



8484 Westpark Dr., Suite 720
McLean, VA 22102
www.madisonei.com

August 11, 2025

Albemarle Architectural Review Board
401 McIntire Rd, North Wing
Charlottesville, VA 22902

RE: Albemarle High School Rooftop Solar – Entrance Corridor

Albemarle County Public Schools (ACPS) is partnering with Madison Energy to develop and install a ballasted solar array on the roof of Albemarle High School, located at 2775 Hydraulic Road. This project is part of a broader ACPS initiative to reduce energy costs and advance sustainability goals through the adoption of clean energy technologies.

The high school property is adjacent to the Hydraulic Road Entrance Corridor as designated by Albemarle County. The proposed rooftop solar installation is consistent with Albemarle County's Comprehensive Plan and is considered an accessory use under the current zoning ordinance. While portions of the array may be partially visible from the entrance corridor, existing tree cover and vegetation substantially limit the viewshed. For reference, we have included both a visual rendering without vegetation and photos taken from the sidewalk connecting Hydraulic Road to the school.

The array will utilize a ballasted racking system, with solar modules tilted at a 10-degree angle. At their highest point, the panels will be mounted no more than 15 inches above the roof surface.

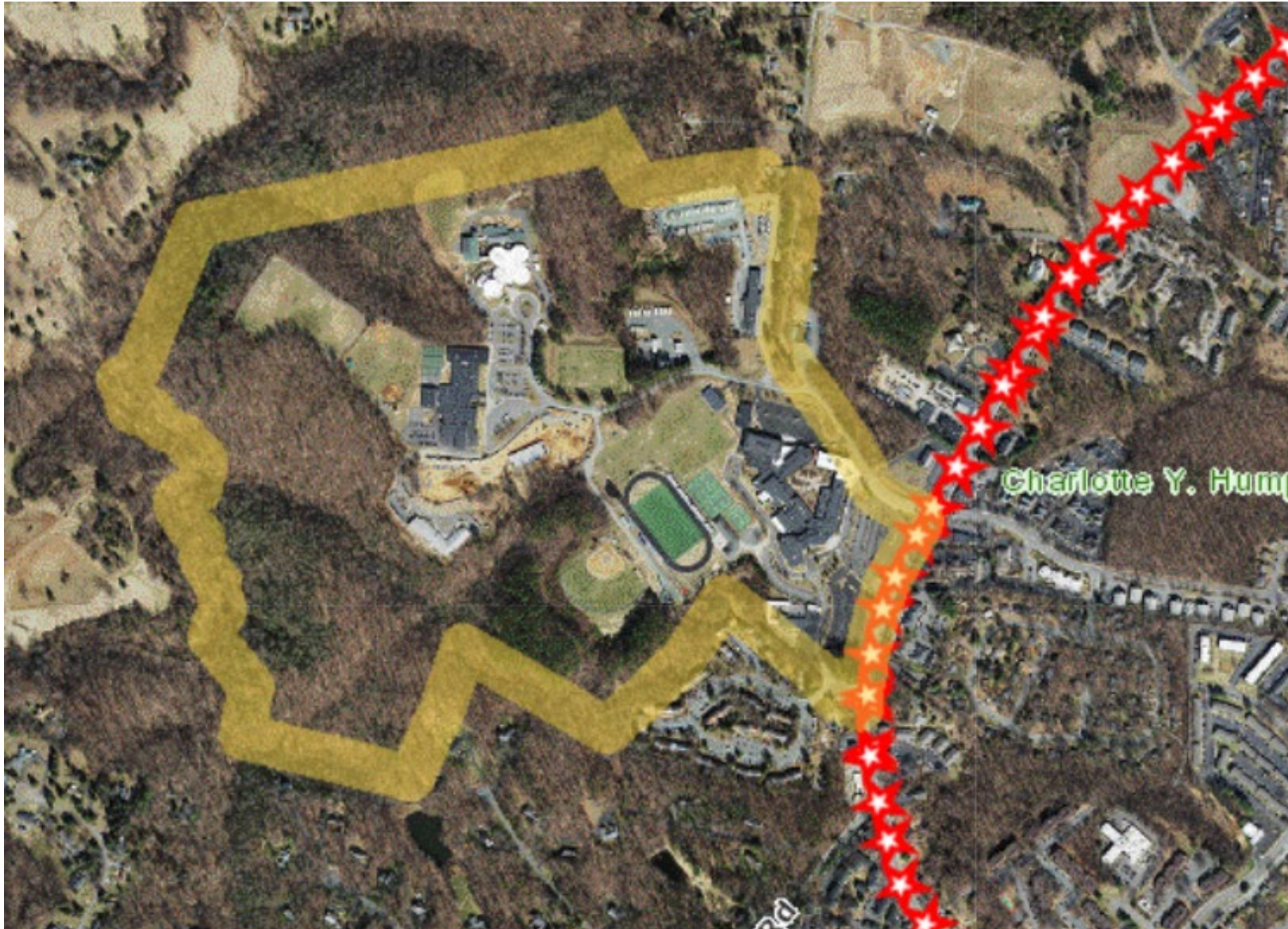
If you have any questions regarding the proposed project, please contact the lead developer, Noah Carter, at (434) 964-7530 or via email at ncarter@madisonei.com.

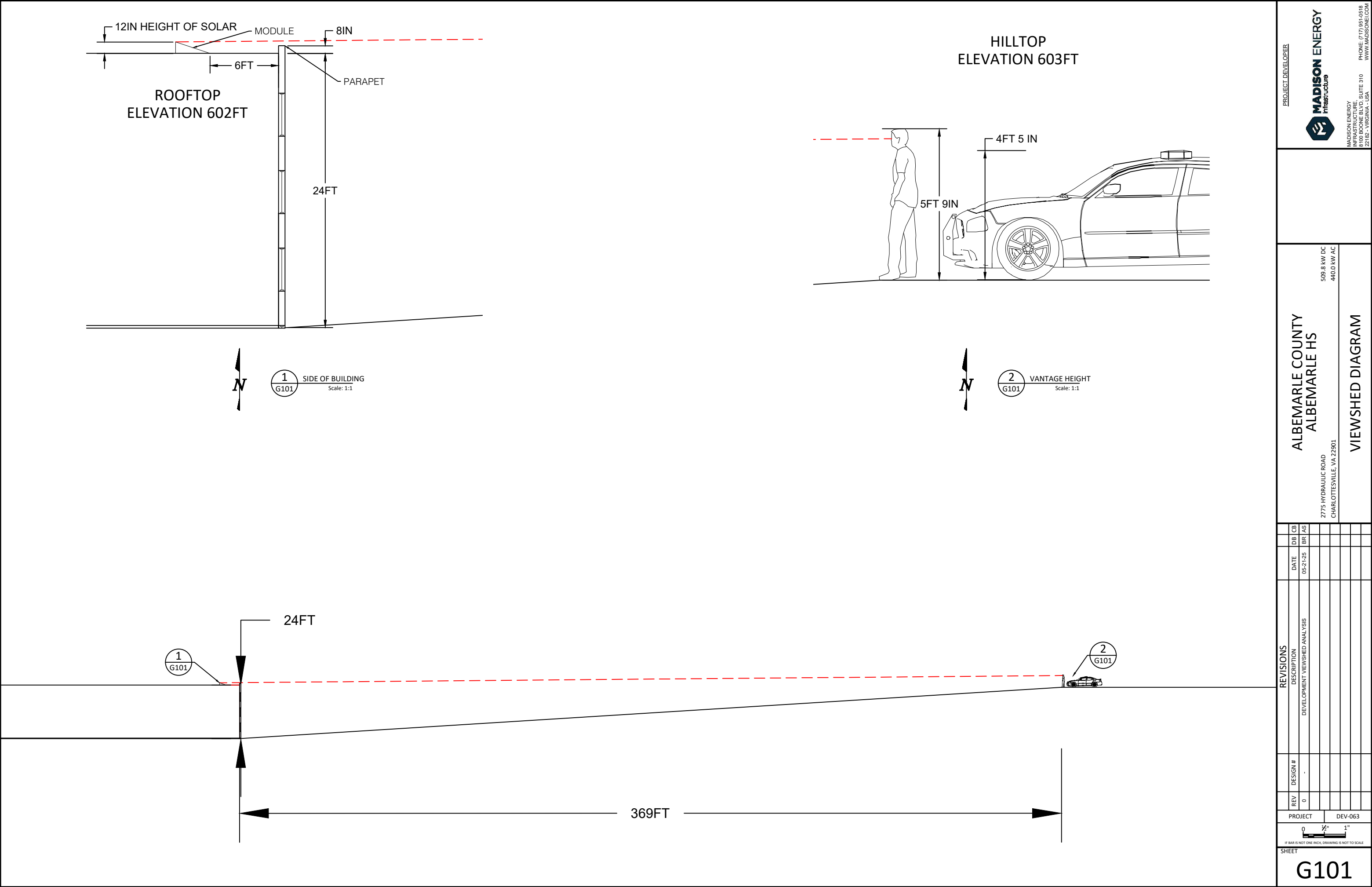
Sincerely,

A handwritten signature in black ink that reads "Noah Carter".

Noah Carter
Senior Project Developer
Madison Energy Infrastructure

Zoning Entrance Corridor





PROJECT DEVELOPER

**MADISON ENERGY**
Infrastructure

MADISON ENERGY
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8100 BOONE BLVD, SUITE 310
22162-VIRGINIA - USA
PHONE: (773) 861-0518
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ALBEMARLE COUNTY
ALBEMARLE HS

2775 HYDRAULIC ROAD
CHARLOTTESVILLE, VA 22901

509.8 KW DC
440.0 KW AC

REV	DESIGN #	DATE	DB	CB
0		05-21-25	BR	AS

REVISIONS

DESCRIPTION

DEVELOPMENT VIEWSHED ANALYSIS

PROJECT

DEV-063

0

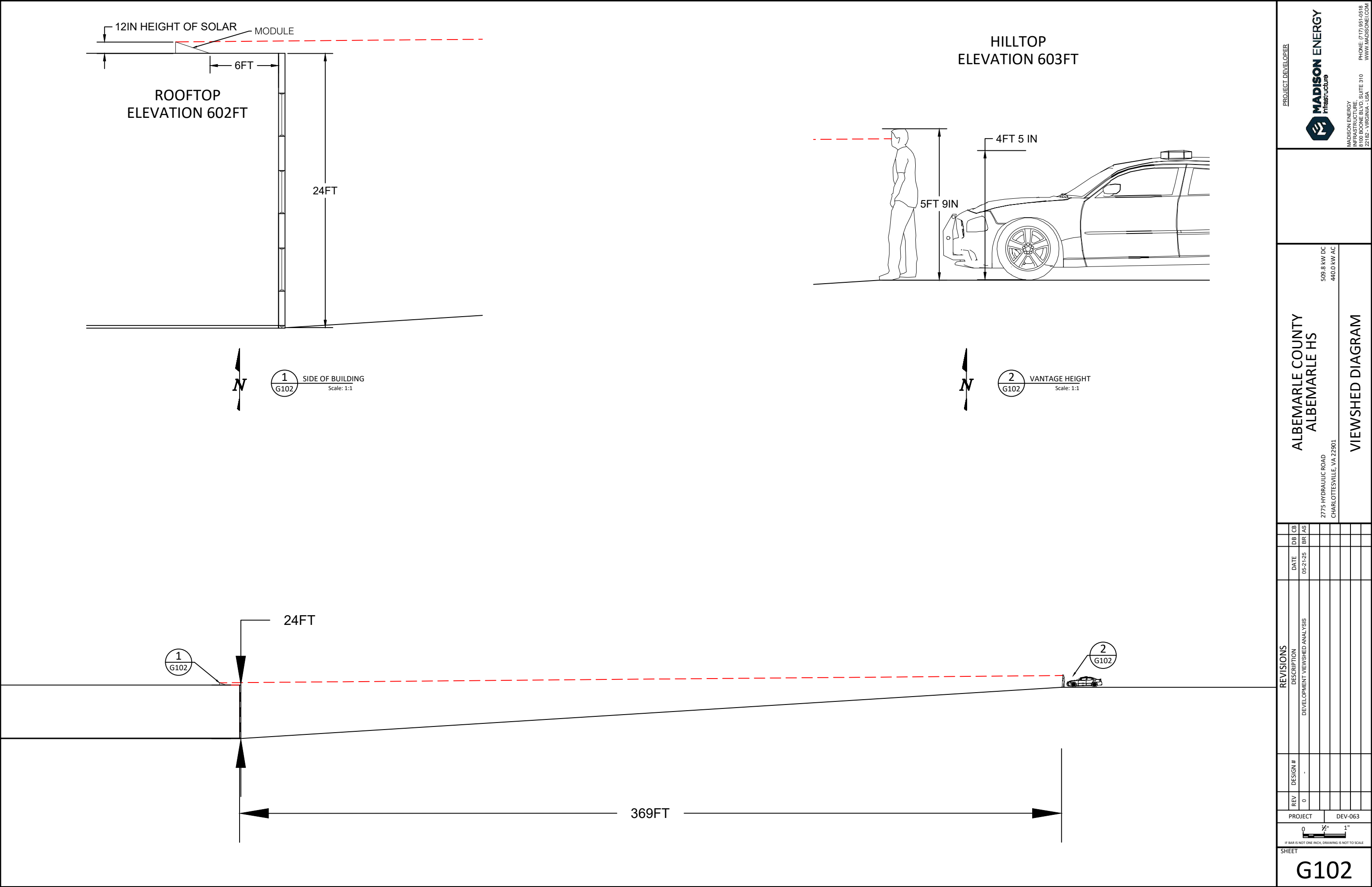
1/2"

1"

IF BAR IS NOT ONE INCH, DRAWING IS NOT TO SCALE

SHEET

G101



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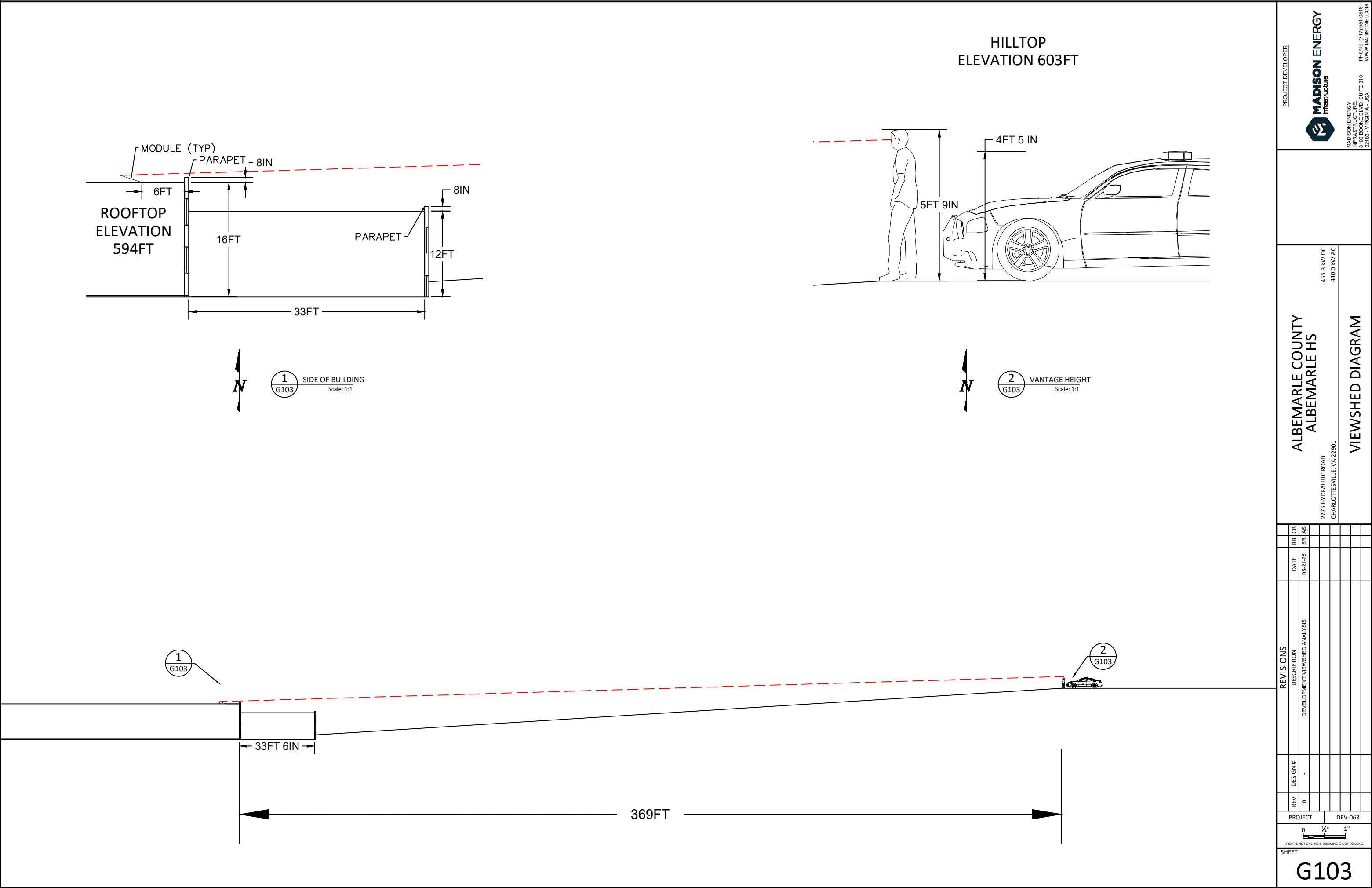
DEVELOPMENT VIEWSHED ANALYSIS

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ALBEMARLE COUNTY
ALBEMARLE HS

2775 HYDRAULIC ROAD
CHARLOTTESVILLE, VA 22901

455.3 KW DC
440.0 KW AC

REV	DESIGN #	DATE	DB	CB
0		05-21-25	BR	AS

REVISIONS

DESCRIPTION

DEVELOPMENT VIEWSHED ANALYSIS

PROJECT

DEV-063

0

1/2"

1"

IF BAR IS NOT ONE INCH, DRAWING IS NOT TO SCALE

SHEET

G103

Albemarle High School – Hydraulic Rd



Photos taken April 4, 2024



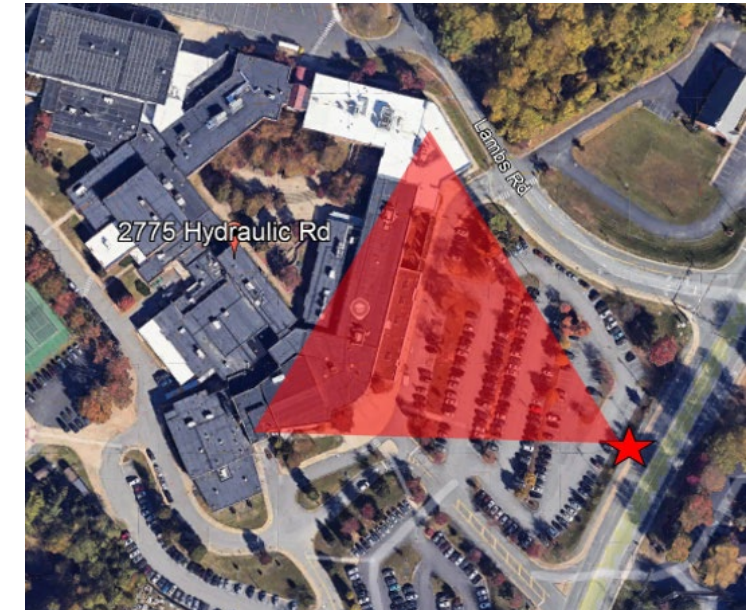
Albemarle High School – Hydraulic Rd



Photos taken April 4, 2024



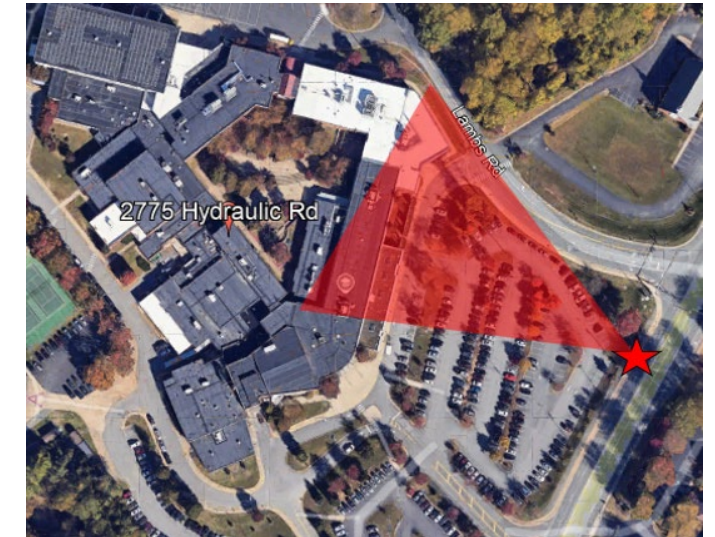
Albemarle High School – Hydraulic Rd



Photos taken April 4, 2024



Albemarle High School – Hydraulic Rd



Photos taken April 4, 2024



Ballasted Racking - Examples



ENGINEERED TO PROTECT YOUR ASSETS

- Minimizes ballast and attachments, reduces expensive on-roof installation hours, adds unparalleled system integrity.
- Tighter row-spacing options for maximum module density: 10", 13", & 17" – Get more modules on your roof!
- Airflow-deflecting design optimizes module uplift resistance to effectively manage wind loads across the entire array.

SECURED CONNECTIONS

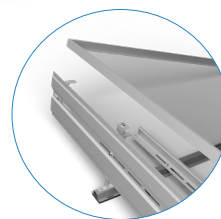
- Easy access torque-able and check-able clamps— GFX10 offers rapid and accurate installation every time.
- “Pop-the-hood” – hinged, one-step vertical swing-up for easy system O&M and effortless single-module access. Maintenance is a breeze!
- Benefit from Green-Zone module mounting, ensuring module and system load-sharing.

CUT COSTS, NOT CORNERS

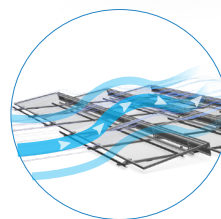
- Install aids are printed on each rail for precision and accuracy - streamline every installation process, every time!
- Integrated tool-less wire management components.

WHY GRIDFLEX[®] 10?

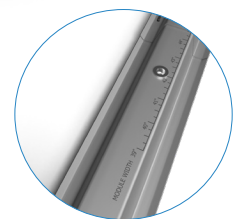
Remember, you're not just investing in a product, but in a system-based design that will continue to perform and deliver value long into the future. With each component carefully engineered and selected for stability, efficacy, and sustaining performance, GFX10 ensures enduring array functionality. Other products leave you with expensive misalignments, inaccessible components, and a reoccurring cycle of difficult quality checks and upkeep. Instead, build it right the first time with GFX10. With dedicated support assistance, nationwide field training, and an unsurpassed domestic and international supply chain, you can trust us to deliver on our promises!



QUICK, EASY ACCESS BENEATH
PANELS: NO REMOVAL OF
INSTALLED PARTS!



DESIGNED FOR MAXIMUM
UPLIFT RESISTANCE



RAIL-STAMPED MEASURE-
MENT GUIDES FOR PRECISE
INSTALLATION



SPECIFICATIONS & RATINGS



APPLICATIONS	10 degree, grid-based flat roof system
ROOF TYPE CAPABILITY	All Membrane including TPO, EPDM, PVC, Mineral Cap Tar and Gravel, Ballasted
MODULE ORIENTATION	Landscape
WIND EXPOSURE CATEGORY	B, C, D
USGS SEISMIC CATEGORIES	A, B, C, D
BUILDING HEIGHT	Up to 200 ft
CORROSION RESISTANT MATERIALS [COATINGS]	ZAM and Galvalume
WARRANTY	25 Year Manufacturer's Warranty
ROOF SLOPE	Up to 7 degrees
WAVY ROOFS	Up to 3° of undulation
UL 2703 GROUNDING & BONDING	Yes
UL 2703 MECHANICAL LOADING	Yes
UL 2703 FIRE LISTING	Class A Rating with Type 1, 2, 3, 19, 22, 25, 29, 30
UL 3741	Yes
BALLAST BLOCK SIZE	4" x 8" x 16" and/or 2" x 8" x 16" Nominal
ROW SPACING	10", 13", and 17" Module to Module
BALLAST CAPACITY	Up to 8 Ballast Blocks / module
ATTACHMENT COMPATIBILITY	U-Anchor, OMG, Unirac Flashloc RM, and other similar attachments
BUILT IN INSTALLATION MEASUREMENT TOOLS	Yes
MODULE CLAMPS	All Clamps: Torqueable/Checkable at Module Green Zones South Clamp: Hinged Return Flange Mounting North Clamp: Fixed Top Down
O&M ACCESSIBILITY	"Pop-the-Hood" for quick and easy single panel access Loosen north clamps to raise module for electrical BOS access
SINGLE TOOL ASSEMBLY	3/8" Socket
MODULE SIZE COMPATIBILITY	39" - 52" Module Width 65" - 100" Module Length
MAXIMUM SYSTEM VOLTAGE	1500 V
MODULE SPACING	1/4"

YUKON Series

Half-Cell
Transparent Backsheet Module

540-555Wp | **21.48%**
Module Power Output | Max Efficiency



Key Features



High module conversion efficiency



Better temperature coefficient



Super multi busbar technology



Low attenuation long warranty



Superior load capacity



Higher bifaciality

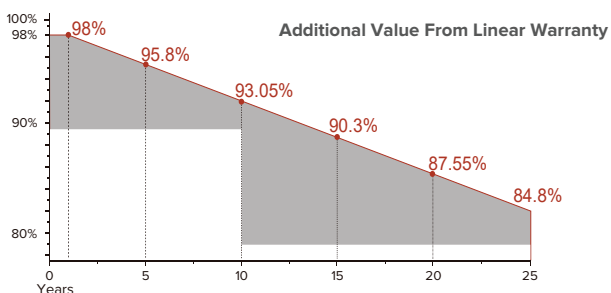


USA based liability insurance



Houston, Texas based company

Warranty



15 <Years>
Guarantee on product material and workmanship

25 <Years>
Linear power output warranty

Product Certification

IEC61215:2016; IEC 61730:2016; UL61730

IEC62804 PID

IEC61701 Salt Mist

IEC62716 Ammonia Resistance

IEC60068 Dust and Sand

IEC61215 Hailstone

Fire Type (UL61730):Type1

ISO14001:2015; ISO9001:2015; ISO45001:2018



About SEG Solar

SEG Solar is a leading manufacturer of high-performance solar panels for residential, commercial, and utility applications. The company, headquartered in Houston, Texas, is committed to providing cost-effective and reliable solar solutions that help customers reduce their energy costs and carbon footprint.



Download Datasheet

Electrical Characteristics

Module Type	SEG-540-BMA-TB			SEG-545-BMA-TB			SEG-550-BMA-TB			SEG-555-BMA-TB		
	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC	Front STC	Front NOCT	Back STC
Maximum Power -Pmp(Wp)*	540	406	378	545	409	382	550	414	385	555	418	389
Open Circuit Voltage -Voc(V)	49.50	46.18	49.48	49.60	46.32	49.58	49.70	46.40	49.68	49.80	46.47	49.78
Short Circuit Current -Isc(A)	13.81	11.16	9.74	13.91	11.23	9.80	14.01	11.32	9.87	14.10	11.40	9.94
Maximum Power Voltage -Vmp(V)	41.55	38.39	41.61	41.81	38.41	41.86	42.07	38.58	42.10	42.31	38.75	42.35
Maximum Power Current -Imp(A)	13.00	10.59	9.09	13.04	10.65	9.13	13.08	10.73	9.15	13.12	10.79	9.19
Module Efficiency(%)	20.90			21.10			21.29			21.48		
Power Tolerance(W)	(0, +4.99)											
Maximum System Voltage	1500V DC											
Maximum Series Fuse Rating	30 A											
Bifaciality	70%±10%											

STC: Irradiance 1000 W/m² module temperature 25°C AM=1.5

NOCT: Irradiance 800W/m² ambient temperature 20°C module temperature 45°C wind speed: 1m/s

*Measuring tolerance: ±3%

Mechanical Specifications

External Dimension	2278 x 1134 x 35 mm
Weight	27.0 kg
Solar Cells	PERC Mono 182 x 91mm(144 pcs)
Front Glass	3.2 mm AR coating tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 / 3 diodes
Connector Type	PV-CO02-xy
Cable Type	12 AWG PV Wire (UL)
Cable Length	Portrait: 400 mm(+) / 200 mm(-) Landscape: 1200 mm(+) / 1200 mm(-) or customized length
Mechanical Load(Front)	5400 Pa / 113 psf*
Mechanical Load(Rear)	2400 Pa / 50 psf*

*Refer to SEG installation Manual for details

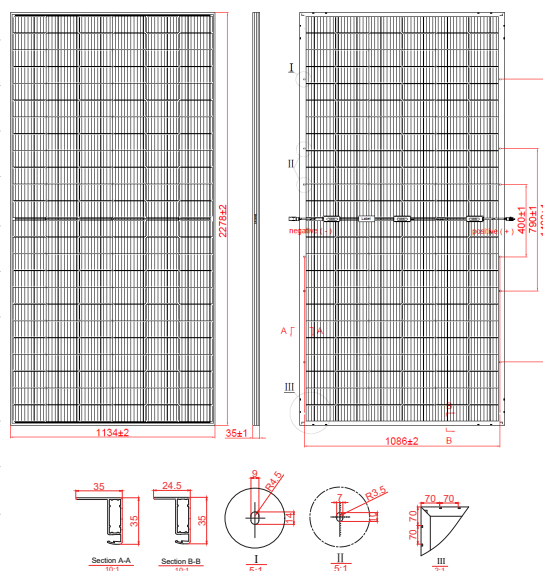
Packing Configuration

Container	20'GP	40'HQ
Pieces per Pallet	31	31
Pallets per Container	4	20
Pieces per Container	124	620

Temperature Characteristics

Pmax Temperature Coefficient	-0.35 %/°C
Voc Temperature Coefficient	-0.27 %/°C
Isc Temperature Coefficient	+0.05 %/°C
Operating Temperature	-40~+85 °C
Nominal Operating Cell Temperature (NOCT)	45±2 °C

Technical Drawing



*Refer to SEG installation Manual for details

I-V Curve

