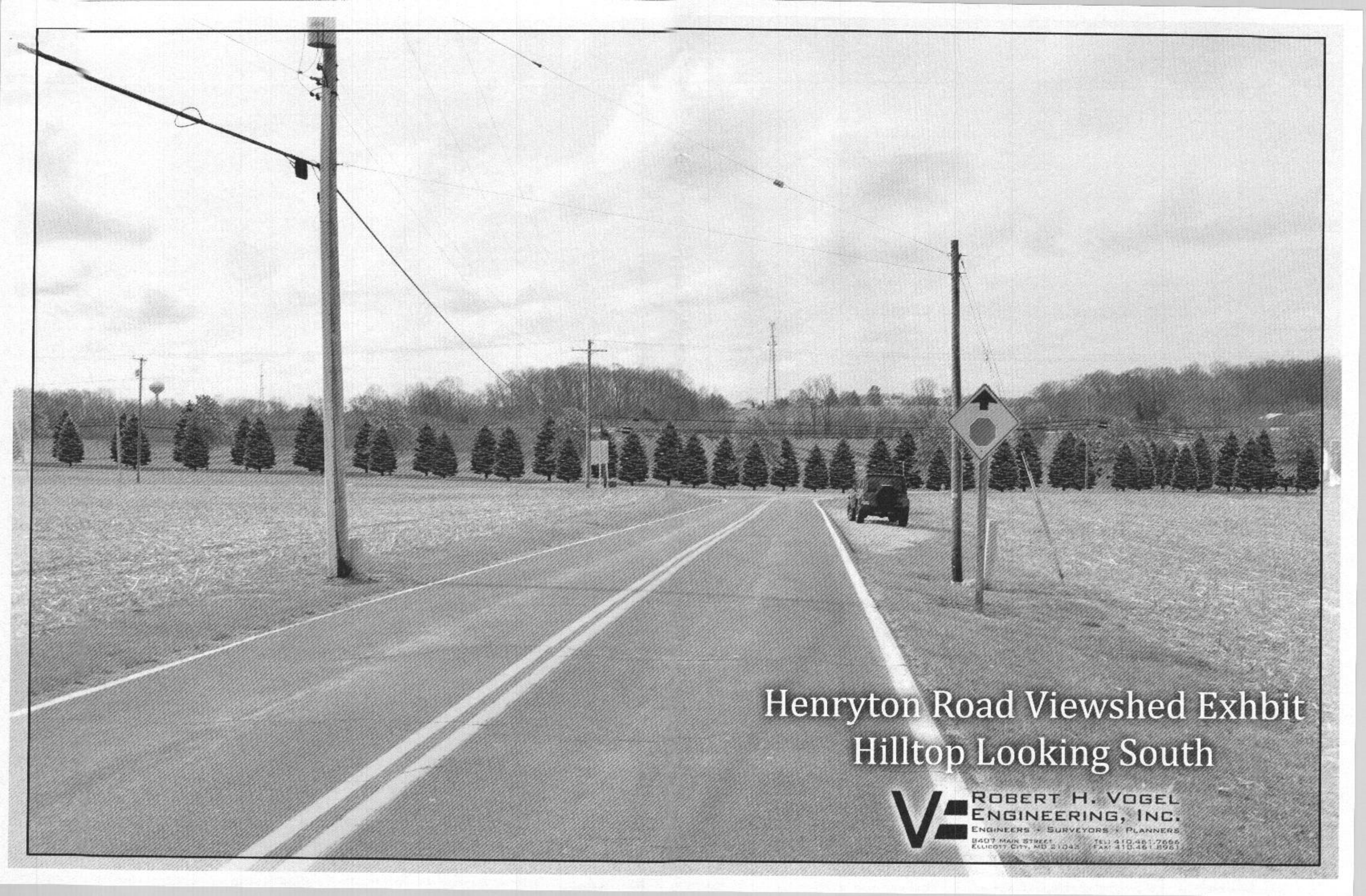
Henryton Road Viewshed Exhibit Key Plan

VE ROBERT H. VOGEL
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ELLICOTT CITY, MD 21043 FAX: 410.461.8961



Henryton Road Viewshed Exhibit
Intersection Looking South

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ELLCOTT CITY, MD 21043 FAX: 410.461.8961

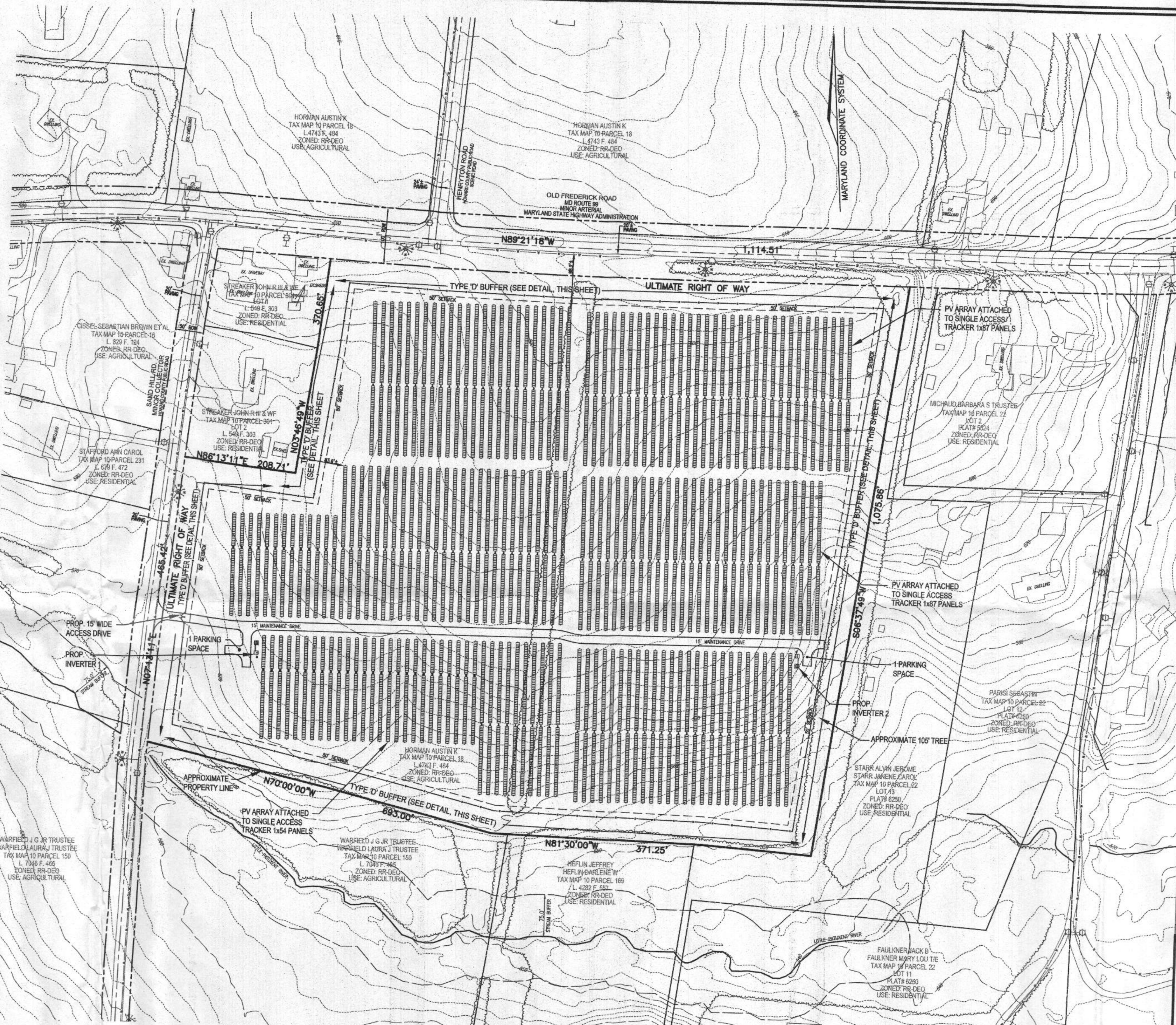


Henryton Road Viewshed Exhibit
Hilltop Looking South

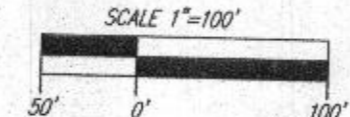
VE ROBERT H. VOGEL
ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
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ELLICOTT CITY, MD 21043 FAX: 410.461.8961

GENERAL NOTES:

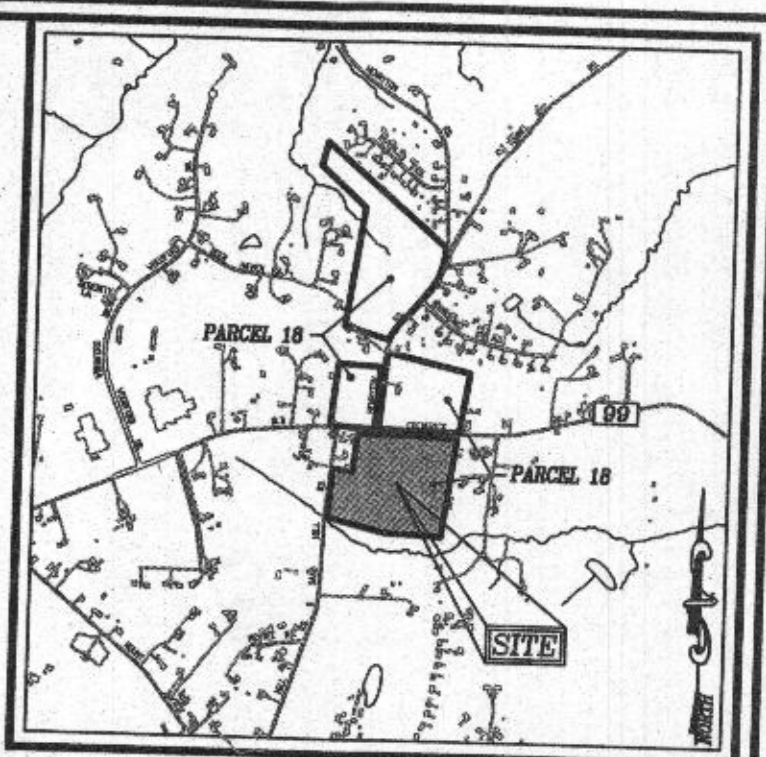
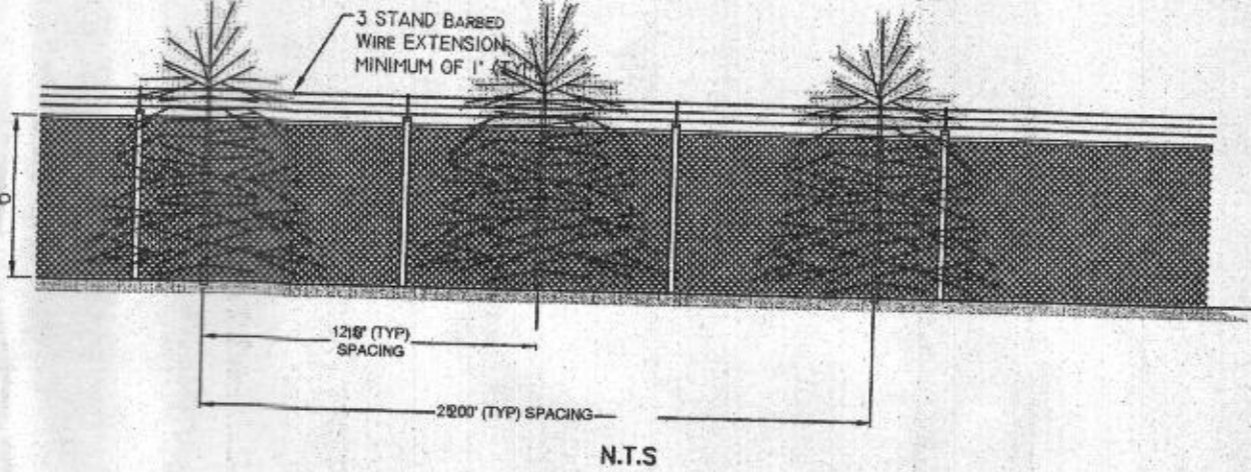
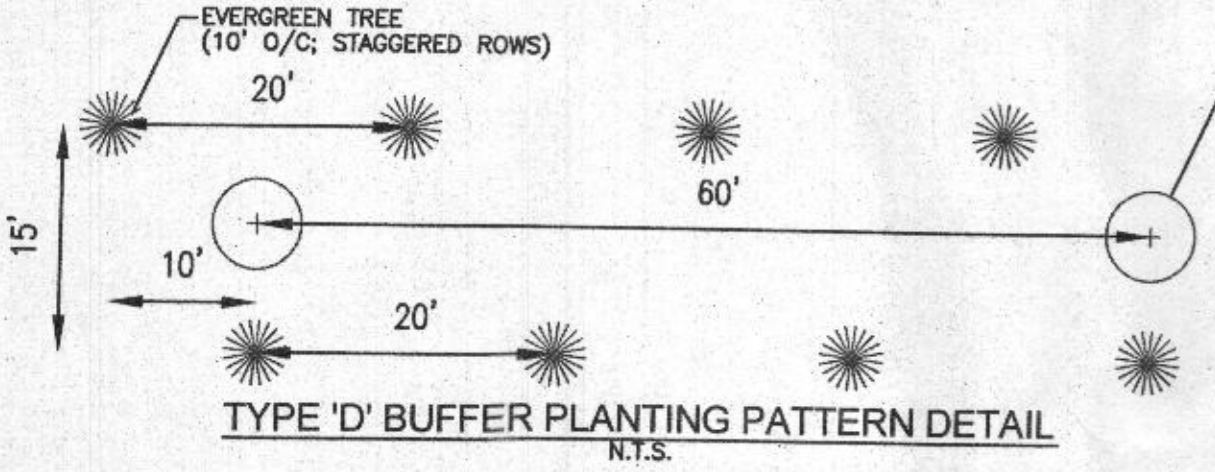
- CONDITIONAL USE REQUESTED: SOLAR FACILITY, COMMERCIAL, SECTION 131.N.52.
- AREA OF CONDITIONAL USE: 27.1± AC.
- PROPERTY OUTLINE PREPARED BY ROBERT H. VOGEL ENGINEERING INC. BASED ON DEED PLOTTING (L.4743 F. 484 AND L.97 F. 232).
- TOPOGRAPHY SHOWN HEREON FROM HOWARD COUNTY, MARYLAND GIS.
- OLD FREDERICK ROAD (MD ROUTE 99) IS A MINOR ARTERIAL AND SAND HILL ROAD IS CLASSIFIED AS A MINOR COLLECTOR.
- THE SUBJECT PROPERTY IS SERVED BY PUBLIC WATER AND PRIVATE SEWER.
- PLANNING AND ZONING HISTORY: NONE
- PROPERTY ADDRESS: 1755 HENRYTON ROAD, MARRIOTTSVILLE, MD 21104
- PROPERTY IS LOCATED IN THE 3RD ELECTION DISTRICT.
- THERE IS NO PROPOSED SITE LIGHTING.
- THE SUBJECT PROPERTY IS ZONED RR-DEO AND IS NOT IN THE AGRICULTURAL LAND PRESERVATION PROGRAM AND IS NOT SUBJECT TO ENVIRONMENTAL PRESERVATION EASEMENTS.
- THE REQUESTED CONDITIONAL USE AREA IS 27.07 AC.
- ALL STRUCTURE AND USES ARE SETBACK FROM THE ADJACENT PROPERTY LINES AND THE ULTIMATE RIGHT OF WAY LINE 50'.
- NO STRUCTURES EXCEED 20' IN HEIGHT.
- A TYPE 'D' BUFFER WILL BE PROVIDED ALONG THE PERIMETER OF THE CONDITIONAL USE AREA.
- THE SECURITY FENCING IS PROVIDED BETWEEN THE LANDSCAPING AND SOLAR FACILITY.
- ALL SYSTEMS WILL COMPLY WITH APPLICABLE LAWS AND PROVISIONS.
- THE SOLAR FACILITY WILL BE REMOVED WITHIN ONE YEAR FROM THE DATE THE OPERATION CEASES.
- THE PREMISES WILL BE MAINTAINED IN A CLEAN AND ORDERLY CONDITION.
- THE SOLAR COLLECTOR WILL BE DESIGNED SO AS TO AVOID GLARE OR REFLECTION ON TO ADJACENT PROPERTIES AND WILL NOT CREATE A TRAFFIC HAZARD.
- THE FACILITY WILL BE REGISTERED WITH FIRE RESCUE SERVICES AND A MAP WILL BE PROVIDED REGARDING THE SOLAR ARRAY AND PANEL DISCONNECT.
- TREE REMOVAL WILL BE MINIMIZED AND REFORESTATION WILL BE PROVIDED IN ACCORDANCE WITH SECTION 16.1026 OF THE HOWARD COUNTY CODE.
- THE APPLICANT SHALL DEMONSTRATE THAT THE SOLAR FACILITY WILL NOT HARM THE SCENIC CHARACTERISTIC OF THE VIEW OF OR FROM:
 - PUBLIC PARK
 - NATIONAL AND STATE DESIGNATED BY WAY
 - ROADS LISTED IN THE SCENIC ROADS INVENTORY
 - A HISTORIC STRUCTURE
- THERE WILL BE TWO TRIPS PER MONTH TO THE FACILITY FOR MAINTENANCE PURPOSES.
- THERE IS NO ENVIRONMENTAL SITE DESIGN (STORMWATER MANAGEMENT) PROVIDED FOR THE ARRAYS SINCE THERE IS NO LAND GRADING/DISTURBANCE PROPOSED FOR INSTALLATION AND VEGETATION WILL REMAIN OR BE ESTABLISHED UNDER THE ARRAY.
- 15' MAINTENANCE DRIVE IS 6" OF GRAVEL OVER GEOTEXTILE.



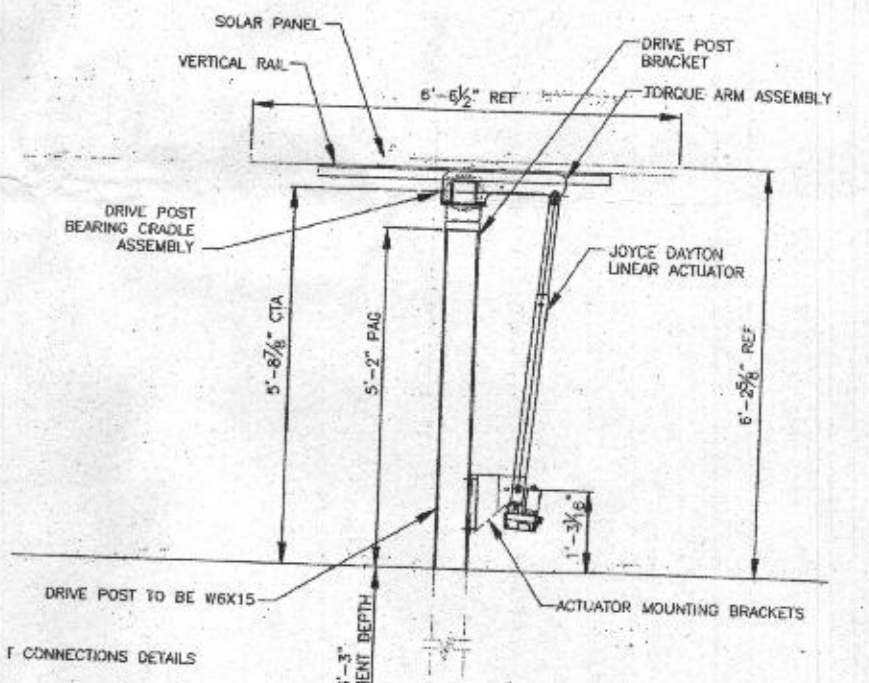
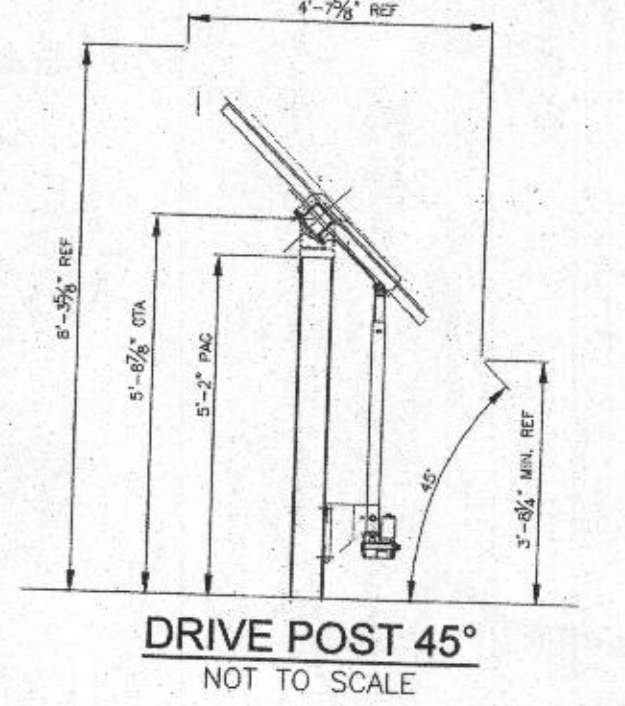
PLAN VIEW
SCALE: 1"=100'



- NOTES:**
- FENCE SHALL BE CHAIN LINK INSTALLED AT A MINIMUM OF 6' IN HEIGHT, WITH A MINIMUM OF 1" TOPER UTILIZING AT LEAST 3 STRANDS OF BARBED WIRE. PER NEC 110.31
 - TYPE 'D' BUFFER TREES SHALL CONSIST OF A DOUBLE ROW OF OFFSET EVERGREEN TREES PLANTED AT INTERVALS OF 10' ON CENTER, ROWS OFFSET 15'; AND DECIDUOUS TREES PLANTED AT 60' ON CENTER.
 - EVERGREEN TREE SPECIES MAY INCLUDE:
 - CYPRESS / OCEANIS / LEYLAND / LEYLAND CYPRESS (5'-6" HGT.)
 - ILEX OPECA / AMERICAN HOLLY (5'-6" HGT.)
 - PINUS STROBUS / EASTERN WHITE PINE (6'-8" HGT.)
 - DECIDUOUS TREE SPECIES MAY INCLUDE:
 - ACER GINNALIA / AMUR MAPLE (2 1/2"-3" CAL.)
 - BETULA NIGRA HERITAGE / HERITAGE CLUMP BIRCH (2 1/2"-3 1/2" CAL.)
 - ACER RUBRUM / OCTOBER GLORY / OCTOBER GLORY RED MAPLE (2 1/2"-3 1/2" CAL.)



VICINITY MAP
SCALE: 1"=2000'
ADC MAP 17 GRID C7



RECEIVED
MAY 11 2018
By

REVISED

NO.	REVISION	DATE

**EXHIBIT TO ACCOMPANY PETITION FOR
CONDITIONAL USE FOR SOLAR
FACILITY, COMMERCIAL**

TAX MAP 10 BLOCK 19 3RD ELECTION DISTRICT ZONED RR-DEO PARCEL 18 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.8961



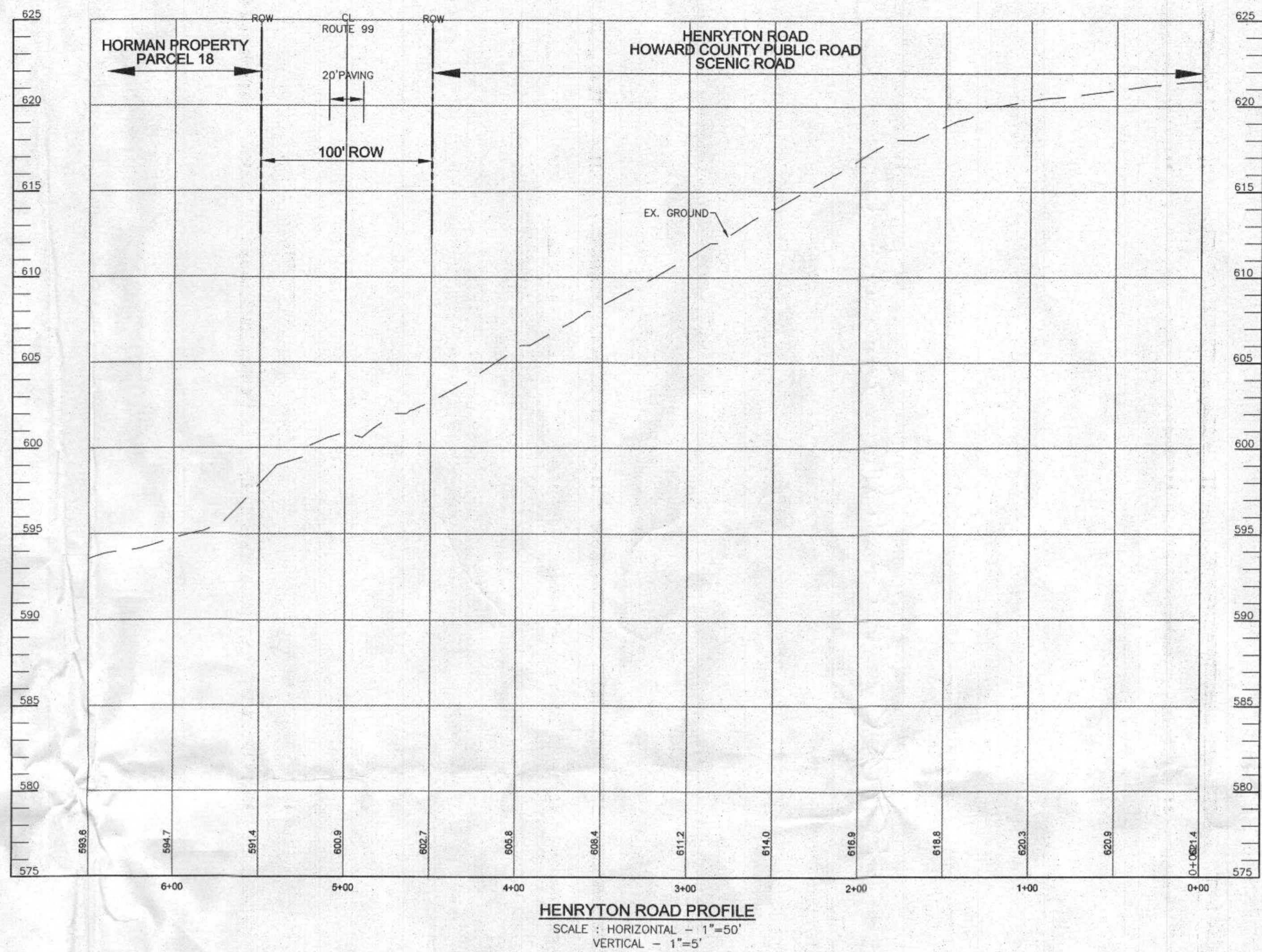
DESIGN BY: RHV
DRAWN BY: KG
CHECKED BY: RHV
DATE: MAY 2018
SCALE: AS SHOWN
W.O. NO.: 40493

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16893, EXPIRATION DATE 06-27-2018.

PETITIONER
POWER 52 ENERGY SOLUTIONS
ATTN: JASON JANNATI
10020 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MD 21042
PHONE: 410-988-8216
JJANNATI@POWER52ENERGY.COM

ATTORNEY
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PHONE: 410-964-0300
TCOALE@TALKIN.OH.COM

OWNER
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1730 HENRYTON ROAD
MARRIOTTSVILLE MD 21104
PHONE: 410-442-1831
AUSTIN.HORMAN@VERIZON.NET



NO.	REVISION	DATE

**EXHIBIT TO ACCOMPANY PETITION FOR
 CONDITIONAL USE FOR SOLAR
 FACILITY, COMMERCIAL**

TAX MAP 10 BLOCK 19 3RD ELECTION DISTRICT ZONED RR-DEO PARCEL 18 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERS, INC.
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 PHONE: 410-442-1831
 AUSTIN.HORMAN@VERIZON.NET

PROFESSIONAL CERTIFICATE

STATE OF MARYLAND
 ROBERT HARRIS VOGEL
 No. 16193
 REGISTERED PROFESSIONAL ENGINEER

DESIGN BY: RHV
 DRAWN BY: KG
 CHECKED BY: RHV
 DATE: MAY 2018
 SCALE: AS SHOWN
 W.O. NO.: 40493

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16193 EXPIRES ON 06-27-2019

2 SHEET OF 2

ROBERT H. VOGEL, PE No. 16193

K:\Projects\4835 - ROUTE 98 SOLAR FARM\DWG\CONCEPT\DESIGN\CONCEPT_CONDUCE_05-08-18.dwg, 5/11/2018 7:28:53 AM