

AFFIDAVIT OF NATHANIEL E FRANK-WHITE

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

2. The Internet Archive is a website that provides access to a digital library of Internet sites and other cultural artifacts in digital form. Like a paper library, we provide free access to researchers, historians, scholars, and the general public. The Internet Archive has partnered with and receives support from various institutions, including the Library of Congress.

3. The Internet Archive has created a service known as the Wayback Machine. The Wayback Machine makes it possible to browse more than 450 billion pages stored in the Internet Archive's web archive. Visitors to the Wayback Machine can search archives by URL (i.e., a website address). If archived records for a URL are available, the visitor will be presented with a display of available dates. The visitor may select one of those dates, and begin browsing an archived version of the Web. Links on archived files in the Wayback Machine point to other archived files (whether HTML pages or other file types), if any are found for the URL indicated by a given link. For instance, the Wayback Machine is designed such that when a visitor clicks on a hyperlink on an archived page that points to another URL, the visitor will be served the archived file found for the hyperlink's URL with the closest available date to the initial file containing the hyperlink.

4. The archived data made viewable and browsable by the Wayback Machine is obtained by use of web archiving software that automatically stores copies of files available via the Internet, each file preserved as it existed at a particular point in time.

5. The Internet Archive assigns a URL on its site to the archived files in the format http://web.archive.org/web/[Year in yyyy][Month in mm][Day in dd][Time code in hh:mm:ss]/[Archived URL] aka an "extended URL". Thus, the extended URL http://web.archive.org/web/19970126045828/http://www.archive.org/ would be the URL for the record of the Internet Archive home page HTML file (http://www.archive.org/) archived on January 26, 1997 at 4:58 a.m. and 28 seconds (1997/01/26 at 04:58:28). The date indicated by an extended URL applies to a preserved instance of a file for a given URL, but not necessarily to any other files linked therein. Thus, in the case of a page constituted by a primary HTML file and other separate files (e.g., files with images, audio, multimedia, design elements, or other embedded content) linked within that primary HTML file, the primary HTML file and the other files will each have their own respective extended URLs and may not have been archived on the same dates.

6. Attached hereto as Exhibit A are true and accurate copies of screenshots of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each printout.

INTERNET ARCHIVE
archive.org

7. Attached hereto as Exhibit B are true and accurate copies of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each file.

8. I declare under penalty of perjury that the foregoing is true and correct.

DATE: 02/07/2023

Nathaniel Frank-White
Nathaniel E Frank-White

Document Notarized using a Live Audio-Video Connection

CHIRAG PATEL
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EXHIBIT A

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First Solar.

Rugged, Reliable, Cost-Effective Solar Tracking

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RayTracker GC

- Overview
- Specifications
- Panels Supported
- Technology

Overview



RayTracker GC: Rugged, Reliable, Cost-Effective Solar Tracking

RayTracker GC is a single-axis tracker system that significantly increases the lifetime energy yield of a photovoltaic system, improving the return on investment for commercial-scale, ground- or carport-mount installations. The RayTracker GC robust construction, distributed actuation, and use of standard photovoltaic modules delivers an exceptionally reliable and cost-effective tracking system.

Performance
RayTracker GC improves energy yield by optimally positioning the solar panels throughout the day. Energy boosts of up to 38% are possible compared to flat-mounted panels. Single-axis trackers outperform fixed-tilt installations most importantly during peak energy demand periods. RayTracker GC achieves this with a simple, low-profile, low-parts-count mechanism.

Distributed Actuation
The RayTracker GC system features distributed actuation — each unit has an individual, low-voltage DC actuator motor. Distributed actuation provides advantages for system reliability, installation, tracking accuracy and plant layout flexibility. This means that RayTracker GC installations are readily scalable — from kilowatts to gigawatts.

Single-Axis Solar Trackers Shade Avoidance in Solar Tracker

Technology
RayTracker GC maximizes energy production with Shade Avoidance Technology — a feature that eliminates energy-robbing tracker-to-tracker shading.

Precision
The tracking function is provided by a custom microprocessor controller that uses a GPS time reference and a precise astronomical algorithm to automatically and accurately point the panels at the sun. The position of each actuator is monitored by the controller to ensure alignment. One controller serves 12 RayTracker GC units, and is included with the system.

Complete
RayTracker GC is a complete PV racking system, supplied with module-specific, pre-drilled panel mounts and hardware. Each RayTracker GC unit is approximately 80' long (24.5m) and accommodates 24 to 34 standard PV modules and will generate between 5.5kWp and 6.7kWp (depending on module type).

> See the RayTracker GC Specifications

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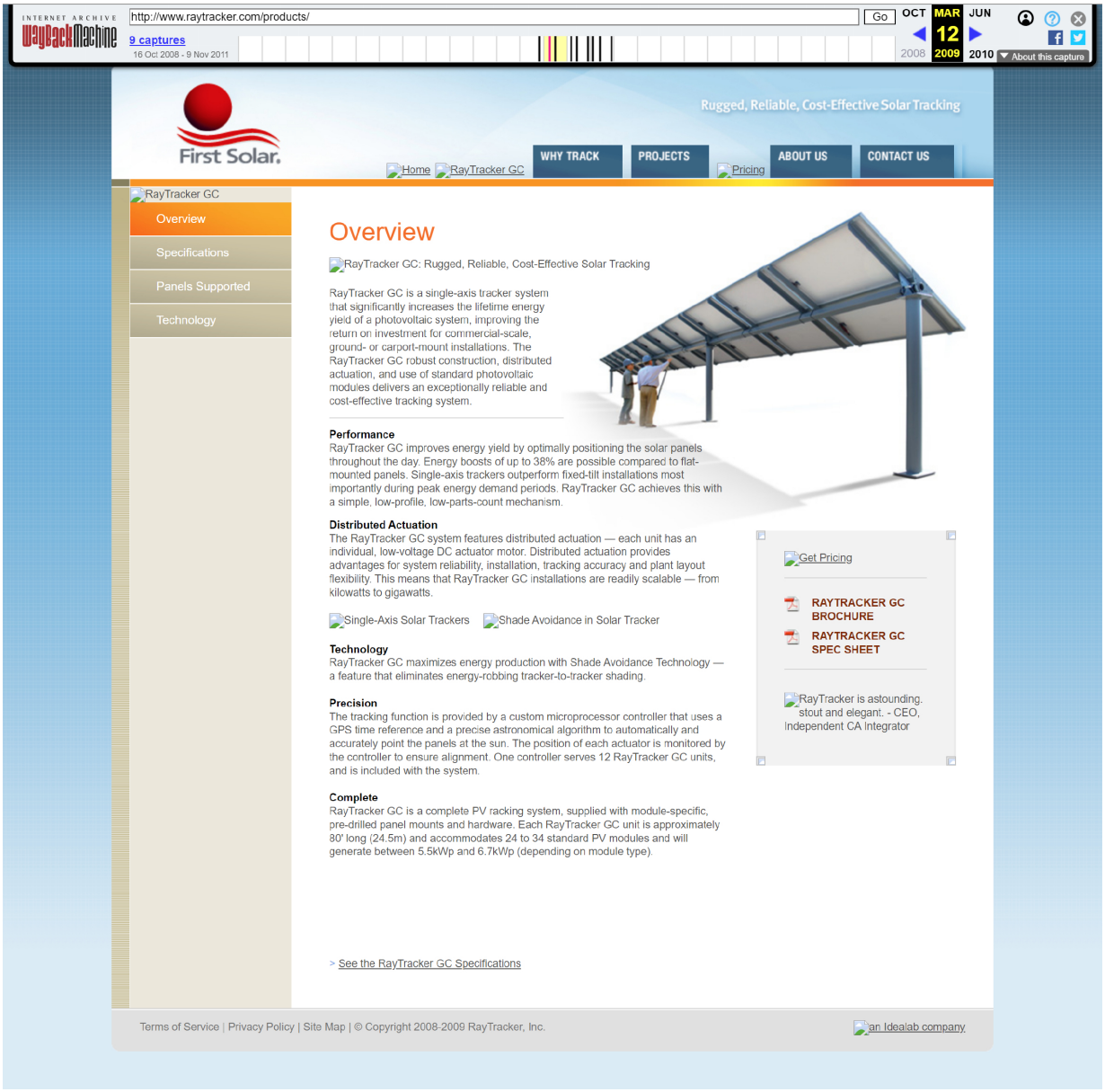
RAYTRACKER GC BROCHURE

RAYTRACKER GC SPEC SHEET

RayTracker is astounding, stout and elegant. - CEO, Independent CA Integrator

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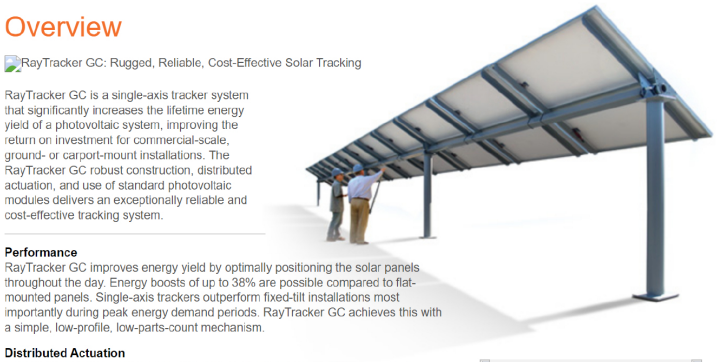

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First Solar.
Rugged, Reliable, Cost-Effective Solar Tracking
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WHY TRACK
PROJECTS
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RayTracker GC
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Custom actuator; proprietary shade avoidance technology

Technology
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EXHIBIT B

https://web.archive.org/web/20100923030431/http://www.raytracker.com/documents/raytracker_brochure.pdf

Solar tracking you can count on



RayTracker GC is a single-axis tracking system that significantly increases the lifetime energy yield of a photovoltaic (PV) system, improving the return on investment for commercial and utility-scale installations.

The RayTracker GC robust construction and distributed actuation deliver an exceptionally reliable and cost-effective tracking system. With the RayTracker GC system, you can fit more power and energy than competing trackers on most sites, optimizing your ROI. RayTracker GC is suitable for installations from tens of kilowatts up to hundreds of megawatts, and is compatible with most crystalline and thin film PV modules.

RayTracker™

www.raytracker.com

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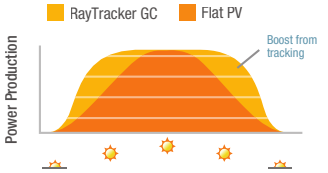
Why RayTracker GC?



Performance

RayTracker GC **improves energy yield** by optimally positioning the solar panels throughout the day. Energy boosts of up to 38% are possible compared to flat-mounted panels. Single-axis trackers outperform fixed-tilt installations most importantly during peak energy demand periods. RayTracker GC achieves this with a simple, low-profile, low-parts-count mechanism.

RayTracker GC Daily Output vs. Flat PV

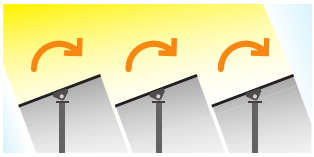


Distributed Actuation

The RayTracker GC system features **Distributed Actuation** – each ~80 foot building-block unit has an **independent**, low-voltage DC **actuator**, instead of a mechanical linkage connecting all rows. Distributed actuation allows for more power and more energy than competing trackers on most sites. With Distributed Actuation, there is no need for large mechanical linkages between rows, just low-voltage wires in existing cable trays or trenches. The absence of these linkages between rows provides easy installation, better reliability, better tracking accuracy, and minimizes grading. The RayTracker GC ~80 foot building block (24.3m) is suitable for installations of tens of kilowatts to hundreds of megawatts.

Technology

RayTracker GC maximizes energy production with **Shade Avoidance Technology** – a feature that eliminates energy-robbing tracker-to-tracker shading.



Proprietary shade avoidance technology

The tracking function is provided by a custom microprocessor controller that uses a GPS time reference and a precise astronomical algorithm to automatically and **accurately point the panels at the sun**. The position of each actuator is monitored by the controller to ensure alignment. One controller serves 12 RayTracker GC units, and is included with the system.



Highly reliable actuation

Complete

RayTracker GC is a **complete PV racking system**, supplied with module-specific, pre-drilled panel mounts and hardware. Each building-block unit typically accommodates 24 to 32 standard PV modules and will typically generate between 5.5kWp and 7kWp (depending on module type). RayTracker GC is compatible with most crystalline and thin film PV modules.

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Economics of Tracking

Tracking systems produce more energy from your photovoltaic modules, allowing you to reduce your initial cost for a given amount of energy output, or produce more energy over the solar installation lifetime, improving your return on investment.

More Energy than Fixed Systems

Fixed photovoltaic systems usually have modules tilted toward the arc the sun makes in order to increase the kWh energy production (example: tilt to the south in the northern hemisphere). There is an optimal tilt angle for each location to maximize the annual energy production. While fixed tilt increases energy production, there is **more energy available** to capture if the modules track the sun throughout the day. Single-axis trackers, like the RayTracker GC, provide a **significant energy increase** while being low cost and simple. In the example shown here for Sacramento, CA modeled with PV Watts, RayTracker GC gives you a 38% increase in energy production over non-tilted PV panels, and a 23% increase over flat panels tilted at latitude.

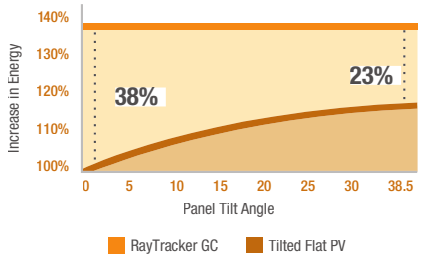
Reduced Cost For the Same Energy

There is a common misconception that tracking systems add to the cost of a solar project. In fact, tracking systems **reduce the cost** of a system required to produce a fixed amount of energy. This is because for a typical installation in California, a project developer eliminates the need for 20 - 25% more solar panels, racking, inverters, foundations, panel wiring, and associated labor. For a 100MW installation, the resulting savings could be $50MM.

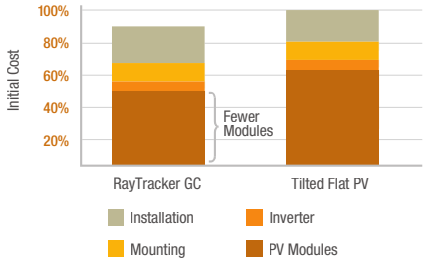
Better Return on Investment

Implementing tracking in your solar installation improves the overall Return on Investment (ROI) and Internal Rate of Return (IRR) due to the additional energy produced by tracking. It is well known that there is a significant improvement to **total system IRR** that is enabled by tracking systems. However, if we look at the **IRR on additional investment** of adding tracking to a typical system of a given number of kW, the return is very dramatic — greater than 30% for a typical project. This return increases where there are higher electricity rates.

Energy Production: RayTracker GC vs. Tilted Flat Panel



Reduced Cost for the Same Energy



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Low Lifetime Cost

RayTracker GC was designed from the ground up for a 25-year lifetime without scheduled maintenance.

Reliability

RayTracker GC is simple and elegant, with just two moving parts – the actuator and one structural assembly that rotates on a bearing surface. RayTracker has implemented aggressive **accelerated life test** programs for these and other critical components. These test programs stress the parts to maximum lifetime loads and cycles.



Custom-built test equipment to conduct stress tests of the bearing design

If an actuator replacement is required, there would be only a small impact on total system availability due to the RayTracker GC distributed actuation design – 70x smaller availability impact than some competing products. Actuators are low-cost, compact, can be stocked locally and can be readily replaced in the field.

Actuator and Controller Design

The actuator and motor are built by a leading U.S. manufacturer to RayTracker's exacting requirements for performance, strength and reliability. The actuator has been subjected to an extensive suite of tests to ensure a long life in the field.



RayTracker GC controller and GPS

The RayTracker GC electronic controller is conformally coated and housed in a NEMA enclosure that ensures a benign environment for all components. Aggressive test routines have been conducted to ensure reliable operation.

In-field Operation & Maintenance

Automatic Obstruction Detection is included with the RayTracker GC. The controller continuously monitors the actuator and is able to detect when the mechanism is obstructed (for example, by snow or ice) and will stop actuation and retry automatically until the obstruction clears. RayTracker GC offers an automatic nighttime 10° stowing mode to allow rain and dew to run off, helping to keep the panels clean, and to minimize wind loads during non-tracking hours. Manual stowing modes are provided for inspection, panel cleaning and grass maintenance. Solar installations using RayTracker GC do not have mechanical linkages between rows, allowing easy access for grass cutting equipment. The components feature a factory-applied exterior powder coat or galvanized finish, ensuring long-lasting protection against the outdoor elements.

Quality Control and Manufacturing

RayTracker GC is fabricated using robotic cutting, welding, Computer Numeric Controlled metal processing and rigid quality control. This **state-of-the-art** automation equipment ensures the highest quality parts are delivered to customer job sites. RayTracker GC is offered with extended warranties up to 25 years.



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Rapid Installation

RayTracker GC is easy and inexpensive to install. The design has a minimum of parts, most of which are preassembled at the factory.

Installation

The installer provides only five vertical steel posts to support the RayTracker GC structure. The post foundations should be designed by a certified local civil/structural engineer to be suitable for the site-specific soil and wind conditions. RayTracker supplies a third-party certified design package for the RayTracker GC mechanism to speed site engineering and permitting.

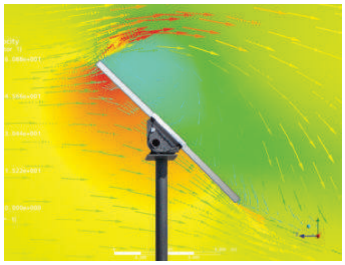
The tracker mechanism is welded to the vertical posts to permit forgiving post-placement tolerances with a strong connection. The rest of the tracker is assembled with supplied nuts and bolts. Assembly of the RayTracker GC requires a minimum of labor and does not require specially trained personnel. A comprehensive installation manual is provided.

The PV modules are securely attached at four points using the manufacturer's recommended mounting holes with pre-drilled RayTracker GC brackets and hardware.

Because each RayTracker GC is an independent mechanical unit, the only connections between the trackers and the controller enclosure are simple low-voltage wiring.



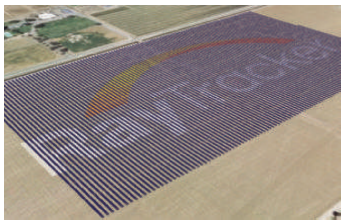
RayTracker GC building block ~80ft and 6-7kW (24.3m)



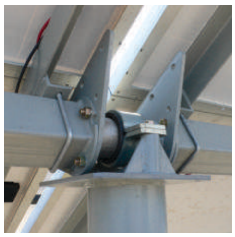
State-of-the-art stress-response simulation

Field Layout Flexibility

RayTracker GC field layout is straightforward as there are no rigid row/column requirements other than maintaining North-South orientation and consistent row-to-row spacing for the Shade Avoidance Technology function. Trackers can be installed on uneven or even sloping fields, minimizing requirements for field leveling and preparation. RayTracker GC is appropriate for large rectangular fields as well as irregularly shaped fields since the individual tracker building-block size of ~80 feet (24.3m) can easily fill both types of sites. RayTracker GC is suitable for installations of tens of kilowatts to hundreds of megawatts.



10MW 3D layout in Google Earth



Bolt-together beams

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RayTracker GC

Technical Specifications

Annual Energy Increase	Over flat PV	Up to 38%
Operating Specifications	Array-level Tracking Accuracy	+/- 5° is typical; +/- 10° is maximum
	Range of Motion	+/- 45° from zenith
	Tracking Method	GPS, time-derived positioning with proprietary Shade Avoidance Technology
Installation Zoning	Wind (withstanding)	85mph/136kph (3 second gust) Exposure D or 90mph/144kph (3 second gust) Exposure C†. Contact RayTracker Sales Dept. for higher wind speeds
	Seismic	Site Class B (IBC/CBC)
Hardware Components	Dimensions	Length: 79.7ft (24.3m) Height: ~6ft (1.8m) Width: Varies by panel, see below
	Weight	~1800 lbs, 817 kg
	Panels Supported	Supports nearly all panel types. See raytracker.com/products/panels.html
	Panel Attachment Method	Bolting from bottom to ensure no shading
	Included	Horizontal beams, bearings, vertical post caps, panel mounting brackets and hardware, actuator assembly, tracker grounding hardware and 1 controller per 12 trackers
	Not included	PV panels, vertical posts, foundations/supports, wiring, PV panel wire strain reliefs, and panel grounding hardware
Stowing	Method	Manual switch between stowing and normal operation
	Configurations	0° and 45° user-initiated stowing for inspection, panel cleaning and grass maintenance, 10° autonomous stowing at night
Controller Specifications	Architecture	Centralized controller with microprocessor (per 12 trackers)
	Shade Avoidance Technology	Included in controller
	Actuator and Controller Energy Consumption	0.028 kilowatt-hours per day (typical)

For pricing and availability, please call (866) 949-TRAC, or visit our web site at www.raytracker.com.

We would be happy to provide you with a quote to meet the specific needs of your project.

RayTracker™

130 West Union Street
Pasadena, CA 91103

866-949-TRAC (toll free)
626-585-6900
www.raytracker.com

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Performance and project economics estimates are for reference only. Estimates are generated by RayTracker, Inc. for Sacramento or Barstow, CA using PVWatts Version 1 Software from the National Renewable Energy Laboratory (http://www.nrel.gov, www.pvwatts.org). Project Developers planning to install RayTracker GC should use their software of choice to model PV and economic performance as results may vary for a particular location and set of environmental conditions. Design process included applying sound engineering, state-of-the-art software tools and 3rd party standards and reviews, as well as accelerated life testing on key components. Field service may be required in some circumstances. The only warranty from RayTracker, Inc. is set forth in the express warranty statement that accompanies the product or services. Nothing herein shall be construed as an additional warranty. †Additional assumptions include: no terrain effects (Kzt=1.0), maximum installed elevation of 25' above grade, velocity pressure exposure assumed to be Kz=1.12, Wind directionality assumed to be Kd=0.85, and Importance factor assumed to be I=0.87.

PN: 60-00172 Rev.E

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JURAT ATTACHMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF Virginia }

COUNTY OF Arlington }

The foregoing instrument was subscribed and sworn before me this date of 02/07/2023, by Nathaniel Frank-White

This notarial act was an online notarization.



(Notary Seal)

Notary's Signature_____

Registration No.: 7679556

Commission Expiration Date: June 30, 2024