



Board of Zoning Appeals
Department of Planning, Housing, and Zoning

County Commissioners Hearing Room

400 High Street
Chestertown, Maryland

AGENDA

Monday, June 17, 2024

5:00 p.m.

Members of the public are welcome to attend meetings in person or listen to the meeting via the audio-only phone number and conference identification number listed below.

1. Dial **1-872-239-8359**
2. Enter Conference ID: **621 932 826#**

Members of the public are asked to mute their phones/devices, until the Commission Chair opens the floor for comment.

Members of the public may also watch the live video feed and view the video after the meeting at the County's YouTube channel: @kentcountygovernment2757.

MINUTES

March 18, 2024

APPLICATIONS FOR REVIEW:

24-18 MDL 153 Mason Solar – Special Exception – Utility-Scale Solar Energy System in AZD
9425 Fairlee Road, Chestertown – Sixth Election District – Zoned Agricultural Zoning District (AZD)

GENERAL DISCUSSION

ADJOURN

APPLICANT OR REPRESENTATIVE MUST BE PRESENT

**APPLICANTS ARRIVING MORE THAN 10 MINUTES AFTER THE SCHEDULED HEARING WILL NOT BE HEARD
AND WILL BE RESCHEDULED AT THE APPLICANT'S EXPENSE.**

Meetings are conducted in Open Session unless otherwise indicated. All or part of the Board of Appeals meetings can be held in closed session under the authority of the MD Open Meetings Law by vote of the members. Breaks are at the call of the Chairman. Meetings are subject to audio and video recordings.

All applications will be given the time necessary to assure full public participation and a fair and complete review of all projects. Agenda items are subject to change due to cancellations.
Other business without assigned times may be discussed during the meeting.

PLEASE PLACE THE FOLLOWING IN THE KENT COUNTY NEWS: June 13, 2024

BILL SHOULD BE SENT TO: Kent County Department of Planning, Housing, & Zoning
c/o Beth Grieb
400 High Street
Chestertown, MD 21620
mgrieb@kentgov.org

ANY QUESTIONS, CALL: Carla Gerber, 410-778-7474
cgerber@kentgov.org

**NOTICE OF PUBLIC HEARING
KENT COUNTY BOARD OF APPEALS**

On **Monday, June 17, 2024, at 5:00 p.m.**, the Kent County Board of Appeals will hold a public hearing in the County Commissioners' Hearing Room, 400 High Street, Chestertown, MD.

MDL 153 Mason Solar requesting a special exception to construct a 5-acre, utility-scale, solar array system within the Agricultural Zoning District. The property is located at 9425 Fairlee Road, Chestertown.

Members of the public may attend the meeting in-person or observe and/or comment by phone.

If you have any questions, please contact the Department at 410-778-7423. If you need communication assistance, please contact the Maryland Relay Service at www.mdrelay.org or 7-1-1 for voice/TDD.



DRAFT

**Board of Zoning Appeals
Department of Planning, Housing, and Zoning**

MINUTES

March 18, 2024

5:00 PM

The Board of Appeals met on March 18, 2024, at 5:00 p.m. in the County Commissioners Hearing Room. Board members in attendance were Chair Dr. Albert Townshend, Vice Chair John Massey, Member Joan Horsey, and Alternate Member David Hill.

Thomas N. Yeager, Esq., Acting Board Attorney; William Mackey, AICP, DPHZ Director; Carl Gerber, AICP, Deputy Director; and Mark Carper, LEED Green Associate, Associate Planner were in attendance.

Applicants in attendance included Greg Watson, Alex Dolgas, Kyle Lindstrom, Lynn Winkler, Doug Sample, Gerald Dockstader, and Eric Colliflower. Kim Righi, Finance Director, and Mitch Mowell, Esq., represented Minary's Dream Alliance.

Members of the public who attended and signed in on the sign-in sheet included: Brad Applebaum, Elizabeth Clark, Karen S. Colliflower, Susan Crooks, Jim Cummings, Karen Kemp-Dockstader, Russ Frymiare, Bob McGinnis, Mary McGinnis, Pat Nugent of Washington College, Dr. O'Connor, School Board Member Frank Rhodes, Shore Rivers Riverkeeper Annie Richards, Nathan Shroyer, and Claudia Wayne.

Other members of the public who spoke at the meeting, identified themselves verbally, but did not sign in included: Mary Alice Ball, Russel Braundmeier, Wanda Boyd, Rachel Carmody, Gretchen Mann, Susan Newton-Rhodes, and Jasmine Robinson.

The meeting was called to order at 5:00 pm by Chair Townshend. A moment of silence was observed in memory of the Board's recently deceased attorney, Chris Drummond.

The Board first heard testimony from online participants Elizabeth Clark and Greg Watson who had been unable to testify at the January 22, 2024, hearing regarding Mr. Watson's appeal of the Planning Director's decision to deny a permit for a stone revetment at 12594 Coopers Lane in Worton.

Ms. Clark, an adjoining property owner, described issues with a prior living shoreline project on a neighboring property that had failed after several years despite being built by a reputable firm.

Mr. Watson stated he had consulted with four contractors, none of whom recommended a living shoreline for the site, and that he was seeking to protect his shoreline and dock.

After deliberation, Member Horsey made a motion to rescind the Board's January 22, 2024, decision affirming the Planning Director's denial. The motion was seconded by Member Massey and passed unanimously. Member Horsey then made a new motion to reverse the Planning Director's decision and allow the installation of 45 linear feet of stone revetment along the shoreline at 12594 Coopers Lane. The motion was seconded by Member Massey and passed unanimously.

Adopted on [Insert date]

DRAFT

Next, the Board considered the application of Jill Gaumer and Lynn Winkler for a pier length variance to install a 10' x 14' platform at the end of their existing pier at 24251 Drayton Landing Drive in Worton. Doug Sample of Riptide Marine Construction represented the applicants, stating the platform was needed for safer boat docking and that the pier would not be extended further into the creek. Staff noted that state and federal approvals had been obtained. After discussion of the variance criteria, Member Massey made a motion to grant the variance, which was seconded by Member Horsey and passed unanimously.

Finally, the Board heard the appeal of Gerald Dockstader and Eric Colliflower on the Planning Director's decision on permitted uses at Minary's Dream Alliance, 9155 American Legion Road in Chestertown.

Neighbors and members of the public spoke both for and against the appeal. Key issues discussed included consistency with the 2021 court order, septic capacity, tents/camping, and impacts on the neighborhood. Other members of the public asked questions from the audience, which was not considered as testimony.

Kim Righi, Finance Director for Minary's Dream Alliance, confirmed the organization's non-profit status. Mitch Mowell, Esq., presented arguments opposing the appeal. Following Mr. Mowell's presentation on behalf of Minary's Dream Alliance, members of the public were allowed to conduct cross-examination.

Deputy Director Carla Gerber clarified that the two appealed issues were 1) the sacred space / labyrinth / outdoor classroom area and 2) the parking lot, both of which the Planning Director determined to be permitted uses in the Critical Area Residential zone, subject to site plan review. She explained the difference between permitted and non-conforming uses.

The Board determined that the Planning Director was correct in finding the appealed uses to be permitted under the zoning ordinance. Member Massey made a motion to approve the Planning Director's decision, which was seconded by Member Horsey and passed unanimously.

The meeting was adjourned at approximately 8:40 pm.

/s/ Albert S. Townshend
Dr. Albert Townshend, Chairman

/s/ W. A. Mackey
William A. Mackey, AICP, Director DPHZ

Please note that 80% of this document was created by Claude 3 from Anthropic using a transcript created by Microsoft Teams. The DPHZ team then reviewed the document prior to its distribution to the Board.



Planning Commission
Department of Planning, Housing, and Zoning

May 3, 2024

Dr. Al Townsend
Kent County Board of Appeals
400 High Street
Chestertown, MD 21620

RE: MDL 153 Mason Solar, LLC – Special Exception
Utility-Scale Solar Energy System in the Agricultural Zoning District (AZD)

Dear Dr. Townsend,

At its meeting on May 2, 2024, the Kent County Planning Commission reviewed the application of MDL 156 Mason Solar, LLC, requesting a special exception for a utility-scale solar energy system in the Agricultural Zoning District (AZD) on a 335.16-acre farm owned by Thomas and Alice Mason. The property is located at 9425 Fairlee Road, Chestertown in the Sixth Election District. The proposed location of development is on the northeast corner of the intersection of Fish Hatchery Road and Fairlee Road, an entryway into the Village of Fairlee. The Mt. Pleasant Church and Mt. Pleasant Cemetery are in the immediate vicinity. The proposed 1 MW array of panels will be enclosed within a perimeter fence with an area of approximately 5 acres. The entrance will be from Fish Hatchery Road. The property is a mix of woodlands and cultivated fields. The property is a mix of woodlands and cultivated fields.

Following discussion, the Planning Commission voted to make a favorable recommendation for the special exception of a utility-scale solar energy system in the AZD. The Planning Commission recommends the following conditions should the Board of Appeals grant approval:

- The applicant provides evidence that glare or reflection onto adjacent properties shall not interfere with traffic or create a safety hazard.
- The applicant demonstrates that the proposed energy system will not interfere with the view of, or from, sites of significant public interest, in particular Mt. Pleasant Church, and that the proposed development integrates into the existing landscape.

The decision was based on the following findings of fact:

- There will be no known impact to traffic patterns, there will be no known impact to community facilities and services, and it is anticipated that there will be minimal noise and no odor, noxious materials, or other nuisances.
- The proposal is consistent with the Comprehensive Plan in promoting sustainable building practices and providing an effective renewable resource strategy and with the general intent and the use, design, and environmental standards found in the Land Use Ordinance.
- The area of solar panel arrays will not exceed 5 acres.
- The solar collection system will be incidental to the use of the farm, and no known adverse impact to water quality, fish, or wildlife and plant habitat will result.

Sincerely,
Kent County Planning Commission

Joe Hickman
Chair

FJH/mc

cc: Seth Shafer, PE, PMP, Pivot Energy
Ted Hastings, PMP, Becker Morgan Group
Anthony Kupersmith, Esq., McAllister, DeTar, Showalter & Walker, LLC



TO: Kent County Planning Commission
FROM: Mark Carper, Associate Planner
MEETING: May 2, 2024
SUBJECT: MDL 153 Mason Solar, LLC
24-18, Special Exception and 24-17, Concept Site Plan – Utility-Scale Solar in the AZD

Executive Summary

REQUEST BY APPLICANT

The applicant, MDL 153 Mason Solar, LLC, is requesting a special exception and concept site plan review to construct and operate a utility-scale solar energy system in the Agricultural Zoning District (AZD). The 335.16-acre farm is located at 9425 Fairlee Road, Chestertown, and is owned by Thomas and Alice Mason. The property is divided by Fairlee Road. The proposed development is on the 131-acre portion north of Fairlee Road.

PUBLIC PROCESS

Per Article VI, Section 5 and Article VII, Section 6 of the Kent County *Land Use Ordinance* the Planning Commission shall review and approve Major Site Plans and shall review and send a recommendation to the Board of Appeals on Special Exceptions.

SUMMARY OF THE STAFF REPORT

The proposed 1 MW array of panels will encompass approximately 5 acres near the intersection of Fairlee Road and Fish Hatchery Road. The property is a mix of woodlands and cultivated fields. The area is predominantly farmland, but the site is adjacent to the unincorporated Village of Fairlee. Residential properties abut the location of proposed development. The Mt. Pleasant Church and Mt. Pleasant Cemetery are across Fairlee Road from the proposed site of development. Plans for sediment and erosion control, stormwater management, landscaping, and Forest Conservation have been submitted.

STAFF RECOMMENDATION

Staff recommends sending a favorable recommendation for the special exception to the Kent County Board of Zoning Appeals with the following conditions:

- Provide evidence that glare or reflection onto adjacent properties and adjacent roadways shall not interfere with traffic or create a safety hazard.
- Demonstrate that the proposed energy system will not interfere with the view of, or from, sites of significant public interest, and that the proposed development integrates into the existing landscape.

PRELIMINARY STAFF REPORT

TO: Kent County Planning Commission
SUBJECT: MDL 153 Mason Solar, LLC
24-18, Special Exception and 24-17, Concept Site Plan – Utility-Scale Solar in the AZD
DATE: April 22, 2024

DESCRIPTION OF PROPOSAL

The applicant, MDL 153 Mason Solar, LLC, is requesting a special exception and concept site plan review to construct and operate a utility-scale solar energy system in the Agricultural Zoning District (AZD). The 335.16-acre farm is located at 9425 Fairlee Road, Chestertown, and is owned by Thomas and Alice Mason. The property is divided by Fairlee Road. The proposed development is on the 131-acre portion north of the road.

The proposed 1 MW array of panels will encompass approximately 5 acres near the intersection of Fairlee Road and Fish Hatchery Road. The property is a mix of woodlands and cultivated fields. The area is predominantly farmland, but the site is adjacent to the unincorporated Village of Fairlee. Residential properties abut the location of proposed development. The Mt. Pleasant Church and Mt. Pleasant Cemetery are across Fairlee Road from the proposed site of development. Plans for sediment and erosion control, stormwater management, landscaping, and Forest Conservation have been submitted.

RELEVANT ISSUES

I. Special Exception General Review Criteria

A. *Applicable Laws*: Article V, Section 1.3.26.5 of the *Kent County Land Use Ordinance* establishes that solar energy systems, utility scale on farms, may be granted as a special exception in the Agricultural Zoning District (AZD).

Article VII, Section 2 of the *Kent County Land Use Ordinance* establishes the following standards for consideration of special exceptions:

The Board shall make findings on the following where appropriate:

1. The nature of the proposed *site*, including its size and shape and the proposed size, shape, and arrangement of *structures*;
2. Traffic Patterns;
3. Nature of surrounding area;
4. Proximity of dwellings, *houses of worship*, schools, public *structures*, and other places of public gathering;
5. The impact of the *development* or project on community facilities and services;
6. Preservation of cultural and historic landmarks, significant *natural features* and trees;
7. Probable effect of noise, vibration, smoke and particulate matter, toxic matter, odor, fire or explosion hazards, or glare upon surrounding properties;
8. The purpose and intent of this Ordinance as set forth in Article II;
9. Design, environmental, and other standards of this Ordinance as set forth in Article V;
10. The most appropriate use of land and *structure*;
11. Conservation of property values;
12. The proposed *development's* impact on water quality;
13. Impact on fish, wildlife and *plant habitat*;
14. Consistency with the *Comprehensive Plan*, Land Use Ordinance, and where applicable the Village Master Plan;

15. Consistency with the *Critical Area Program*; and
16. Compatibility with existing and planned land use as described in the *Comprehensive Plan*, Land Use Ordinance, and where applicable the Village Master Plan.

B. *TAC and Staff Comment:*

- The proposed entrance is from Fish Hatchery Road, where there is an existing compacted gravel culvert.
- Once construction is completed, there are no known disruptions expected to impact traffic patterns.
- There is no known impact on community facilities and services.
- The proposed facility will be adjacent to the Village of Fairlee.
- Mt. Pleasant Cemetery is across Fairlee Road from the proposed facility.
- Fish Hatchery Road and Fairlee Road (Route 298) run adjacent to and through the unincorporated village of Fairlee.
- Fish Hatchery Road and Fairlee Road are gateways into the Village of Fairlee.
- Mt. Pleasant Church, which is listed in the Maryland Inventory of Historic Properties (K-405), is located at the intersection of Fish Hatchery Road and Fairlee Road.
- The Kent County Comprehensive Plan lists "significant views" as an important village characteristic, elements of which may "...include an identifiable icon of the community's character, prominent views within the community, and special entranceway features and/or waterfront areas." (Page 31)
- A goal of the Comprehensive Plan is to ensure that "... all new development or redevelopment meets high standards for planning, workmanship, and design." (Page 31)
- A proposed strategy to fulfill that goal is to ensure "...that future development, redevelopment, and infill is completed in an environmentally and context sensitive manner. The County will encourage techniques ... to protect ... historic archeological and cultural resources, and scenic viewsheds. (Page 31)
- The proposed facility and associated buffer may impact the vista associated with this village entryway.
- The proposal may be inconsistent with the intent of the comprehensive plan to ensure development in a context sensitive manner.
- The applicant will need to demonstrate that the proposed energy system protects cultural resources and scenic viewsheds.
- The proposal is consistent with the goal of the comprehensive plan in promoting sustainable building practices and providing an effective renewable resource strategy.
- The proposal is consistent with the general intent of, use, design, and environmental standards found in the Kent County Land Use Ordinance.

II. Utility-Scale Solar Energy Systems Special Exception Review Criteria

A. *Applicable Law:* Article VII, Section 7. 57.25 of the *Kent County Land Use Ordinance* establishes the following standards by which a utility-scale solar energy system on farms in AZD and RCD may be authorized as a special exception:

- a. A solar collection device or combination of devices are 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.
- b. Screening, capable of providing year-round screening, is provided along all sides that do not collect energy.

- c. Roof mounted solar collection devices shall not extend more than 10 feet from the top of the roof. The total height of the building, including the solar collection devices, shall comply with the height regulations established for each zoning district.
- d. Solar collection devices shall not exceed 38 feet in height.
- e. The solar collection system shall be incidental to the use of the farm.
- f. Installation of the solar collection system shall not adversely impact adjacent properties.
- g. All structures associated with the solar collection system shall be neither visually intrusive nor inappropriate to their setting.
- h. All solar collection devices shall register with the Department of Emergency Services and shall submit a map noting the location of the solar collection devices and the panel disconnect.
- i. Other than wire size, there shall be no alteration of utility infrastructure to accommodate the system.
- j. The area of solar panel arrays may not exceed 5 acres. The area of the solar panel arrays shall be measured as to the area within the solar panel arrays' security fence. Adjacent properties shall not aggregate solar collection panels to achieve an area exceeding 5 acres.
- k. In AZD, only the five-acre maximum area of solar panel arrays, as measured in Subsection j., is considered development and counted toward the maximum percentage of the property in lots.
- l. Tree removal shall be minimized and any removal shall be mitigated in accordance with the Critical Area Program requirements.
- m. The applicant shall demonstrate that a utility scale solar energy system shall not unreasonably interfere with the view of, or from, sites of significant public interest such as public parks, a national or state designated scenic byway, a structure listed in the Kent County Historic Site Survey, an historic district, or the Chesapeake Bay and its tributaries.

B. *TAC and Staff Comment:*

- The applicant has submitted an application for a special exception for utility-scale solar energy system in the AZD.
- No glare or sight analysis has been submitted.
- Year-round screening, as specified in the Land Use Ordinance, has been proposed, and the panel array will be lower than the maximum allowable height.
- The area of use, as defined by the perimeter fence per Article VII, Section 7, #57.25, §j. will not exceed 5 acres. The area of disturbance, encompassing the solar array and the landscape buffer, will not exceed 9.27 acres. There are no proposed changes to the remainder of the 335.16-acre property that is in agricultural production. The solar collection system will be incidental to the use of the farm.
- No tree removal is proposed.
- The applicant will need to demonstrate that the proposed energy system will not interfere with the view of, or from, sites of significant public interest.

III. Countywide Standards for Utility-Scale Solar Energy Systems

A. *Applicable Law:* Article VI, Special Provisions, Section 11, details the requirements for setbacks, installation and maintenance standards, landscaping and irrigation requirements, and sureties.

B. *Staff Comments:*

- The proposed setback for the solar array panels is the required minimum 200 feet from any lot line, road/right-of-way, gateway into town or village, or residential use or zoning district.
- The site plan states that installation and maintenance standards are to meet the standards as established in Article VI, Section 11.B.
 - Any solvents used for cleaning are to be biodegradable, and any unused solvents will be removed from the parcel.

- All broken or waste solar panels shall be removed from the parcel within 30 days of being taken out of service.
- Wiring will be underground except to connect to the public utility, and transmission wires for connection shall not cross a roadway overhead.
- The solar array shall be enclosed in a fence that will remain securely locked. Gates will provide a sign that identifies responsible parties and contact information.
- The solar array will generate little to minimal noise.
- The solar arrays shall conform to all local, state, and national laws.
- Evidence that the solar panels are designed to avoid glare and/or reflection is to be provided.
- A Forest Stand Delineation and a Forest Conservation Plan have been submitted. A Forest Conservation deed restriction of 1.39 acres is proposed along the northern property line.
- A 60-foot-wide landscape buffer plan has been submitted and adheres to the requirements for size, species variety, and arrangement. In order to maintain natural drainage, the applicant is requesting a waiver from the requirement for a berm. The landscape plan must meet the required heights and arrangement of plants.
- No irrigation plan or vegetative maintenance agreement has been submitted.
- A landscaping surety must be provided for final site plan approval.
- The entrance is designed to ensure that neighboring properties, public rights-of-ways and roads are not exposed to an unscreened view through the entranceway.
- The project must comply with all applicable federal and state regulations.
- A decommissioning bond in accordance with Article VI, Section 11.K is required for final approval.

IV. Site Plan Review

A. *Applicable Laws:* Article VI, Special Provisions, Section 5.2, General Requirements, establishes that special exceptions require a Major Site Plan Review, to include Concept, Preliminary, and Final Plans.

At each stage of review the Planning Commission shall review the site plan and supporting documents taking into consideration the reasonable fulfillment of the following objectives:

- a. Conformance with the Comprehensive Plan and, where applicable, the Village Master Plan.
- b. Conformance with the provisions of all applicable rules and regulations of county, state, and federal agencies.
- c. Convenience and safety of both vehicular and pedestrian movement within the site and in relationship to adjoining ways and properties.
- d. Provisions for the off-street loading and unloading of vehicles incidental to the normal operation of the establishment, adequate lighting, and internal traffic control.
- e. Reasonable demands placed on public services and infrastructure.
- f. Adequacy of methods for sewage and refuse disposal, and the protection from pollution of both surface waters and groundwater. This includes minimizing soil erosion both during and after construction.
- g. Protection of abutting properties and County amenities from any undue disturbance caused by excessive or unreasonable noise, smoke, vapors, fumes, dust, odors, glare, stormwater runoff, etc.
- h. Minimizing the area over which existing vegetation is to be removed. Where tree removal is required, special attention shall be given to planting of replacement trees.
- i. The applicant's efforts to integrate the proposed development into the existing landscape through design features such as vegetative buffers, roadside plantings, and the retention of open space and agricultural land.
- j. The building setbacks, area, and location of parking, architectural compatibility, signage, and landscaping of the development, and how these features harmonize with the surrounding townscape and the natural landscape.

Article VI, Special Provisions, Section 5.3.B.10-11 establishes that for concept review the Planning Commission will comment and provide guidance as to the feasibility, design, and environmental characteristics of the proposal based on the standards set forth in this Ordinance, the Village Master Plans, and Comprehensive Plan.

B. *Staff Comments:*

- The proposal is consistent with the goal of the Kent County Comprehensive Plan in promoting sustainable building practices and providing an effective renewable resource strategy.
- The applicant must demonstrate that the proposed development will not interfere with the view of, or from, sites of significant public interest, and that the proposed development integrates into the existing landscape.
- The proposal is consistent with the general intent and the use, design, and environmental standards found in the Land Use Ordinance. The project must acquire all County, state, and federal permits and licenses.
- Internal traffic is anticipated to be minimal and will be restricted to maintenance of equipment and landscaping.
- There are no known unreasonable demands on public services and infrastructure.
- No sewage or refuse disposal activities are proposed.
- Noise is anticipated to be very limited and inaudible off site. No smoke, fumes, dust, or odors are anticipated.
- A stormwater management plan has been submitted.
- Sureties for soil and erosion control and stormwater management will be required for final site plan approval.
- No existing vegetation is to be removed. A 60-foot-wide landscape buffer will surround the fenced-in solar array.

STAFF RECOMMENDATION:

Staff recommends sending a favorable recommendation for the special exception to the Kent County Board of Zoning Appeals with the following conditions:

- Provide evidence that glare or reflection onto adjacent properties and adjacent roadways shall not interfere with traffic or create a safety hazard.
- Demonstrate that the proposed energy system will not interfere with the view of, or from, sites of significant public interest, and that that the proposed development integrates into the existing landscape.

TO: Kent County Board of Zoning Appeals
FROM: Mark Carper, Associate Planner
MEETING: June 17, 2024
SUBJECT: MDL 153 Mason Solar, LLC
#24-18 Special Exception – Utility-Scale Solar in AZD

NOTICE

SUBMISSION OF ADDITIONAL APPLICATION MATERIALS

Having reviewed the application as a concept plan and for special exception, the Planning Commission made a favorable recommendation for the requested special exception with the following recommended conditions:

- The applicant provides evidence that glare or reflection onto adjacent properties shall not interfere with traffic or create a safety hazard.
- The applicant demonstrates that the proposed energy system will not interfere with the view of, or from, sites of significant public interest, in particular Mt. Pleasant Church, and that the proposed development integrates into the existing landscape.

Pursuant to these recommended conditions, the applicant has since submitted the following items:

- A landscape buffer plan that includes a 3-foot berm and varied placements of the proposed vegetation,
- Renderings displaying the appearance of the proposed landscaping from two viewpoints at the time of planting and after 5 years of growth,
- A glare analysis for the proposed project, and
- Line-of-site analysis.

The viewpoints for the landscaping renderings appear to be for the proposed entryway from Fish Hatchery Road and from the intersection of Fish Hatchery Road and Fairlee Road. The evergreens – which include White Cedar, American Holly, and Emerald Green Arborvitae – are to be a minimum of 8 feet in height at the time of planting and are to be installed on top of the 3-foot berm.

The submitted glare analysis concludes that a 680-foot section of Fairlee Road may be subject to glare exposure for westbound, evening traffic. The potential exposure would be limited to a five-minute window between September and March. In calculating potential exposure, the glare analysis factors in a landscape buffer with an install height of 6 feet above ground level. The proposed minimum height of the evergreens on the landscape plan is to be 8 feet high atop a 3-foot berm. This may reduce or eliminate the exposure risk for this section of road. None of the other stationary or motorist viewpoints under study are shown to be susceptible to glare exposure.

STAFF RECOMMENDATION

Staff recommends approval of the special exception on the condition of approval of a final site plan.



Source: Kent County Department of Planning, Housing, and Zoning.
Aerial taken Spring 2022. Map prepared April 2024.

1 inch = 750 feet

BOARD OF APPEALS APPLICATION

Kent County Department of Planning, Housing and Zoning

Kent County Government Center
400 High Street • Chestertown, MD 21620
410-778-7423 (phone) • 410-810-2932 (fax)

IN THE MATTER OF THE APPLICATION OF: (Name, Address and Telephone Number of Applicant))

MDL153 Mason Solar

9425 Fairlee Road

Chestertown, MD 21620

Email: jspencer@pivotenergy.net

For Office Use Only:

Case Number/Date Filed: _____
Filed by: _____
Applicant: _____
Planning Commission: _____
Date of Hearing: _____
Parties Notified: _____
Notice in Paper: _____
Property Posted: _____

Please provide the email of the one person who will be responsible for responding to comments. Only this person will be contacted by staff and will be the person responsible for forwarding the comments or requests for additional information to any other interested parties. EMAIL: jspencer@pivotenergy.net

TO THE KENT COUNTY BOARD OF APPEALS: In accordance with Article 1 Part 8 Section 11

of the Kent County Zoning Ordinance, as amended, request is hereby made for:

☐ Appealing Decision of Kent County Zoning Administrator ☐ Variance
☒ Special Exception ☐ Nonconforming Use

DESCRIPTION OF PROPERTY INVOLVED:

Located on: (Name of Road, etc.) Fish Hatchery Road and Fairlee Road

In the 6 Election District of Kent County.

Size of lot or parcel of Land: 335.16

Map: 36 Parcel: 9 Lot #: _____ Deed Ref: 774/ 474

List buildings already on property: N/A

If subdivision, indicate lot and block number: N/A

If there is a homeowner's association, give name and address of association: N/A

PRESENT ZONING OF PROPERTY: Agricultural Zoning District (AZD)

DESCRIPTION OF RELIEF REQUESTED: (List here in detail what you wish to do with property that requires the Appeal Hearing.) N/A

If appealing decision of Zoning Administrator, list date of their decision: _____

Present owner(s) of property: Thomas & Alice Mason Telephone: _____

If Applicant is not owner, please indicate your interest in this property: MDL 153 Mason Solar, LLC is to
Lease a portion of the property to install and solar array.

Has property involved ever been subject to a previous application? N/A

If so, please give Application Number and Date: N/A

PLEASE FILL IN BELOW, OR ATTACH HERETO, A SKETCH OF THIS PROPERTY.

List all property measurements and dimensions of any buildings already on the property.

Put distances between present buildings or proposed buildings and property lines.

NAMES OF ADJOINING PROPERTY OWNERS:

Owner(s) on the North: Kent Housing Associates, LP
726 Yorklyn Road, Suite 150, Hockessin, DE 19707

Owner(s) on the South: Fairlee Road borders the property to the south

Owner(s) to the East: Hoadgland Family Limited Partnership
9522 Fairlee Road, Chestertown, MD 21620

Owner(s) to the West: Fish Hatchery Road borders the property to the west

Homeowners Association, name and address, if applicable: N/A

BY SIGNING THIS APPLICATION, I GRANT MEMBERS AND ALTERNATE OF THE BOARD OF ZONING APPEALS THE RIGHT TO ENTER ONTO THE PROPERTY FOR THE PURPOSE OF VIEWING THE SITE OF THE APPLICATION OR APPEAL.

 3/26/2024
Signature of Owner/Applicant/Agent or Attorney Date

Please file this form at 400 High Street, Chestertown, MD 21620 accompanied by **\$350.00** filing fee made payable to the **County Commissioners of Kent County**. The filing fee for appeals of a Zoning Administrator's decision is \$250.00. If you have any questions, please contact the Clerk at 410-778-7467.

NOTICE: Neither the Board of Appeals nor the Planning Department is required to make out this Application. If the Planning Department assists you, it cannot be held responsible for its contents.

Applicants arriving more than 10 minutes after the scheduled hearing will not be heard and will be re-scheduled at the applicant's expense.



PROJECT NARRATIVE

MDL153 Mason Solar
Project Number: 2023293.00
Date: March 13, 2024

Becker Morgan Group, Inc.

312 West Main Street
Suite 300
Salisbury, Maryland 21801
410-546-9100

BECKER
MORGAN
GROUP

ARCHITECTURE
ENGINEERING

1.0 GENERAL SITE INFORMATION

PROJECT NAME: MDL153 – Mason Solar

PROJECT LOCATION:
Address: 9425 Fairlee Road
City, State, Zip: Chestertown, Maryland 21620
County: Kent
Nearest Intersection: Fairlee Road and Fish Hatchery Road
Primary Street: Fairlee Road
Secondary Street: Fish Hatchery Road

TAX MAP/GRID/PARCEL: Tax Map 36, Grid 2A, Parcel 9

DEED(S): 774/ 474

PLAT(S) 3/ 655

JURISDICTION: Kent County

DATE PREPARED: March 13, 2024

PREPARED BY: Becker Morgan Group, Inc.
Address: 312 West Main Street, Suite 300
City, State, Zip: Salisbury, Maryland 21801
Contact Person: Edward (Ted) Hastings, PMP
Phone: 410-546-9100
Email: thastings@beckermorgan.com

LANDOWNER: Thomas & Alice Mason
Address: 23991 Melitota Road
City, State, Zip: Chestertown, MD 21620
Contact Person: Thomas Mason
email: N/A

DEVELOPER: MDL153 – Mason Solar, LLC
Address: 6865 Deerpath Road, Suite 330
City, State, Zip: Elkridge, Maryland 21075
Contact Person: Joshua Spencer, P.E., PMP
Phone: (850) 450-9895
Email: jspencer@pivotenergy.net

PROPOSED BUILDING AREA: N/A

LOT SIZE: 335.16 acres

TYPE OF PROJECT: Community Solar System

2.0 EXISTING SITE CONDITIONS:

- Total Site 131.32 ± North of Fairlee Road (Total Parcel 335.16 acres±)
- Wooded 64.33 acres±
- Agricultural Use 66.99 acres±
- Impervious None
- Hydraulic Soils Rating C Soils (project area)
- FEMA 24029C0260D
- Flood Zone Determination Zone X – Areas outside the 0.2% annual chance flood.
- Existing Zoning AZD – Agricultural Zoning District
- Adjacent Zoning
 - North V – Village & AZD – Agricultural Zoning District
 - South V – Village & AZD – Agricultural Zoning District
 - East AZD – Agricultural Zoning District
 - West V – Village
- Environmental Concerns: None Found
- Road Frontage(s) Fairlee Road and Fish Hatchery Road
- Site Access Fish Hatchery Road
- State Wetlands Yes, but well outside the project area.
- Streams No.
- Stream Buffer No.
- Water N/A
- Sewer N/A
- Natural Gas N/A
- Electric Delmarva Power
- Communications N/A

SYNOPSIS

The existing site is predominantly an active farm field with 64.33-acre wooded area located on the northerly portion of the parcel. Numerous wetlands areas are in the wooded area but outside the project area. An existing compacted gravel culvert crossing located off Fish Hatchery Road will be utilized for the site access.

3.0 PROPOSED SITE CONDITIONS:

The site is to be the location for a 1 MW Solar Array. The array footprint will be a maximum of five acres in size inclusive of the fencing encompassing the entire array. The site is in conformance with the following requirements as stated in SECTION 11. COUNTYWIDE STANDARDS FOR UTILITY-SCALE SOLAR ENERGY SYSTEMS:

- 200 feet from any lot line
- 200 feet from any road and/or right-of way
- 200 feet from any road / right-of-way within ½ mile of a town or village boundary that is the gateway into a town or village
- 200 feet from any residential use or zoning district
- The solar array shall be enclosed by a fence or other appropriate barrier at the interior edge of the required landscape buffer, or immediately adjacent to the solar array. The fence or barrier shall:
 - Secure the facility at all times to prevent unauthorized persons or vehicles from gaining access.
 - All access gates will provide a sign that identifies the responsible parties or owners with current contact information.
- Landscaping will be provided as follows:
 - A 60-foot-wide landscaped buffer will be provided on all sides of the array.
 - We are respectfully requesting a waiver for the 3-foot-tall berm to protect and maintain the existing drainage patterns of the site. The conditions for elimination of the berm as stated in SECTION 11. COUNTYWIDE STANDARDS FOR UTILITY-SCALE SOLAR ENERGY SYSTEMS will be met and shown in a landscaping plan, as designed by a licensed Landscape Architect.
- The Forest Conservation requirements will be met by on-site conservation. A Forest Stand Delineation has been submitted to Kent County for review.
- Stormwater management will be met by utilizing non-structural practices and by following MDE Stormwater Design Guidance for Solar Panel Installations. A Stormwater Report has been submitted to Kent County for review.
- The limits of disturbance for the site does not contain any wetlands, wetland buffers, streams, and stream buffers.
- Installation and maintenance will follow the Solar Standards, as stated in Section 11.
- Noise levels produced will be below the 45 dBAs threshold, as measured at the property line.

COMPLIANCE WITH KENT COUNTY ARTICLE VII, SECTION 7.57.25

- A single axis tracking system is being proposed for this site. The panels will remain perpendicular to the sun, therefore reducing glare to any surrounding properties and roadways.
- Screening is being provided on all sides of the array in accordance with Section 11. View of the array will be completely obscured by both landscaping and fencing.
- The array will not exceed 38 feet in height.
- The array is situated so that the rest of the land can continue to be utilized for agricultural use.
- The installation for the system will take place entirely on the parcel it is to be located with only one access off of Fish Hatchery Road.
- The area within the fencing is no larger than the 5-acre.
- Other than wire size, there shall be no alteration of utility infrastructure to accommodate the system.
- No trees are to be removed as part of the project.
- The site is located outside the Critical Areas.

COMPLIANCE WITH KENT COUNTY COMPREHENSIVE PLAN

The project has taken into consideration Maryland's Twelve Planning Visions, as stated in the Kent County Comprehensive Plan and are as follows:

- Quality of Life and Sustainability: The use of solar energy generating facilities help protect the environment by creating emission free energy source that does not impact the environment.
- Public Participation: Pivot Energy intends to send a letter to the adjoining property owners explaining the project and that DP&L customers would be eligible to sign up for the Community Solar benefits with a potential savings up to 10% on their electric bill.
- Growth Areas: Not applicable to this project.
- Community Design: Not applicable to this project.
- Infrastructure: This additional electric infrastructure will allow residents to subscribe to the solar program to decrease their current electric bill.
- Transportation: Not applicable to this project.
- Housing: Not applicable to this project.
- Economic Development: Not applicable to this project.
- Environmental Protection: Though this project will utilize existing farmland, once the life cycle of the solar array is completed, the site will be decommissioned and returned to the existing conditions. The site could be returned to agricultural use after the removal of the system.
- Resource Conservation: A portion of the site will be put into a forest conservation area as a result of this project.

- Stewardship: The Community Solar provides the community with an opportunity to reduce their electric bill while protecting the natural resources since the site can be returned to agricultural use once the site has been decommissioned.
- Implementation: This site is in line with the State of Maryland goal of 50% of the State's energy coming from renewable sources by the year 2030.

SCHEDULE (PRELIMINARY)

Approval from all Agencies	November 2024
Obtain Permits	January 2025 – February 2025
Notice to Proceed	February 2025
Start Construction	March 2025
End Construction	October 2025

Note: These dates are estimated and may vary dependent on availability of materials and contractors.

Technical Memorandum

To: Josh Spencer, Pivot Energy
From: Stephen Barrett
Date: May 14, 2024
RE: Glare Study, Solar PV Project, Fairlee Road, Chestertown, Maryland

Executive Summary

Pivot Energy is developing a nominal 1 MWac ground-mounted solar photovoltaic (PV) project off of Fairlee Road in Chestertown, MD. Pivot has engaged Barrett Energy Resources Group (BERG) to analyze potential impacts of glare from the project on nearby sensitive receptors.

BERG has utilized the Solar Glare Hazard Analysis Tool (SGHAT) which was developed by the US Department of Energy (DOE) for the Federal Aviation Administration (FAA) to protect aviation sensitive receptors. For this project, SGHAT has been used to assess potential glare impacts on 12 sensitive receptors which include motor vehicles and residences near the project site.

The modeling report is included in Attachments A. It shows that glare was recorded for one of the 12 receptors – the eastern section of Fairlee Road. This Technical Memorandum describes the project, methodology, and results.

Project Description

The Fairlee Road Solar Photovoltaic (PV) Project would be located on undeveloped farmland north and east of the intersection of Fairlee Road (State Route 298) and Fish Hatchery Road in Chestertown Maryland as shown in **Figure 1**. The project is comprised of a ground-mounted, single axis tracking system and electrical distribution equipment. The proposal also includes a 60-foot wide landscape buffer.



Figure 1. Fairlee Road Solar Project Locus

FAA Solar Policy

In 2013, the Federal Aviation Administration (FAA) published "Interim Policy, FAA Review of Solar Energy System Projects on Federally-Obligated Airport," which sets forth methods for assessing glare and the standards for determining impact for projects proposed on airport property. It also requires the use of modeling to assess glare and directs project proposers to the Solar Glare Hazard Analysis Tool (SGHAT) which was developed by the US Department of Energy at the request of the FAA. The Policy was issued as Final in May 2021. The US Department of Defense (DOD) has also adopted SGHAT and the associated requirements to analyze glare under Instruction (DODI) 4165.57. Given the critical safety issues associated with aviation, the model produces a highly credible result that is being used to evaluate other glare sensitive receptors.

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., location, extent, tilt, azimuth or orientation, etc.). The path of glare is governed by the law of reflection which states that the angle of incidence equals the angle of reflection (see **Figure 2**). Vector algebra is then used to determine if glare would be visible from the prescribed observation points.

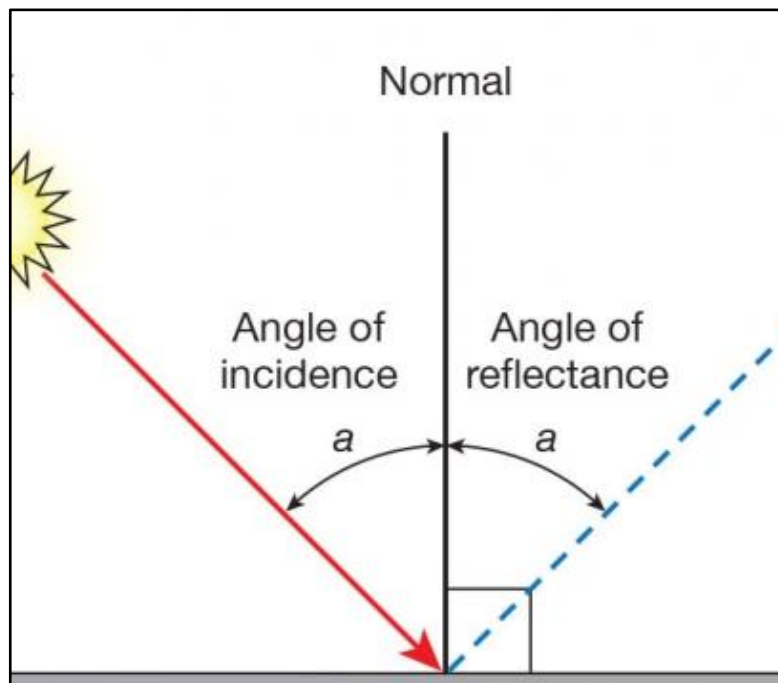


Figure 2. Law of Reflection

Figure 3 provides a simple representation of how the sun can produce glare on an automobile for a specific time and location. In accordance with the Law of Reflection, the angle of the light source from the sun must be equal to the angle of the reflection on a receptor. Therefore, when receptors are close to the ground (like a house or car), the reflection is only possible when the sun is also close to the ground (i.e., near sunrise or sunset). As the sun moves, the incidence of glare ends.

Duration of glare is longer for a stationary receptor as the avoidance of glare is dependent on the movement of the sun. For stationary receptors, impacts can last for hours. Duration is considerably shorter for moving objects, like aircraft and motor vehicles, as they transit in and out of a zone of influence. Impacts on moving receptors are typically measured in seconds.

The SGHAT model is a credible tool for predicting glare based on the characteristics of the project and the identified receptor. It produces results including relative glare intensity identified by color based on three categories: green (low potential for an after-image), yellow (potential for an after-image), and red (retinal burn). These categories apply to the FAA Policy and are not specifically relevant for glare assessment of other receptors. For non-aviation receptors, like those associated with the Fairlee Road Solar Project, the results are simply used to determine if glare is predicted or not.

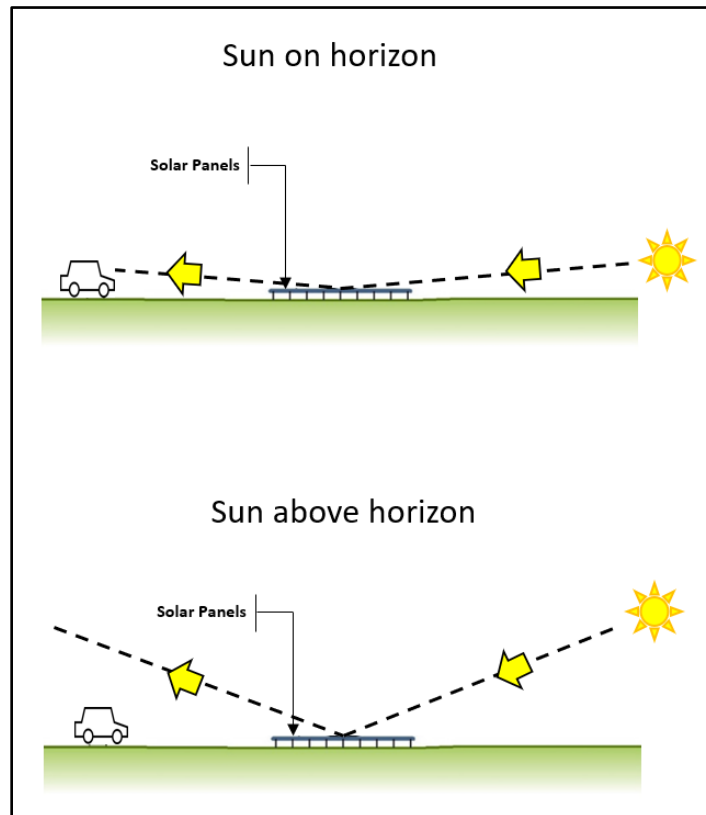


Figure 3. Geometric Representation of Potential Glare Impacts from the Sun

SGHAT Model Setup for Proposed Project

Regardless of the receptor to be analyzed, the model set-up entails locating the solar project, inputting its design characteristics, and identifying sensitive receptors for analysis. The position and movement of the sun throughout the year is built into the model.

For the Fairlee Road Solar Project, BERG used the PV project polygon tool to draw the footprint of the solar array on SGHAT's interactive Google map. The specific attributes of the solar array were then input into the model. As the project proposes a single axis tracking system, SGHAT includes relevant fields for those elements, including for this project design an array orientation of 0° , maximum tracking angle of 60° and a resting (stowage) angle of 0° . The average panel height 8 feet above ground level (agl), and a panel surface with anti-reflective coating were also input. Forested areas were programmed into the model and the tree heights set at 30 feet as a conservative estimate. A landscape buffer is proposed to surround the project which would have an installed height of 6 feet agl.

To evaluate potential impacts of glare, BERG identified representative motor vehicle receptors associated with Fairlee, Fish Hatchery and Mt. Pleasant Roads, as well as nearby stationary receptors such as residences and businesses as shown in **Figure 4**. The model's route tool was

used to locate the segments of the roadways for analysis. The observation point tool was used to select individual stationary points located on the Google map. For the motorist analysis, the driver's eye level height above the roadway was set at 8 feet based on Federal Highway Administration standards. For the residential and business receptors, the viewpoint was set at 5 feet above ground level to represent a person standing on the property.



Figure 4. Motorist and Stationary Receptors Analyzed for Glare

The glare analysis button was activated, and the model evaluated glare from various sun angles at 1-minute intervals throughout the year to predict if glare could be observed by the sensitive receptors.

Glare Model Results

The SGHAT Report with model results is provided as Attachments A. It shows potential glare on one of the 12 receptors analyzed – the eastern segment of Fairlee Road (see **Figure 5**). Glare is predicted to occur for motor vehicles traveling west daily from September to March between 5 and 6pm. The period when glare could be observed is only during a 5-minute window each day.

The glare segment is approximately 680 feet long. If a motor vehicle is traveling at the speed limit (50 miles per hour), the time to transit the glare segment is 9.3 seconds.



Figure 5. Segment of Fairlee Road Where Glare Is Predicted

Conclusions

Barrett Energy Resources Group (BERG) has used the SGHAT modeling tool developed by the US Department of Energy to assess the potential effects of glare from a solar PV project on sensitive receptors near the proposed Fairlee Road Solar Project. For this project, SGHAT has been used to assess potential glare impacts on 12 sensitive receptors which include motor vehicles and residences near the project site.

The SGHAT model registered potential glare for one of the 12 receptors – the eastern segment of Fairlee Road. Glare exposure is limited to a 5-minute window each day between September and March. Should a car pass through the glare during that window, the maximum exposure given the speed limit would be 9.3 seconds.

Attachment A

Glare Modeling Results

Sensitive Receptors

FORGESOLAR GLARE ANALYSIS

Project: Fairlee Solar Project

A ground-mounted single axis tracking solar photovoltaic system

Site configuration: **Preferred**

Client: Pivot Energy

Created 13 May, 2024

Updated 13 May, 2024

Time-step 1 minute

Timezone offset UTC-5

Minimum sun altitude 0.0 deg

DNI peaks at 1,000.0 W/m²

Category 500 kW to 1 MW

(1,000 kW / 8 acre limit)

Site ID 119083.20459

Ocular transmission coefficient 0.5

Pupil diameter 0.002 m

Eye focal length 0.017 m

Sun subtended angle 9.3 mrad

PV analysis methodology V2



Summary of Results Glare with potential for temporary after-image predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy kWh
	°	°	min	hr	min	hr	
Solar Array	SA tracking	SA tracking	321	5.3	118	2.0	2,642,000.0

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

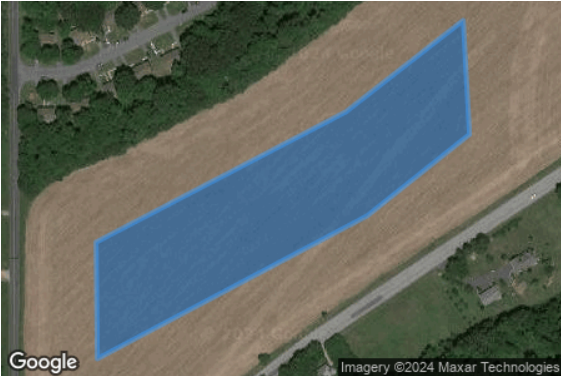
Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Fairlee Road	321	5.3	118	2.0
Fish Hatchery Road	0	0.0	0	0.0
Mt Pleasant Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0

Component Data

PV Arrays

Name: Solar Array
Description: Ground-mounted single axis tracking solar facility
Axis tracking: Single-axis rotation
Backtracking: Shade
Tracking axis orientation: 180.0°
Max tracking angle: 60.0°
Resting angle: 0.0°
Ground Coverage Ratio: 0.5
Rated power: 1000.0 kW
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	39.234140	-76.164912	48.48	8.00	56.48
2	39.233533	-76.165921	45.90	8.00	53.90
3	39.232669	-76.168066	40.29	8.00	48.29
4	39.231896	-76.168056	35.31	8.00	43.31
5	39.232843	-76.165738	43.45	8.00	51.45
6	39.233383	-76.164859	48.68	8.00	56.68

Route Receptors

Name: Fairlee Road

Path type: Two-way

Observer view angle: 50.0°

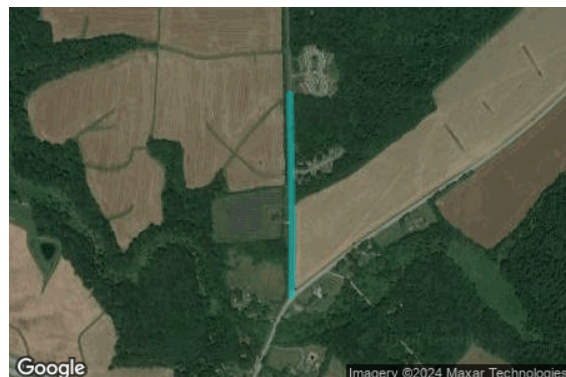


Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.235749	-76.159551	65.92	8.00	73.92
2	39.234698	-76.161118	63.33	8.00	71.33
3	39.233909	-76.162518	60.40	8.00	68.40
4	39.232542	-76.165194	38.63	8.00	46.63
5	39.231615	-76.166938	30.50	8.00	38.50
6	39.230655	-76.168467	24.47	8.00	32.47
7	39.230269	-76.168955	19.22	8.00	27.22
8	39.229595	-76.169373	15.74	8.00	23.74
8	39.229595	-76.169373	15.74	8.00	23.74
8	39.229595	-76.169373	15.74	0.00	15.74
8	39.229595	-76.169373	15.74	0.00	15.74
8	39.229595	-76.169373	15.74	0.00	15.74
8	39.229595	-76.169373	15.74	8.00	23.74
8	39.229595	-76.169373	15.74	8.00	23.74
8	39.229595	-76.169373	15.74	8.00	23.74
9	39.228889	-76.169749	18.99	8.00	26.99

Name: Fish Hatchery Road

Path type: Two-way

Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.235870	-76.168832	39.09	8.00	47.09
2	39.232213	-76.168756	34.29	8.00	42.29
3	39.230522	-76.168773	22.58	8.00	30.58

Name: Mt Pleasant Road
Path type: Two-way
Observer view angle: 50.0°



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	39.231162	-76.167556	27.37	8.00	35.37
2	39.230963	-76.166853	22.78	8.00	30.78
3	39.230489	-76.166284	21.92	8.00	29.92
4	39.230202	-76.165930	23.80	8.00	31.80

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	39.232597	-76.164418	39.94	5.00
OP 2	2	39.231845	-76.166140	33.74	5.00
OP 3	3	39.231081	-76.166631	22.99	5.00
OP 4	4	39.230714	-76.167843	25.67	5.00
OP 5	5	39.230360	-76.168498	23.90	5.00
OP 6	6	39.228688	-76.168179	33.45	5.00
OP 7	7	39.229999	-76.169723	19.71	5.00
OP 8	8	39.233471	-76.168481	40.18	5.00
OP 9	9	39.233651	-76.167875	41.98	5.00
OP 10	10	39.233836	-76.167403	41.66	5.00
OP 11	11	39.233836	-76.167403	41.66	5.00

Obstruction Components

Name: Landscape Screening

Top height: 6.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.234347	-76.164796	47.52
2	39.233607	-76.166008	45.28
3	39.232726	-76.168197	40.11
4	39.231804	-76.168133	34.73
5	39.232801	-76.165644	43.07
6	39.233366	-76.164742	49.24
7	39.234347	-76.164796	47.52

Name: Near OP 1

Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.232721	-76.164725	40.82
2	39.232538	-76.165060	38.86
3	39.232451	-76.164975	36.93
4	39.232656	-76.164674	40.32
5	39.232721	-76.164725	40.82

Name: Near OP 2
Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.231800	-76.166482	32.22
2	39.231684	-76.166383	33.31
3	39.231796	-76.166176	33.40
4	39.231825	-76.166192	33.69
5	39.231879	-76.166088	33.40
6	39.231973	-76.166144	33.34
7	39.231800	-76.166482	32.22

Name: Near OP 3 1
Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.231224	-76.167330	29.39
2	39.231125	-76.167115	27.03
3	39.231283	-76.167080	30.14
4	39.231386	-76.166906	30.68
5	39.231467	-76.166997	30.36
6	39.231224	-76.167330	29.39

Name: Near OP 3 2

Top height: 32.8 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.231548	-76.166892	30.47
2	39.231432	-76.166782	31.22
3	39.231424	-76.166635	30.25
4	39.231295	-76.166670	28.78
5	39.231168	-76.166809	27.04
6	39.231091	-76.166710	23.92
7	39.231328	-76.166485	27.62
8	39.231470	-76.166509	30.36
9	39.231619	-76.166777	30.79
10	39.231548	-76.166892	30.47

Name: Near OP 6

Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.229903	-76.169036	16.47
2	39.230310	-76.166182	21.84
3	39.229130	-76.166332	31.71
4	39.229321	-76.169369	15.52
5	39.229903	-76.169036	16.47

Name: Near OP 7
Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.232004	-76.169045	34.32
2	39.231655	-76.168851	31.27
3	39.230496	-76.168857	22.72
4	39.230267	-76.169034	19.81
5	39.229569	-76.169479	14.78
6	39.229623	-76.169592	14.60
7	39.230575	-76.168964	25.34
8	39.231456	-76.169018	32.24
9	39.231772	-76.169350	32.05
10	39.232004	-76.169045	34.32

Name: Near OPs 8 9 10
Top height: 30.0 ft



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)
1	39.233044	-76.168644	40.45
2	39.233709	-76.166863	42.87
3	39.234856	-76.164911	44.03
4	39.235014	-76.165190	42.56
5	39.233837	-76.167070	41.49
6	39.233322	-76.168664	39.55
7	39.233044	-76.168644	40.45

Glare Analysis Results

Summary of Results Glare with potential for temporary after-image predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
Solar Array	SA tracking	SA tracking	321	5.3	118	2.0	2,642,000.0

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

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Fairlee Road	321	5.3	118	2.0
Fish Hatchery Road	0	0.0	0	0.0
Mt Pleasant Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0

PV: Solar Array potential temporary after-image

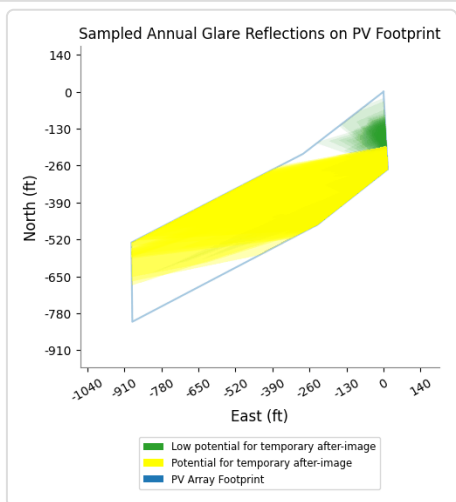
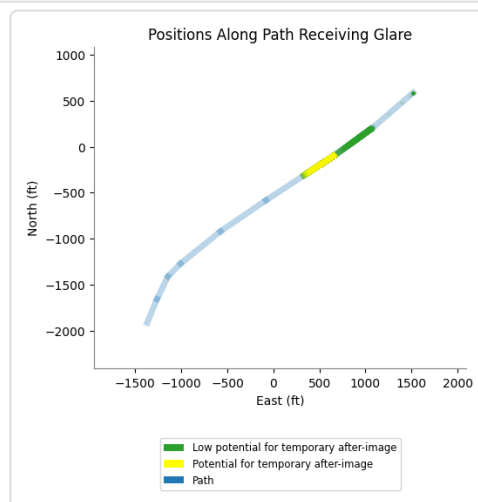
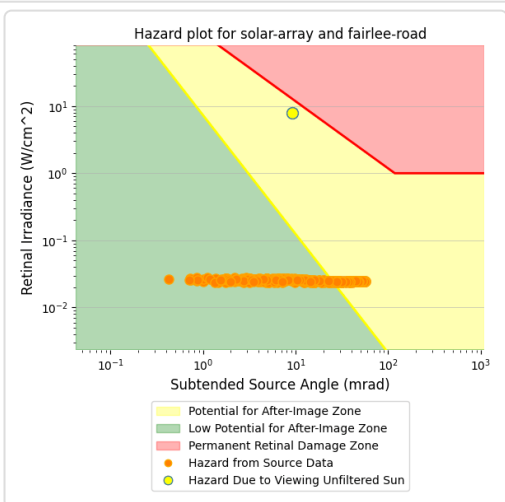
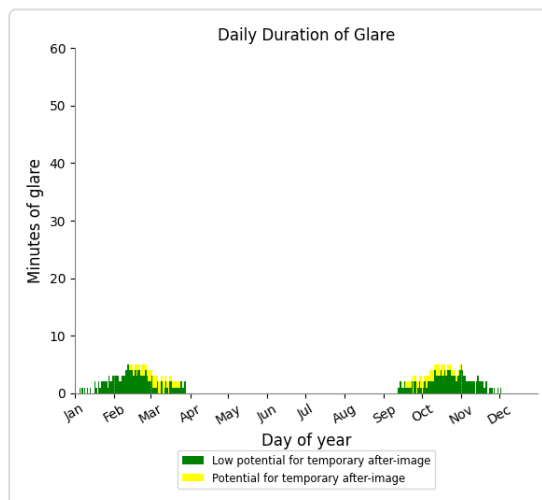
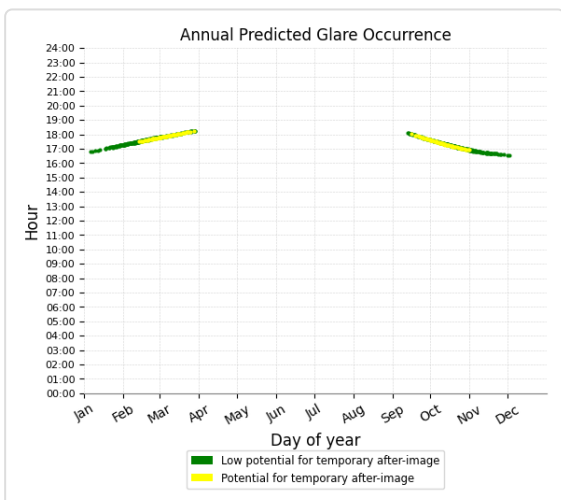
Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
Fairlee Road	321	5.3	118	2.0
Fish Hatchery Road	0	0.0	0	0.0
Mt Pleasant Road	0	0.0	0	0.0
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0

Solar Array and Route: Fairlee Road

Yellow glare: 118 min.

Green glare: 321 min.



Solar Array and Route: Fish Hatchery Road

No glare found

Solar Array and Route: Mt Pleasant Road

No glare found

Solar Array and OP 1

No glare found

Solar Array and OP 2

No glare found

Solar Array and OP 3

No glare found

Solar Array and OP 4

No glare found

Solar Array and OP 5

No glare found

Solar Array and OP 6

No glare found

Solar Array and OP 7

No glare found

Solar Array and OP 8

No glare found

Solar Array and OP 9

No glare found

Solar Array and OP 10

No glare found

Solar Array and OP 11

No glare found

Assumptions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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SETBACKS TO ACCOMMODATE REQUIRED LANDSCAPE BUFFER

1. 200 FEET FROM ANY LOT LINE

2. 200 FEET FROM ANY ROAD/AND/OR RIGHT-OF-WAY

3. 200 FEET FROM ANY ROAD/RIGHT-OF-WAY WITHIN ½ MILE OF A TOWN OR VILLAGE BOUNDARY THAT IS THE GATEWAY INTO A TOWN OR VILLAGE

4. 200 FEET FROM ANY RESIDENTIAL USE OR ZONING DISTRICT

5. SETBACKS MAY BE REDUCED TO 100 FEET FROM NON-RESIDENTIAL DEVELOPMENT WITH WRITTEN CONSENT FROM THE PROPERTY OWNERS WHOSE PROPERTY IS ADJACENT TO THE AREA IN WHICH THE SETBACK REDUCTION IS SOUGHT. THE PLANNING COMMISSION SHALL BE THE REVIEW AGENCY TO DETERMINE THE APPLICATION OF THIS PROVISION.

6. SETBACKS SHALL BE MAINTAINED FROM THE OUTERMOST EDGE OF THE NEAREST SOLAR PANEL STRUCTURE WITHIN THE SOLAR ARRAY INCLUDING SUBSTATIONS.

B. INSTALLATION AND MAINTENANCE STANDARDS

SOLAR ARRAY SHALL BE DESIGNED AND MAINTAINED ACCORDING TO THE FOLLOWING:

1. IF SOLVENTS ARE REQUIRED FOR CLEANING OF THE SOLAR MODULES, THEY MUST BE BIODEGRADABLE. ANY UNUSED SOLVENTS MUST BE REMOVED FROM THE SUBJECT PARCEL.

2. ALL BROKEN OR WASTE SOLAR MODULES SHALL BE REMOVED FROM THE SITE SUBJECT PARCEL WITHIN 30 DAYS OF BEING TAKEN OUT OF SERVICE, INCLUDING ANY LEACHING PANELS, AND THE SUBJECT PARCEL SHALL MAINTAIN A CLEAN APPEARANCE.

3. ALL WIRING NOT ON THE SOLAR ARRAYS SHALL BE UNDERGROUND EXCEPT WHEN NECESSARY TO CONNECT TO THE PUBLIC UTILITY.

4. TRANSMISSION WIRES TO CONNECT THE PROJECT TO THE UTILITY INFRASTRUCTURE SHALL NOT CROSS A ROADWAY OVERHEAD.

5. ANY REQUIRED UTILITY RIGHT OF WAY SHALL BE SECURED THROUGH AN EASEMENT, LEASE, SERVICE AGREEMENT OR OTHER LEGALLY BINDING DOCUMENT.

6. THE SOLAR ARRAY SHALL BE ENCLOSED BY A FENCE OR OTHER APPROPRIATE BARRIER AT THE INTERIOR EDGE OF THE REQUIRED LANDSCAPE BUFFER OR IMMEDIATELY ADJACENT TO THE SOLAR ARRAY. THE FENCE OR BARRIER SHALL:

a. SECURE THE FACILITY AT ALL TIMES TO PREVENT UNAUTHORIZED PERSONS OR VEHICLES FROM GAINING ACCESS.

b. ALL ACCESS GATES WILL PROVIDE A SIGN THAT IDENTIFIES THE RESPONSIBLE PARTIES OR OWNERS WITH CURRENT CONTACT INFORMATION.

7. NOISE GENERATED BY THE FACILITY SHALL BE LIMITED BY THE PROJECT DESIGN TO 45 DBAS MEASURED AT THE PROPERTY LINE, TO BE INDICATED ON THE SITE PLAN BY THE ENGINEER. EXCEPT WHEN A BACK-UP GENERATOR IS NEEDED FOR MAINTENANCE, CONSTRUCTION ON THE SITE IS EXEMPT FROM THIS STANDARD.

8. SOLAR ARRAYS, INCLUDING THE ELECTRICAL AND MECHANICAL COMPONENTS, SHALL CONFORM TO RELEVANT AND APPLICABLE LOCAL, STATE, AND NATIONAL CODES.

9. TO PROTECT ADJACENT PROPERTIES, AND NOT INTERFERE WITH ROADWAYS OR CREATE A SAFETY HAZARD, EVIDENCE SHALL BE PROVIDED THAT THE SOLAR PANELS ARE DESIGNED TO AVOID A GLARE AND/OR REFLECTION WITH ANTI-REFLECTIVE COATING OR NON-GLARE TECHNOLOGY AND, IF NECESSARY, HAVE BEEN EVALUATED WITH A SOLAR GLARE HAZARD AND ANALYSIS TOOL.

10. NON-ARRAY USES SUCH AS POWER STORAGE ARE NOT PERMITTED.

C. LANDSCAPE BUFFER FOR UTILITY-SCALE SOLAR ENERGY SYSTEMS

1. ANY UTILITY SCALE SOLAR FACILITY SHALL COMPLY WITH THE REQUIREMENTS OF THE FOREST CONSERVATION ACT. REFORESTATION PLANTING MAY BE INCORPORATED AS LANDSCAPING

2. THE GROSS USABLE AREA FOR PANELS WILL EXCLUDE WETLAND AREAS THAT ARE REGULATED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT OR THE U.S. DEPARTMENT OF THE INTERIOR. IMPACTS ASSOCIATED WITH A LOSS OF SOIL FOR ALL OTHER ROADWAY AND UTILITY CROSSINGS SHALL PROVIDE THE NECESSARY AUTHORIZATION FOR ANY DISTURBANCES.

3. EXISTING TOPSOIL SHALL NOT BE REMOVED FROM THE SITE.

4. A VEGETATED BUFFER THAT IS A MINIMUM OF 60 FEET WIDE AROUND THE PERIMETER OF THE SITE AREA FRAGMENTED ON ROAD OR RIGHTS OF WAY THAT ARE CONSIDERED GATEWAYS TO TOWNS OR VILLAGES AND A MINIMUM OF 50 FEET WIDE FOR ALL OTHER ROADWAYS. THIS BUFFER MAY BE LOCATED WITHIN THE SETBACK AND SHALL EXTEND AROUND THE ENTIRE PROJECT WITH THE EXCEPTION OF ANY BOUNDARIES CONTIGUOUS TO PRESERVED, FORESTED LANDS THAT ARE RECORDED ON A PLAT.

5. HEALTHY EXISTING VEGETATION WITHIN THE DESIGNATED BUFFER AREA MAY BE USED TO SATISFY THE SPECIFIC BUFFER STANDARDS.

6. NON-NATIVE PLANT MATERIAL SHALL NOT TOTAL MORE THAN 10% OF ALL PLANTINGS.

7. WHERE A PHASED CONSTRUCTION PLAN IS PROPOSED, THE LANDSCAPE PLAN SHALL IDENTIFY THE PHASING OF THE PLANTINGS APPLICABLE TO EACH CONSTRUCTION PHASE.

8. NOT MORE THAN 20% OF THE SINGLE PLANT SPECIES IN PART OF THE TOTAL PLANTING SHALL BE THE SAME SPECIES AND CONTRASTIVE PLANTING AND AVOID MONOTONY AND UNIFORMITY OF THE VEGETATION SHALL BE THICKLY PLANTED AND OF SUCH SPECIES THAT IT WILL PROVIDE AN OPACQUE VISUAL BARRIER THAT OBSCURES THE UTILITY SCALE SOLAR ARRAY FROM SIGHT ONCE THE VEGETATION REACHES MATURITY. PLANTINGS THAT ARE NOT EVERGREEN TREES, BUT COME FROM A MIX OF EVERGREEN AND DECIDUOUS TREES, SHRUBS AND BENEFICIAL HABILITAT SHALL BE INCLUDED:

a. A MINIMUM OF TWO STAGGERED ROWS OF EVERGREEN TREES THAT AT INSTALLATION SHALL BE AT LEAST 6 FEET IN HEIGHT, EACH PLANTED NO MORE THAN 10 FEET APART. EVERGREEN TREE SPECIES THAT ARE SUITABLE FOR THE CLIMATE AND MIXTURE OF COMPATIBLE TYPES AND ACHIEVE A HEIGHT OF EIGHT FEET IN A MINIMUM OF 2 YEARS.

b. IN ADDITION TO THE EVERGREEN TREES, NATIVE DECIDUOUS OR SHADE TREES WITH A MINIMUM SIZE AT INSTALLATION OF 2-INCH CALIPER SHALL BE INTERSPERSED TO ENHANCE THE EVERGREEN SCREENING AND ALONG WITH THE EVERGREEN TREES, A MINIMUM SIZE OF INSTALLATION OF 1-INCH CALIPER OR 6 FEET IN OVERALL HEIGHT OR GREATER IF REQUIRED BY THE PLANNING COMMISSION TO ADDRESS GATEWAY AREAS.

c. SHRUBS WITH A MINIMUM SIZE AT INSTALLATION OF 24 INCHES IN HEIGHT OR 30 INCHES IN SPREAD.

d. THE BUFFER SHALL INCLUDE A FLOWERING GROUND COVER FOR POLLINATORS, WARM SEASON PERENNIALS AND ANNUALS. THE BUFFER SHALL BE PLANTED TO THE FOLLOWING CONDITIONS:

i. THE BUFFER SHALL BE PLANTED WITH A MINIMUM OF 10 PLANT SPECIES WITH A MINIMUM OF 2 FLOWERING SEASONS. LAWNS OUTSIDE THE REQUIRED BUFFER ARE DISCOURAGED. PLANTINGS FOR POLLINATORS ARE ENCOURAGED IN ALL PLANTED AREAS.

e. THE HEIGHT OF PROPOSED PLANTING MAY REQUIRE ALTERNATIVES BASED UPON THE SITE ELEVATION AND ELEVATION FROM ADJACENT PROPERTIES AND ROADS AND/OR RIGHTS OF WAYS. IF NECESSARY, AN ANALYSIS OR PERSPECTIVE ILLUSTRATION EXHIBIT SHALL BE PROVIDED WITH KEY POINTS FROM RELEVANT LOCATIONS AROUND THE SITE FOR THE PLANNING COMMISSION TO CONSIDER.

D. LANDSCAPE BERM SHALL BE PROVIDED AT A MINIMUM OF THREE (3) FEET HIGH TO ASSIST IN SCREENING. THE DESIGN OF THE BERM SHALL BE SUCH THAT THE NATURAL DRAINAGE PATTERNS OF THE SITE WILL NOT BE ALTERED. THE BERM SHALL BE MAINTAINED TO THE FOLLOWING CONDITIONS:

1. A MINIMUM OF TWO STAGGERED ROWS OF EVERGREEN TREES THAT AT INSTALLATION ARE AT LEAST 8 FEET IN HEIGHT AND PLANTED NO MORE THAN 10 FEET APART.

2. INTERSPERSED SHADE TREES HAVE A MINIMUM SIZE AT INSTALLATION OF 2-5 INCH CALIPER.

3. SHRUBS WITH A MINIMUM SIZE AT INSTALLATION OF 30 INCHES IN HEIGHT.

4. UNDERSTORY STORM TREES AT INSTALLATION OF 10 INCHES IN HEIGHT.

5. THE LANDSCAPING PLAN IS DEEMED TO SCREEN ELEVATIONS OF THE SITE ADEQUATELY WITHIN 2 YEARS.

E. IRRIGATION SHALL BE PROVIDED TO ASSIST IN MAINTAINING PLANT MATERIALS IN A HEALTHY CONDITION FOR ALL NEWLY CREATED LANDSCAPE BUFFER AREAS. PLANTS SHALL BE WATERED IN A MANNER ADEQUATE TO ENSURE ESTABLISHMENT OF SUBSEQUENT GROWTH. THE IRRIGATION SYSTEM SHALL INCLUDE A WATERING SCHEDULE APPROPRIATE FOR THE PROPOSED PLANTINGS, WHICH MAY INCLUDE SERVICE BY ON-SITE IRRIGATION OR WATER TRUCK. UNTIL THE PLANT MATERIAL IS SUFFICIENTLY ESTABLISHED TO SURVIVE ON NATURAL SOIL MOISTURE, AN IRRIGATION SYSTEM IS SUBJECT TO THE FOLLOWING:

1. THE IRRIGATION SYSTEM SHALL BE DESIGNED TO PREVENT RUNOFF, LOW HEAD DRAINAGE, OVERSPRAY, OR OTHER SIMILAR CONDITIONS WHERE IRRIGATION WATER FLOWS ONTO NONTARGETED AREAS SUCH AS ADJACENT PROPERTIES, ROADWAYS, OR STRUCTURES.

2. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE DESIGNED TO MINIMIZE WATER USAGE AND SHALL BE CAPABLE OF SHUT OFF DURING WATER EMERGENCY SITUATIONS.

3. AN ALTERNATIVE FORM OF IRRIGATION FOR A PARTICULAR SITE MAY BE APPROVED THROUGH THE APPLICABLE REVIEW PROCESS UPON DETERMINING THAT UNDERGROUND IRRIGATION IS NOT NECESSARY OR AVAILABLE FOR THE TYPE OF PLANT MATERIAL BEING PROPOSED.

F. A MAINTENANCE AGREEMENT FOR THE LANDSCAPE BERM SHALL BE PROVIDED WITH A SURETY OR OTHER FINANCIAL ASSURANCE TO COVER THE COSTS OF THE PLANTING AND IRRIGATION SYSTEMS. ALL PLANTINGS SHALL BE MAINTAINED IN A LIVE, HEALTHY CONDITION FOR THE DURATION OF THE SOLAR ARRAY LIFE AND SHALL BE REPLACED BY THE SOLAR ARRAY OPERATOR AS NECESSARY WITH APPROPRIATELY SIZED PLANT MATERIAL AS REQUIRED TO MAINTAIN THE BERM TO THE FOLLOWING STANDARDS:

G. THE SURETY MAY BE PROVIDED ON A PHASED BASIS PER THE LANDSCAPE PHASING PLAN AND SHALL BE HELD BY THE COUNTY FOR A PERIOD OF THREE YEARS FOLLOWING PLANTING, AFTER WHICH THE COUNTY, UPON SATISFACTORY INSPECTION OF THE LANDSCAPE FOLLOWUP MAY RELEASE 50% OF THE SURETY, AND THE REMAINING 50% MAY BE RELEASED AT THE END OF THE FIVE YEAR PERIOD. THE COUNTY THEN RESERVES THE RIGHT TO INSPECT AND REQUIRE REPLACEMENT FOR THE DURATION OF THE SOLAR ARRAY.

H. ENTRANCE TO THE PROJECT SHOULD BE DESIGNED TO ENSURE THAT NEIGHBORING PROPERTIES, PUBLIC RIGHTS OF WAYS AND ROADS ARE NOT EXPOSED TO AN UNSCREENED VIEW THROUGH THE ENTRANCEWAY. THE DESIGN OF A NEW OR EXISTING ENTRANCEWAY SHALL BE REVIEWED BY THE COUNTY AND IS NOT ACCEPTABLE.

I. THE PROJECT SHALL COMPLY WITH ALL APPLICABLE FEDERAL AND STATE REGULATIONS, INCLUDING BUT NOT LIMITED TO OBTAINING A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FROM THE PUBLIC SERVICE COMMISSION IF REQUIRED, AND IN THE REMOVAL AND DISPOSAL OF THE UTILITY SCALE SOLAR ARRAY AND ALL OF ITS COMPONENTS.

J. THE PROJECT SHALL COMPLY WITH ALL OTHER APPLICABLE REGULATIONS, AS CONTAINED IN THE PUBLIC LAWS OF KENT COUNTY.

K. THE PROJECT SHALL COMPLY WITH THE BOND-RELATED REQUIREMENTS BELOW:

1. A BOND, SURETY LETTER, OR OTHER FINANCIAL INSTRUMENT FOR REMOVAL OF ALL SOLAR-RELATED STRUCTURES AND COMPONENTS OF THE PROJECT, INCLUDING ANY COMPONENTS CONTAINING HAZARDOUS OR TOXIC MATERIALS INCLUDING LEACHATES;

2. THE COST ESTIMATE SHALL ADDRESS PROVISIONS FOR THE SAFE REMOVAL AND PROPER DISPOSAL OF THE COMPONENTS OF THE PROJECT;

4. BOND SHALL BE MAINTAINED FOR THE LIFE OF THE PROJECT;

5. BONDING MAY BE IN COORDINATION WITH OTHER REQUIRED BONDING BY THE STATE OF MARYLAND, PSC, PULL, ETC.

6. IN THE EVENT THAT NO OTHER BONDINGS IS REQUIRED, THEN A BOND IN FAVOR OF THE COUNTY SHALL BE REQUIRED;

7. SAID BONDING SHALL INCLUDE AN ESCALATOR PROVISION BASED ON CHANGES TO THE COST OF RESTORATION, ALLIATED TO THE INFLATION RATE, AND THE COUNTY SHALL BE NOTIFIED OF ANY CHANGES;

8. SAID BOND SHALL BE FOR 110% OF THE ABOVE ESTIMATE(S) AND/OR UPDATED ESTIMATE(S) FROM FIVEYEAR REVIEWS;

9. SAID BOND SHALL BE REDEEMABLE BY THE COUNTY UPON A FINDING THAT THE PROJECT HAS BEEN ABANDONED, WITH OR WITHOUT NOTICE FROM PROJECT OPERATORS, IF PROJECT HAS, IN FACT, BEEN ABANDONED BY ITS OWNERS;

10. THE PROJECT WILL BE CONSIDERED TO BE ABANDONED, IF THERE IS NO ELECTRIC GENERATION PROVIDED TO THE GRID FOR A PERIOD OF TWELVE (12) CONSECUTIVE MONTHS.

PROPOSED SOLAR FACILITY

FISH HATCHERY ROAD 50' R.O.W.

FAIRLEE ROAD 60' R.O.W.

EXISTING WOODS

EXISTING FARM FIELD

PROPERTY INFORMATION:

- TAX MAP 36 PARCEL 56 N/F ANNA M POWERS & MELISSA LIVELY & DARLENE R WALKER DEED BOOK 617 PAGE 467
- TAX MAP 36 PARCEL 49 HOAGLAND FAMILY LIMITED PARTNERSHIP DEED BOOK 85 PAGE 198
- TAX MAP 36 PARCEL 189 N/F HARRIE D BLACK & MARILYN D BLACK DEED BOOK 898 PAGE 50
- TAX MAP 36 PARCEL 188 N/F DANIEL RICHARD BLACK JR & MARY E BLACK DEED BOOK 503 PAGE 300
- TAX MAP 36 PARCEL 72 N/F RAYMOND P CHAMBERS EUGENE F DEEMS JR DEED BOOK 785 PAGE 82
- TAX MAP 36 PARCEL 179 N/F MICHAEL WALTER DEED BOOK 1023 PAGE 265
- TAX MAP 36 PARCEL 243 N/F KENT HOUSING ASSOCIATES LP DEED BOOK 630 PAGE 172
- TAX MAP 36 PARCEL 211 N/F KENT HOUSING ASSOCIATES LP DEED BOOK 630 PAGE 172
- TAX MAP 36 PARCEL 142 N/F KENT HOUSING ASSOCIATES LP DEED BOOK 630 PAGE 172
- TAX MAP 36 PARCEL 5 HOAGLAND FAMILY LIMITED PARTNERSHIP DEED BOOK 924 PAGE 207

BOUNDARY BEARINGS AND DISTANCES:

- N 31° 44' 44" W 171.38'
- N 81° 34' 33" E 259.57'
- N 31° 56' 00" E 494.09'
- N 31° 15' 29" E 625.55'
- N 08° 11' 23" W 666.41'
- N 01° 47' 08" W 544.87'
- N 19° 34' W 545.11'
- N 75° 17' 20" E 676.17'
- N 75° 01' 31" E 121.52'
- S 56° 09' 05" E 130.15'
- S 56° 00' 54" W 1095.10'
- S 51° 43' 21" W 594.32'
- S 56° 00' 54" W 802.46'
- S 47° 01' 16" W 1996.13'
- S 75° 14' 55" W 69.20'
- 200 B.R.L. (multiple locations)

CURVE DATA:

- RADIUS: 2987.00' ARC LENGTH: 278.46' CHD. BRG: N 44° 21' 01" E CHD. LENGTH: 278.36'
- RADIUS: 6287.00' ARC LENGTH: 990.57' CHD. BRG: N 51° 32' 05" E CHD. LENGTH: 989.54'
- RADIUS: 4563.00' ARC LENGTH: 344.39' CHD. BRG: N 53° 53' 11" E CHD. LENGTH: 344.31'

SHEET INDEX

C-001	COVER SHEET
C-101	EXISTING CONDITIONS PLAN
C-201	SITE PLAN
C-401	GRADING PLAN
C-581	EROSION AND SEDIMENT CONTROL PLAN
C-502	ESC NOTES & CONSTRUCTION DETAILS
C-583	ESC CONSTRUCTION DETAILS
C-901	CONSTRUCTION NOTES AND DETAILS
L-001	FOREST CONSERVATION PLAN
L-101	LANDSCAPE PLAN
L-102	FENCE DETAIL

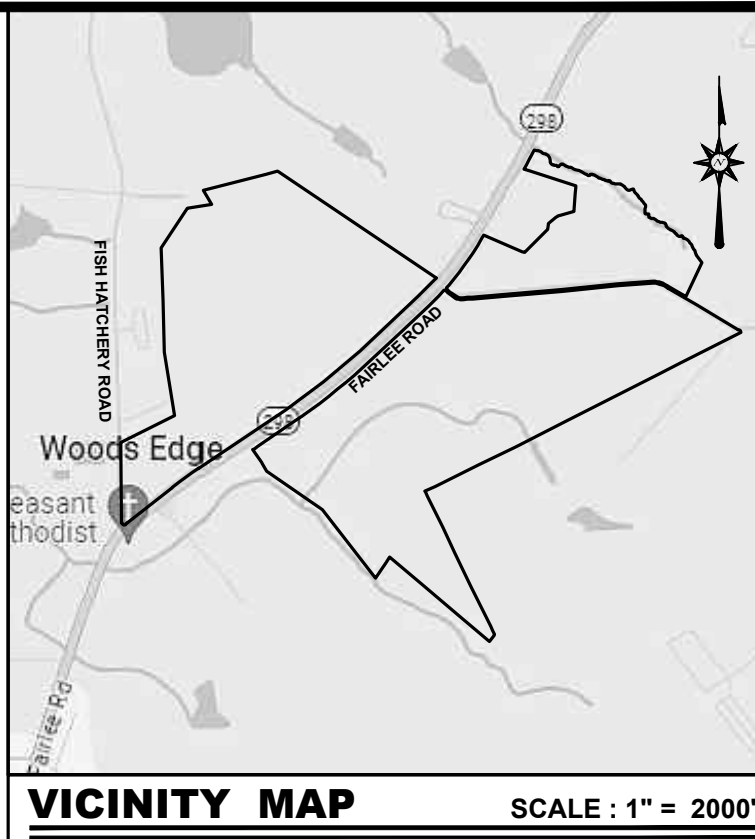
LEGEND		
ITEM	EXISTING	PROPOSED
SANITARY GRAVITY SEWER LINE, SIZE & FLOW DIRECTION	→ EX. 10" S	→ 10" S
SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION	→ EX. 10" F.M.	→ 12" F.M.
SANITARY SEWER MANHOLE (S.M.H.)		
SANITARY SEWER CLEANOUT		
WATER MAIN & SIZE	→ EX. 10" W	→ 12" W
FIRE HYDRANT		
WATER VALVE (W.V.) OR METER (W.M.)		
STORM DRAIN MANHOLE (S.D.M.H.)		
STORM DRAIN LINE (CMP OR RCP)		
CATCH BASIN		
UTILITY POLE W/ OVERHEAD SERVICE (TELEPHONE OR ELECTRIC OR BOTH)		
UNDERGROUND ELECTRIC	— U.E.	— U.E.
UNDERGROUND TELEPHONE	— U.T.	— U.T.
UNDERGROUND GAS MAIN	→ EX. 2" G	→ 2" G
PAVEMENT TO BE REMOVED	N/A	
CONCRETE CURB & GUTTER		
CONCRETE SIDEWALK, SLAB / PAVING		
IMPERVIOUS SURFACED ROAD, DRIVE OR LOT		
INDIVIDUAL TREE OR BUSH		N/A
WINE FENCE		N/A
AGRICULTURAL FENCE		N/A
STOCKADE FENCE		N/A
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)		
DRAINAGE DITCH OR SWALE		
EMBANKMENT SIDESLOPES (DOWN)		
CONTOUR	49	55
ELEVATION SPOT SHOT	43.55	25.50 T.C. 25.00 B.C.
BENCH MARK		
PROPERTY OR RIGHT-OF-WAY LINE		
CENTERLINE		
LIGHT POLE		
CONSTRUCTION NOTE	N/A	

1. SITE NAME: MDL153 - MASON SOLAR
2. SITE ADDRESS: 9425 FAIRLEE ROAD
3. SITE OWNER: THOMAS & ALICE MASON
23991 MELITOTA ROAD
CHESTERTOWN, MD 21620
4. DEVELOPER: MDL153 MASON SOLAR, LLC
JOSH SPENCER, PE, PMP
6865 DEERPATH ROAD, SUITE 330
ELKRIDGE, MD 21075
850-450-9895
5. ENGINEER: BECKER MORGAN GROUP, INC.
C/O EDWARD (TED) HASTINGS, PMP
312 WEST MAIN STREET, SUITE 300
SALISBURY, MD 21801
410-546-9100
6. GEOGRAPHIC COORDINATES:
LATITUDE: 39°13' 57.18"N
LONGITUDE: 76° 10' 02.15"W
7. TAX MAP: 36
8. PARCEL: 9
9. DEED BOOK/PAGE: 7741474
10. PARCEL AREA: 335.16 ACRES ±
11. LEASE AREA: 9.24 ACRES ±
12. ARRAY AREA: 4.98 ACRES
13. LIMIT OF DISTURBANCE: 9.24 ACRES ±
14. JURISDICTION: KENT COUNTY
15. ZONE: AGRICULTURAL ZONING DISTRICT (AZD)
16. MINIMUM YARD AND SETBACK REQUIREMENTS FOR UTILITY SCALE SOLAR IS AS FOLLOWS:
FRONT: 200 FEET
REAR: 200 FEET
SIDE: 200 FEET
17. FLOOD ZONE DETERMINATION:
(BASED ON FLOOD INSURANCE RATE MAPS PROVIDED BY FEMA)
FIRM MAP: 2402SC0260D
EFFECTIVE DATE: JUNE 9, 2014
FIRM ZONE: "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL FLOODPLAIN
18. WATER AND SEWER NOT PROPOSED FOR THE SITE.

APPROVED:	
DATE	KENT COUNTY PLANNING DIRECTOR

APPROVED:	
DATE	KENT COUNTY PLANNING COMMISSION

APPROVED:	
DATE	KENT COUNTY HEALTH DEPARTMENT APPROVING AUTHORITY

ARCHITECTURE
ENGINEERING

309 South Governors Avenue
Dover, DE 19904
302.734.7950
The Tower at STAR Campus
100 Discovery Boulevard, Suite 100
Newark, DE 19713
302.369.3700
Maryland

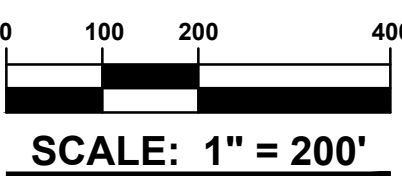
North Carolina

Wilmington, NC 28403
910.341.7600
www.beckermorgan.com

MDL153 MASON SOLAR

9425 FAIRLEE ROAD
CHESTERTOWN
KENT COUNTY, MARYLAND

COVER SHEET

[illegible]



309 South Governors Avenue
Dover, DE 19904
302.734.7950
The Tower at STAR Campus
100 Discovery Boulevard, Suite 1
Newark, DE 19713
302.369.3700

312 West Main Street, Suite 300
Salisbury, MD 21801
410.546.9100

3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910 341 7600

www.beckermorgan.com

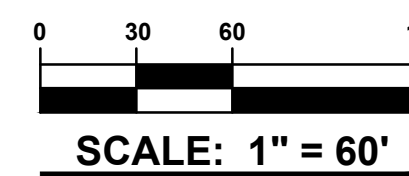
PROJECT TITLE

MDL153
MASON SOLAR

9425 FAIRLEE ROAD
CHESTERTOWN
KENT COUNTY, MARYLAND

SHEET TITLE	
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EXISTING CONDITIONS PLAN



ISSUE BLOCK

	06/06/24	PLANNING COMMISSION 05/02/2024
MARK	DATE	DESCRIPTION

LAYER STATE: C-101

PROJECT NO.: 2023293.00

DATE:	01/30/2024
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SCALE: 1" = 60'

DRAWN BY: E.H.H.	PROJ. MGR.: E.H.H.
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SHEET

C-101

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SOIL TYPE LISTING		
MTCa	MATTAPEX SILT LOAM, 0 TO 2 PERCENT SLOPES, MID-ATLANTIC COASTAL PLAIN	C
MTCb	MATTAPEX SILT LOAM, 0 TO 5 PERCENT SLOPES, MID-ATLANTIC COASTAL PLAIN	C

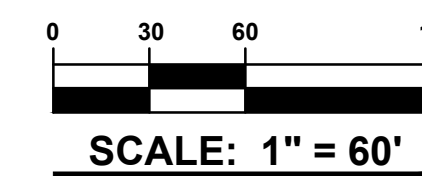


www.beckermorgan.com

MDL153
MASON SOLAR

9425 FAIRLEE ROAD
CHESTERTOWN
KENT COUNTY, MARYLAND

PROPOSED SITE PLAN

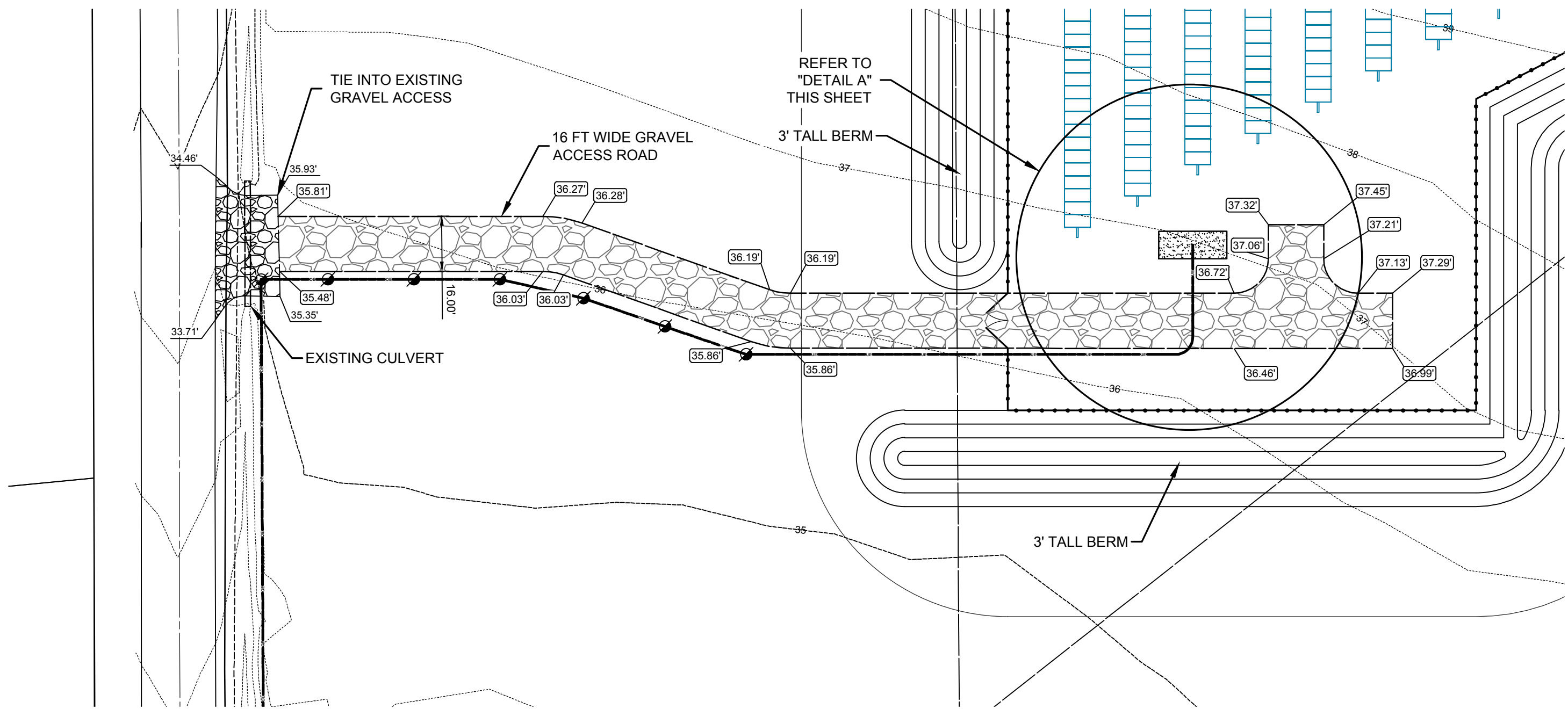


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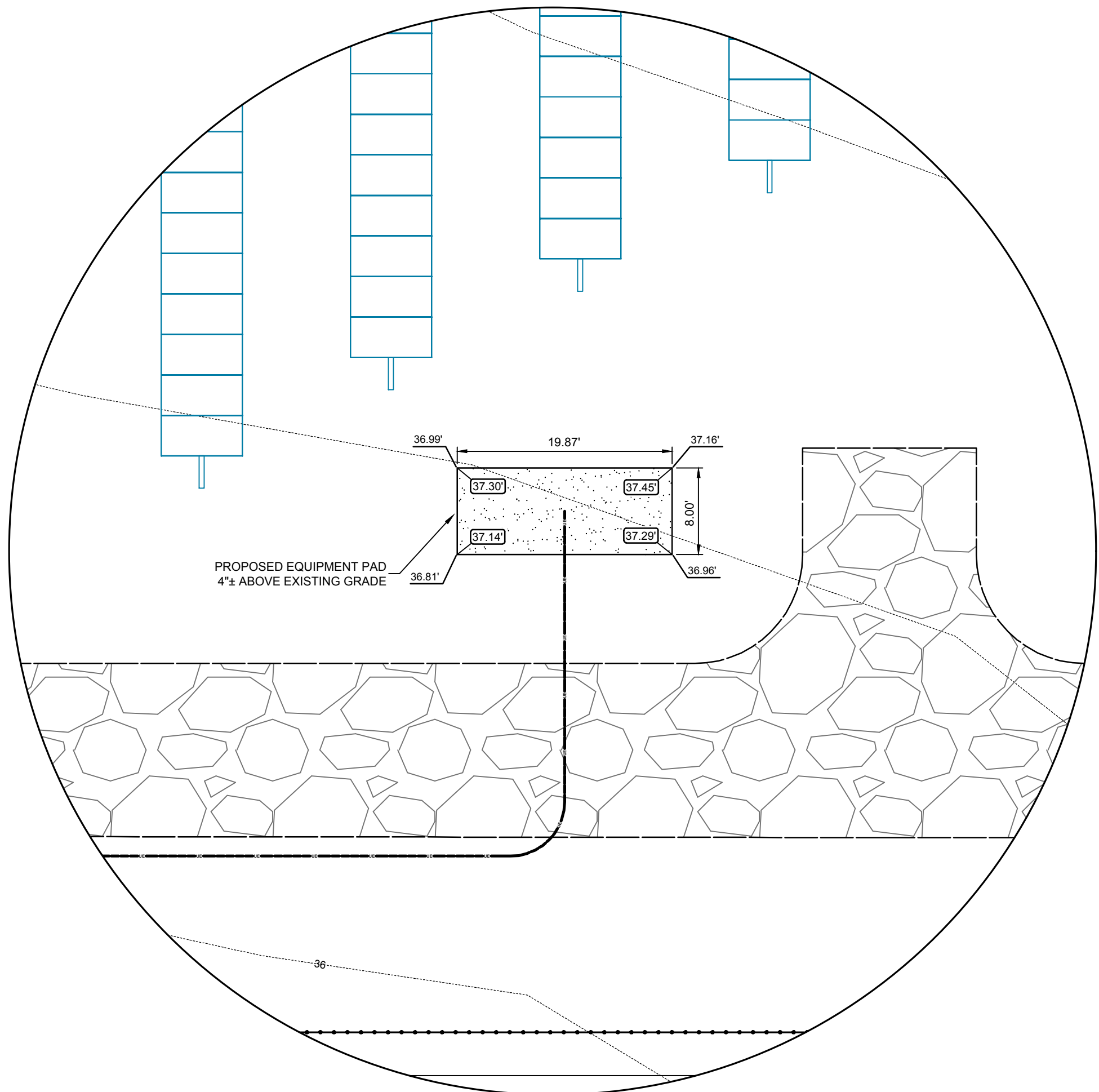


SOIL TYPE LISTING		
MTcA	MATTAPEX SILT LOAM, 0 TO 2 PERCENT SLOPES, MID-ATLANTIC COASTAL PLAIN	C
MTcB	MATTAPEX SILT LOAM, 0 TO 5 PERCENT SLOPES, MID-ATLANTIC COASTAL PLAIN	C



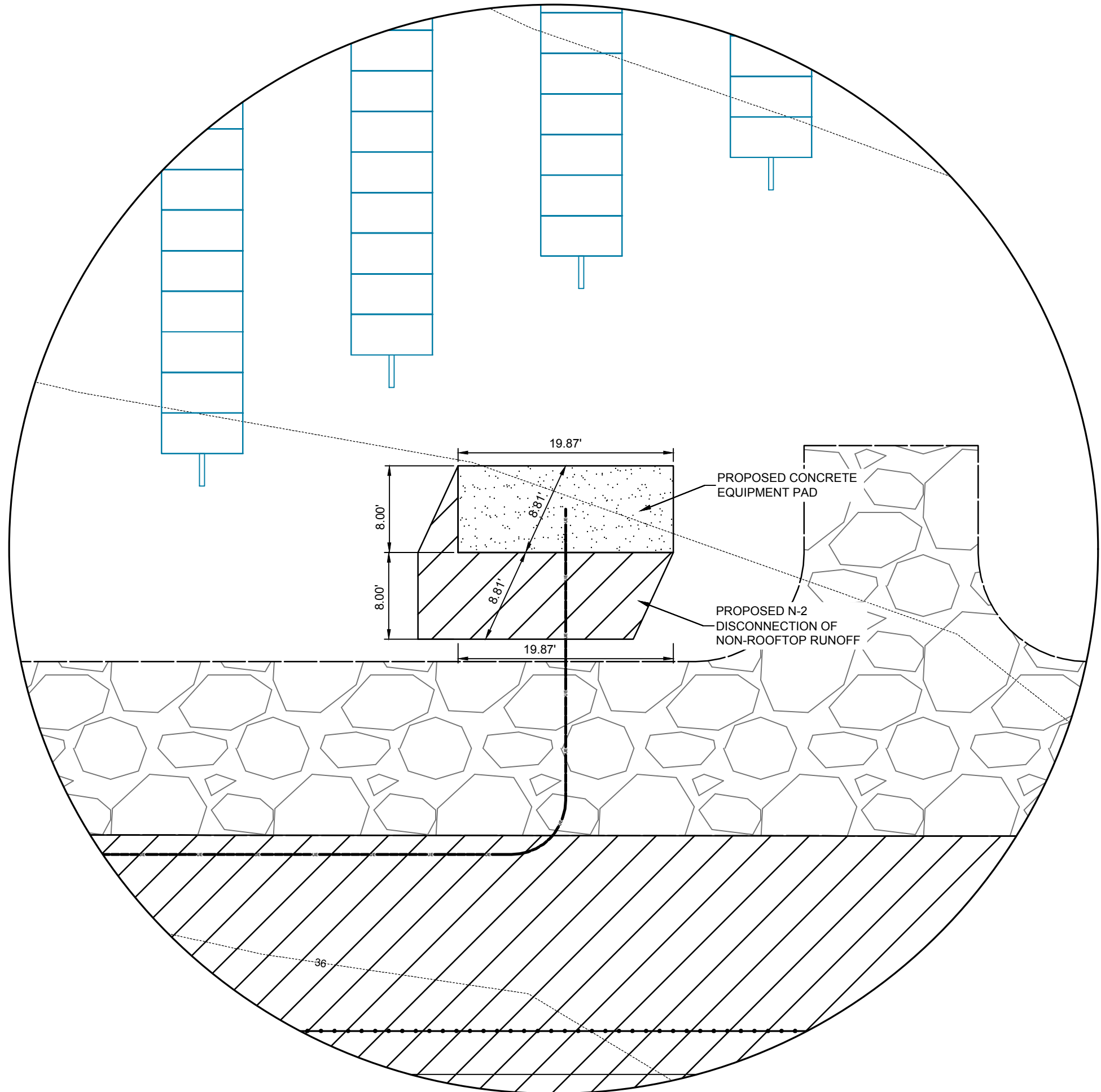
PLAN VIEW - SITE ACCESS

SCALE: 1" = 30'



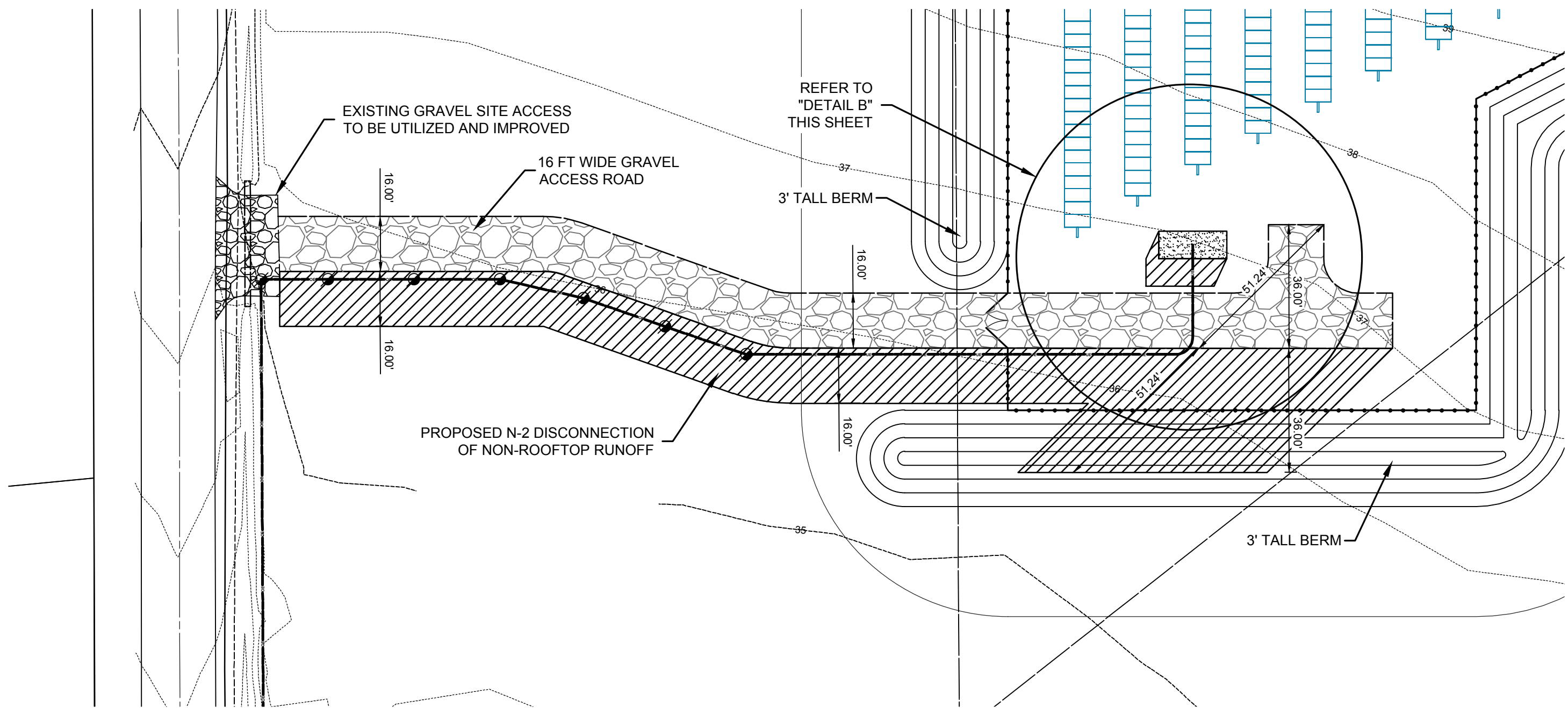
DETAIL A

SCALE: 1" = 10'



DETAIL B

SCALE: 1" = 10'



PLAN VIEW - DISCONNECT AREA

SCALE: 1" = 30'

PROJECT TITLE

MDL153
MASON SOLAR

9425 FAIRLEE ROAD
CHESTERTOWN
KENT COUNTY, MARYLAND

SHEET TITLE

SITE GRADING AND ACCESS ROAD CONSTRUCTION PLAN

ISSUE BLOCK

06/06/24	PLANNING COMMISSION 05/02/2024
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MARK	DATE	DESCRIPTION
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PROJECT NO.: 2023293.00

DATE: 01/30/2024

SCALE: AS SHOWN

DRAWN BY: **FMR** PROJ MGR: **FHH**

SHEET

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C-401

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018181_28764\202329300-SITE-C3D21.0Wq, July 06, 2024 - 10:11



9425 FAIRLEE ROAD
CHESTERTOWN
KENT COUNTY, MARYLAND

LANDSCAPE PLAN



L-001

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\\BMGSBY01\Cad\AutoCAD\Projects\2023\202329300\DWG\202329300-LSCAPE-C3D21.dwg, Jun 04, 2024 - 4:22pm

GENERAL LANDSCAPE NOTES :

1. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARDS FOR NURSERY STOCK."

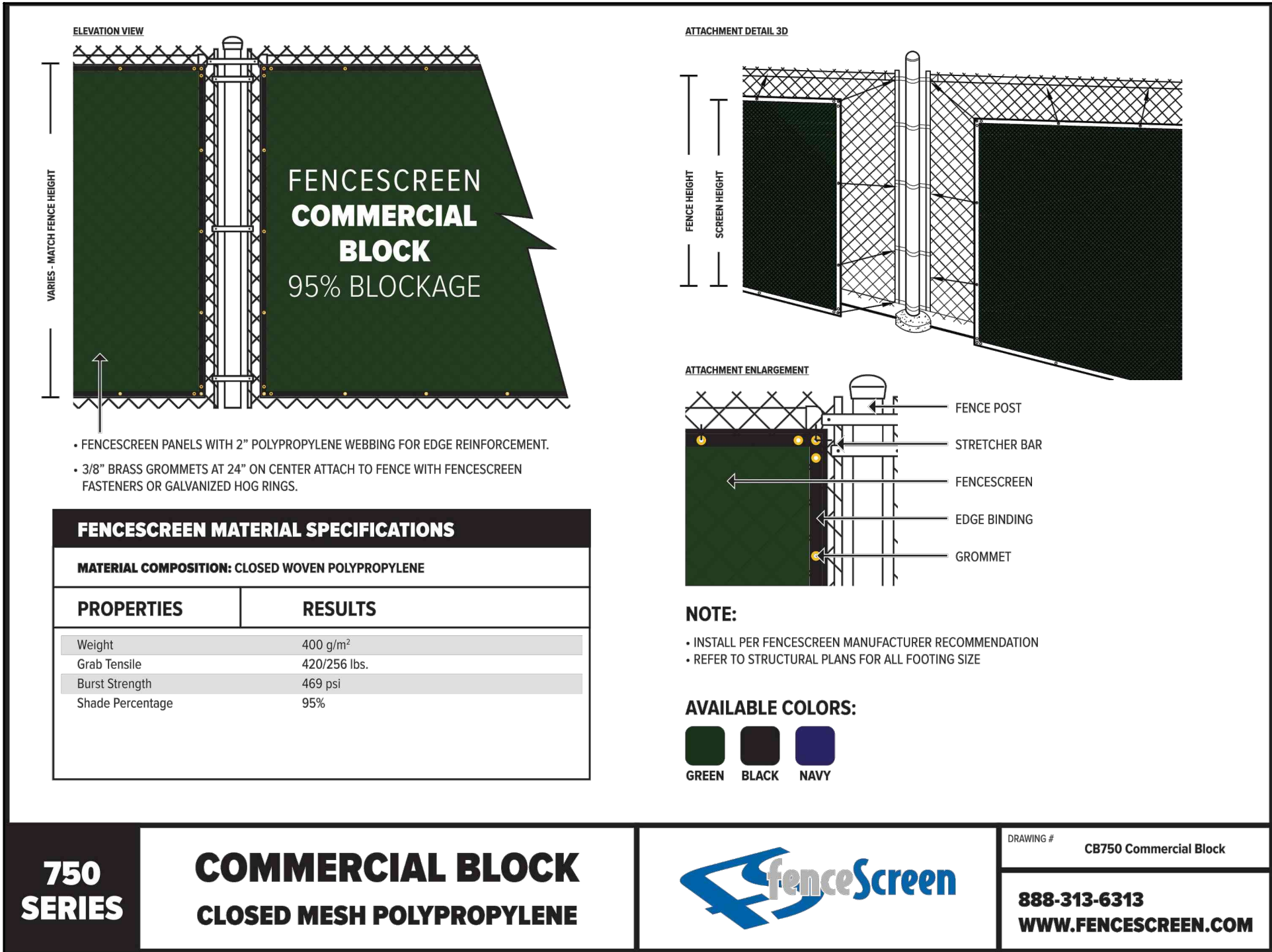
EVERGREEN TREES SHALL HAVE A FULL, WELL-BRANCHED, CONICAL FORM TYPICAL OF THE SPECIES.

ALL DECIDUOUS SHADE TREES SHALL BRANCH A MINIMUM OF 7'-0" ABOVE GROUND LEVEL. TREES SHALL BE PLANTED AND STAKED IN ACCORDANCE WITH THE DETAIL SHOWN.

PLANT MATERIALS DELIVERED TO THE SITE IN UNCOVERED TRUCKS WILL BE REJECTED.

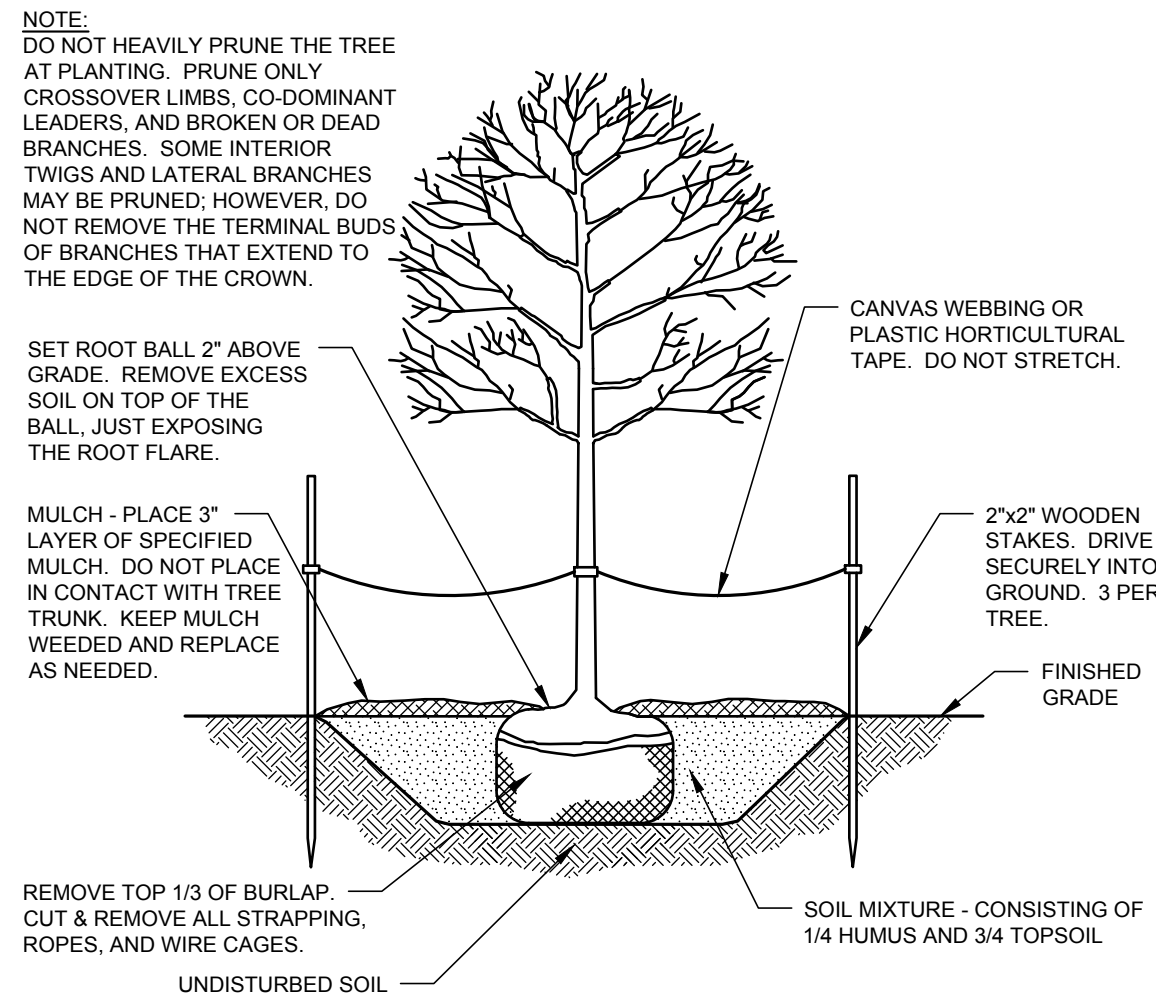
UNACCEPTABLE PLANT MATERIALS: MATERIALS WHICH HAVE DAMAGED OR CROOKED LEADERS, DEFORMED GROWTH HABIT, ABRASIONS OF THE BARK, SUN SCALD, WINDBURN, DISFIGURING NOT COMPLETELY CALLOSED WILL BE REJECTED. IN ADDITION, TREES HAVING THEIR CENTRAL LEADERS HEADED BACK WILL ALSO BE REJECTED. PLANTS WITH LOOSE OR CRACKED ROOT BALL OR CONTAINERS WILL BE REJECTED.
2. ALL PLANTS SHALL BE PLANTED IN TOPSOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACKFILLING PROGRESSES. NOTHING BUT SUITABLE TOPSOIL, FREE OF DRY SOD, STIFF CLAY, LITTER, STONES IN EXCESS OF ONE (1) INCH DIAMETER, ETC. SHALL BE USED FOR PLANTING.

MULCH FOR PLANTING BEDS SHALL BE SHREDDED HARDWOOD BARK MULCH UNLESS OTHERWISE SPECIFIED ON THE PLANS AND SHALL HAVE NO LEAVES, YOUNG GREEN GROWTH, BRANCHES, TWIGGS, GREATER IN DIAMETER OF 1/2". WEEDS, SHAVINGS OR FOREIGN MATERIAL SUCH AS STONES, ETC. SHALL BE MIXED WITH THE MULCH. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS WITH A LIGHTLY COMPACTED DEPTH OF THREE (3) INCHES. ALL CONTAINER PLANTS ARE TO HAVE ROOTS CUT ON FOUR SIDES AND/ OR SPREAD OUT IN NEW SOIL MIXTURE.
3. ALL AREAS NOT STABILIZED IN PAVING OR PLANT MATERIALS SHOULD BE SEEDED AND MULCHED. (SEE EROSION & SEDIMENT CONTROL PLAN AND NOTES.)
4. LANDSCAPE BEDS NOT DEFINED BY CURBS, SIDEWALKS, WALLS OR OTHER STRUCTURES SHALL BE ENCLOSED BY ALUMINUM EDGING UNLESS OTHERWISE INDICATED.
5. AREAS DISTURBED BY LANDSCAPE OPERATIONS SHALL BE GRADED TO MATCH EXISTING TOPSOIL AND SEED OR SOD AS REQUIRED.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND/OR LOCATION OF PLANT MATERIALS. CONTRACTOR TO VERIFY "AS BUILT" LOCATION OF ALL UTILITIES.
7. NO PLANT, EXCEPT GROUNDCOVERS, SHALL BE WITHIN THREE (3) FEET FROM SIDEWALKS.
8. NO TREE SHALL BE PLANTED CLOSER THAN TEN (10) FEET FROM ANY STRUCTURE OR BUILDING.
9. NO TREE SHALL BE PLANTED WITHIN TEN (10) FEET OF UNDERGROUND UTILITIES OR FIRE HYDRANTS.
10. ONLY TREES THAT REACH A HEIGHT AND SIZE AT MATURITY OF SMALL TO MEDIUM SHALL BE PLANTED UNDER POWER LINES.
11. THE CONTRACTOR SHALL WATER ALL PLANTS THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING, AND THEN WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON, UNLESS THE OWNER AGREES TO MAINTAIN AND WATER THEM.
12. TREES TO REMAIN ON-SITE SHALL BE PROTECTED WITH SNOW FENCE DURING CONSTRUCTION (SEE DETAIL). SNOW FENCING TO BE MAINTAINED DURING CONSTRUCTION BY CONTRACTOR.
13. THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE SHOULD ANY PLANT QUANTITY DISCREPANCIES OCCUR.
14. NO SUBSTITUTIONS SHALL BE MADE WITHOUT APPROVAL OF THE OWNER AND/ OR THE LANDSCAPE ARCHITECT.
15. ALL NEW TREES SHALL BE GUARANTEED TO SURVIVE FOR ONE FULL YEAR AFTER INSTALLATION (FULL COST). ALL STAKES AND GUYS SHALL BE REMOVED FROM TREES AND SITE AS EARLY AS THREE (3) MONTHS, BUT NO LONGER THAN ONE (1) YEAR AFTER PLANTING.



FENCE SCREEN MESH

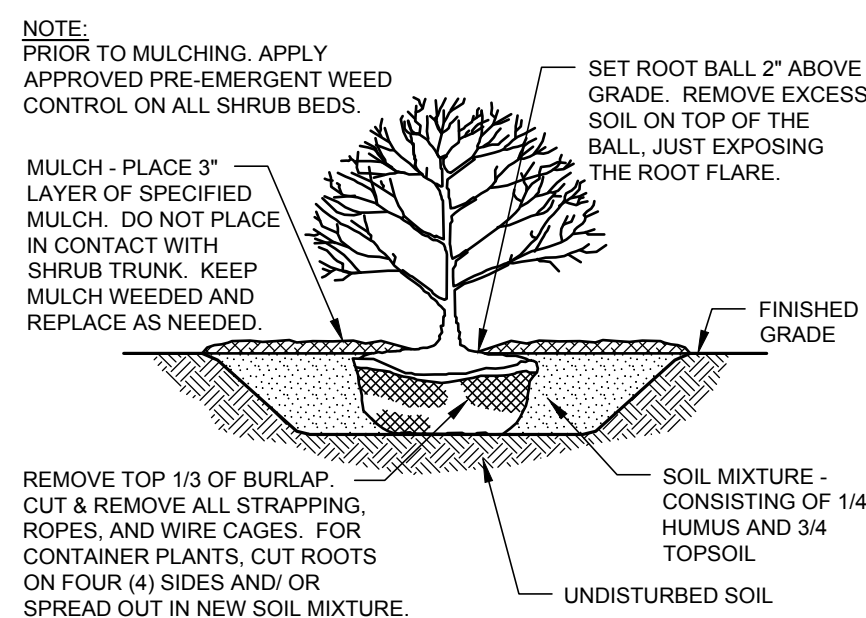
NO SCALE



DECIDUOUS TREE PLANTING DETAIL

NO SCALE

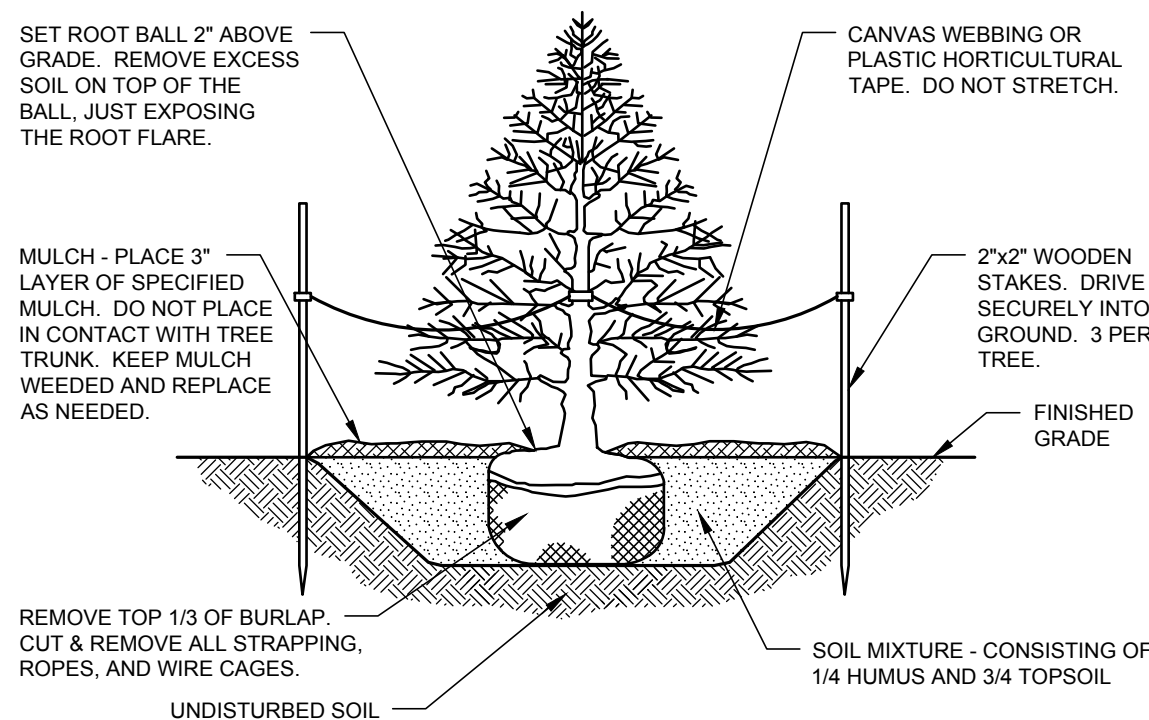
BMG NO.: L-01



SHRUB PLANTING DETAIL

NO SCALE

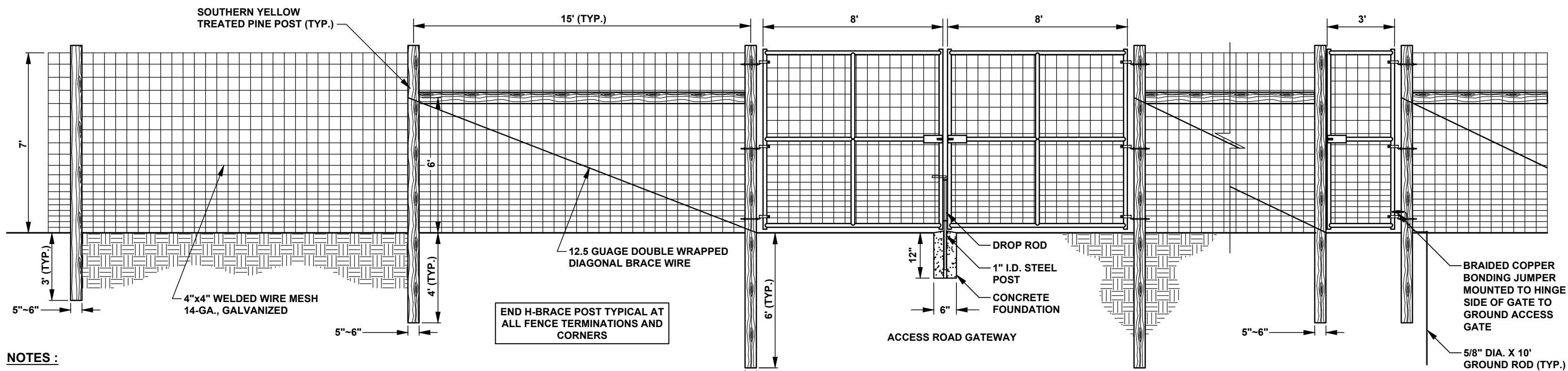
BMG NO.: L-03



EVERGREEN TREE PLANTING DETAIL

NO SCALE

BMG NO.: L-02



NOTES :

1. GATE SHALL BE DOUBLE SWING TYPE, PROVIDED WITH GATE HOLD BACKS, LOCKABLE GATE LATCH AND DROP BAR INSTALLED IN A MINIMUM OF 1 CUBIC FOOT OF CONCRETE. GATES SHALL BE INSTALLED AND BRACED IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS. ALL GATE POSTS SHALL BE A MINIMUM OF 6" IN DIAMETER OR AS RECOMMENDED BY THE INSTALLER.
2. THE FENCING SHALL BE WELDED FIELD WIRE, 7 FEET HIGH. FABRIC TO BE 4"x4" SQUARE OPENING, 14 GAUGE (MIN.) GALVANIZED STEEL.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL.

7' HIGH AGRICULTURAL FENCE DETAIL

NO SCALE

BMG NO.: SW-17F

BECKER
MORGAN
GROUP

ARCHITECTURE
ENGINEERING

Delaware

309 South Governors Avenue
Dover, DE 19904
302.734.7950

The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
Newark, DE 19713
302.369.3700

Maryland

312 West Main Street, Suite 300
Salisbury, MD 21801
410.546.9100

North Carolina

3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600

www.beckermorgan.com

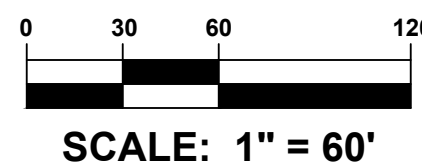
PROJECT TITLE

MDL153
MASON SOLAR

9425 FAIRLEE ROAD
CHESTERTOWN
KENT COUNTY, MARYLAND

SHEET TITLE

LANDSCAPE PLAN



ISSUE BLOCK

MARK DATE DESCRIPTION

LAYER STATE L-002

PROJECT NO.: 2023293.00

DATE: 03/20/2024

SCALE: 1" = 60'

DRAWN BY: A.J.D. PROJ. MGR.: E.H.H.

SHEET

L-002

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ERNST SEEDS

Ernst Conservation Seeds
8884 Mercer Pike
Meadville, PA 16335
(800) 873-3321 Fax (814) 336-5191
www.ernstseed.com

Date: June 04, 2024

Fuzz & Buzz Mix - Standard - ERNMX-146

	Botanical Name	Common Name	Price/Lb
26.80 %	<i>Lolium perenne</i> , 'Tetra Sweet', Tetraploid	Perennial Ryegrass, 'Tetra Sweet', Tetraploid	3.60
21.00 %	<i>Dactylis glomerata</i> , Potomac	Orchardgrass, Potomac	3.60
18.90 %	<i>Poa pratensis</i> , 'Ginger'	Kentucky Bluegrass, 'Ginger' (pasture type)	4.20
12.40 %	<i>Bromus biebersteinii</i> , 'Fleet'	Meadow Brome, 'Fleet'	6.24
5.70 %	<i>Trifolium hybridum</i>	Alsike Clover	4.50
5.00 %	<i>Festuca elatior</i> x <i>Lolium perenne</i> , Duo	Festulolium, 'Duo'	3.60
4.80 %	<i>Trifolium pratense</i> , Medium, Variety Not Stated	Red Clover, Medium, Variety Not Stated	6.00
2.00 %	<i>Lotus corniculatus</i> , 'Leo'	Bird's Foot Trefoil, 'Leo'	10.80
1.00 %	<i>Linum perenne</i>	Perennial Blue Flax	48.00
0.90 %	<i>Coreopsis lanceolata</i>	Lanceleaf Coreopsis	28.80
0.60 %	<i>Cichorium intybus</i>	Blue Chicory	19.20
0.50 %	<i>Chrysanthemum leucanthemum</i>	Oxeye Daisy	40.80
0.40 %	<i>Solidago nemoralis</i> , PA Ecotype	Gray Goldenrod, PA Ecotype	264.00
100.00 %		Mix Price/Lb Bulk:	\$6.34

Seeding Rate: Expect to apply about 40 lbs per acre with a cover crop of annual ryegrass 12 lbs/acre

Forage & Pasture Sites; Forage & Pasture Sites - Herbaceous Perennial; Solar Sites

The Fuzz & Buzz Mix-Standard was developed to address the unique nutritional needs of sheep, while providing a low-growing, easily maintained and sustainable vegetation solution for solar installations. The plant species were chosen with guidance from the American Solar Grazing Association (ASGA). The wildflowers in this mix support pollinators. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

Price quotes guaranteed for 30 days.
All prices are FOB Meadville, PA.
Please check our web site at www.ernstseed.com
for current pricing when placing orders.



PLANTING HEIGHT - VIEW 1



5 YEAR GROWTH - VIEW 1



PLANTING HEIGHT - VIEW 2



5 YEAR GROWTH - VIEW 2

