

# *WEST CAMPUS SOLAR PROJECT*

SUBMISSION TO DC ZONING COMMISSION  
OCTOBER 18, 2021  
SUPPLEMENTAL MATERIALS ADDED  
DECEMBER 17, 2021

**MEETING DC'S RENEWABLE ENERGY CHALLENGE**

# **A SOLAR ENERGY RESEARCH, LEARNING & PRODUCTION FACILITY**

Unique public + private partnership to create the largest community solar array in the District of Columbia and greater DMV

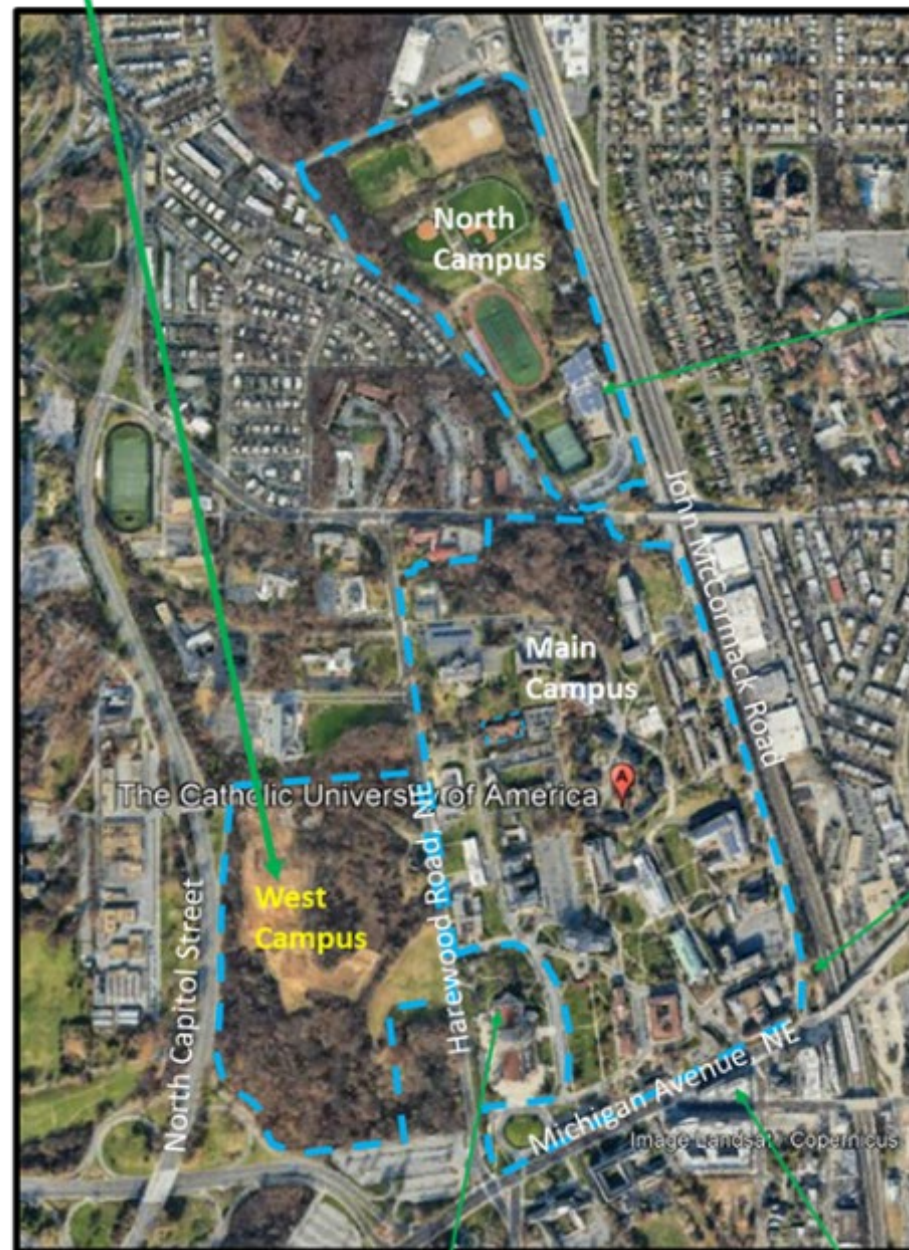
- Supports achievement of the District's renewable energy goals
- Creates learning opportunities for Ward 5 high school and University students
- Increases the supply of renewable energy to the local utility grid



# PROJECT LOCATION: CATHOLIC UNIVERSITY'S WEST CAMPUS



Location of Proposed Solar Project



DuFour Athletic Center

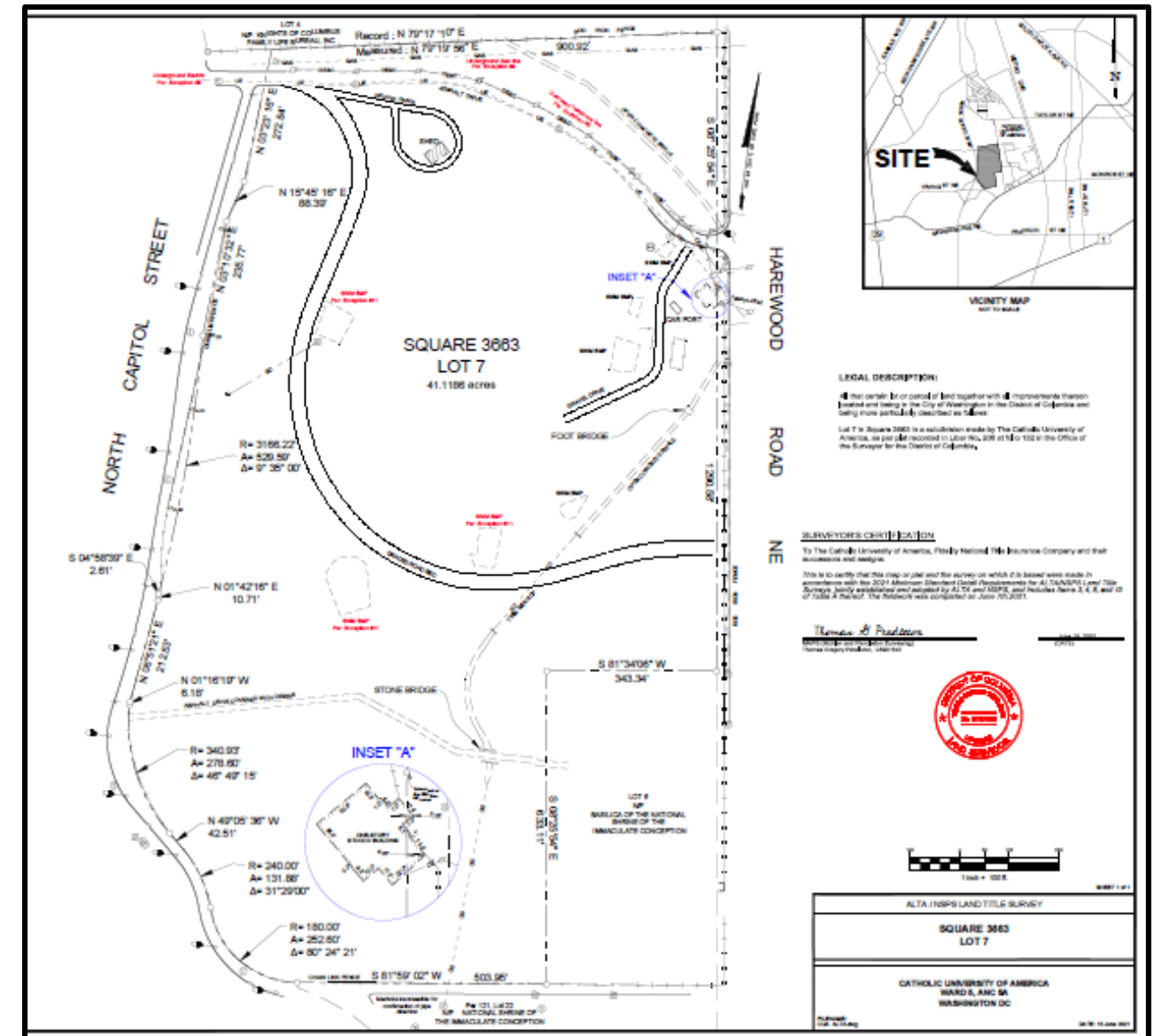
Brookland - CUA Metro Station

Basilica of the National Shrine of the Immaculate Conception

Monroe Street Market

## West Campus: SQUARE 3663 LOT 7

Bordered by:  
St. John Paul II Shrine to the north;  
Harewood Road and Main Campus on the east; Prayer Garden and parking lot for the Basilica to the south; and North Capitol Street to the west

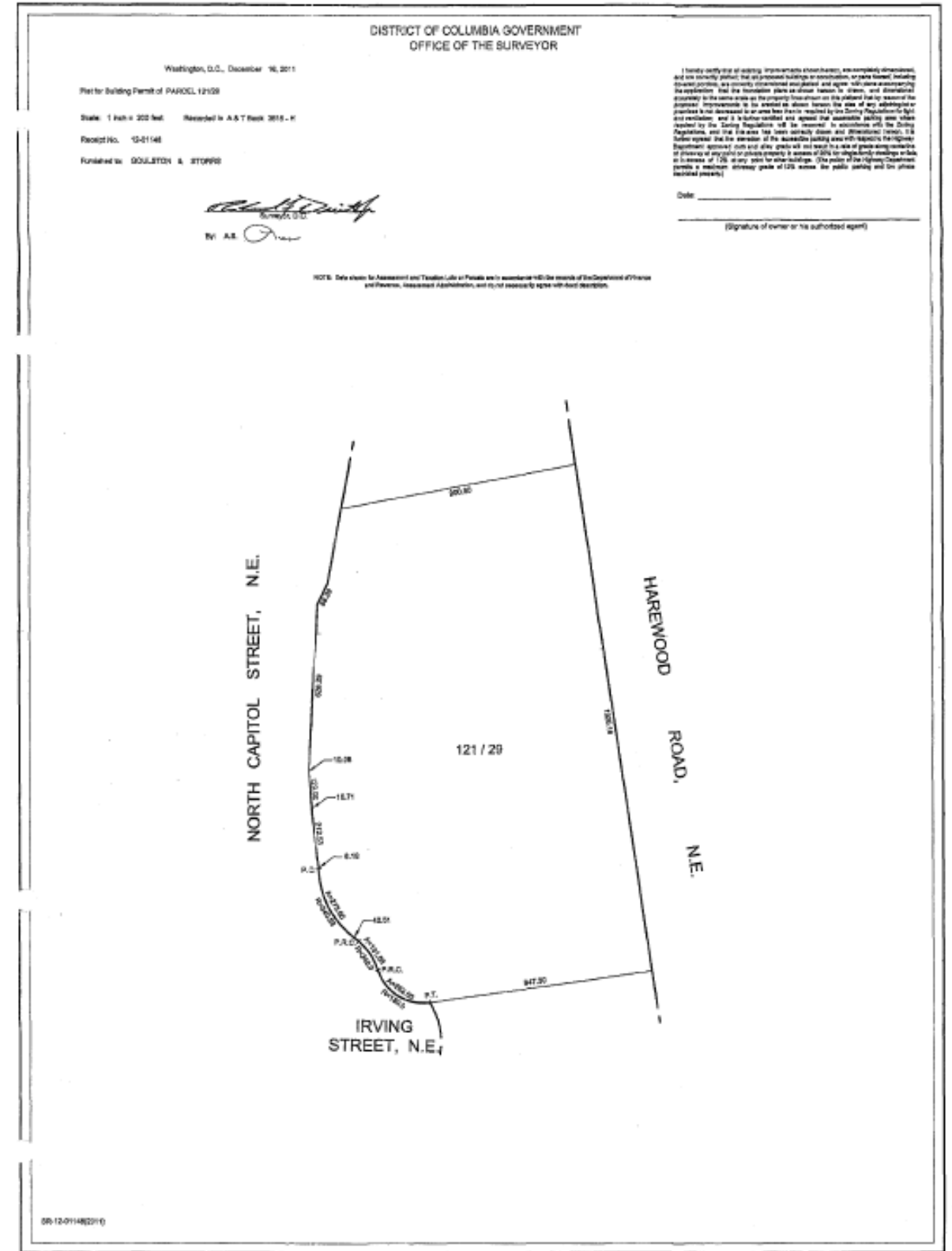


# WEST CAMPUS SITE BACKGROUND AND HISTORY

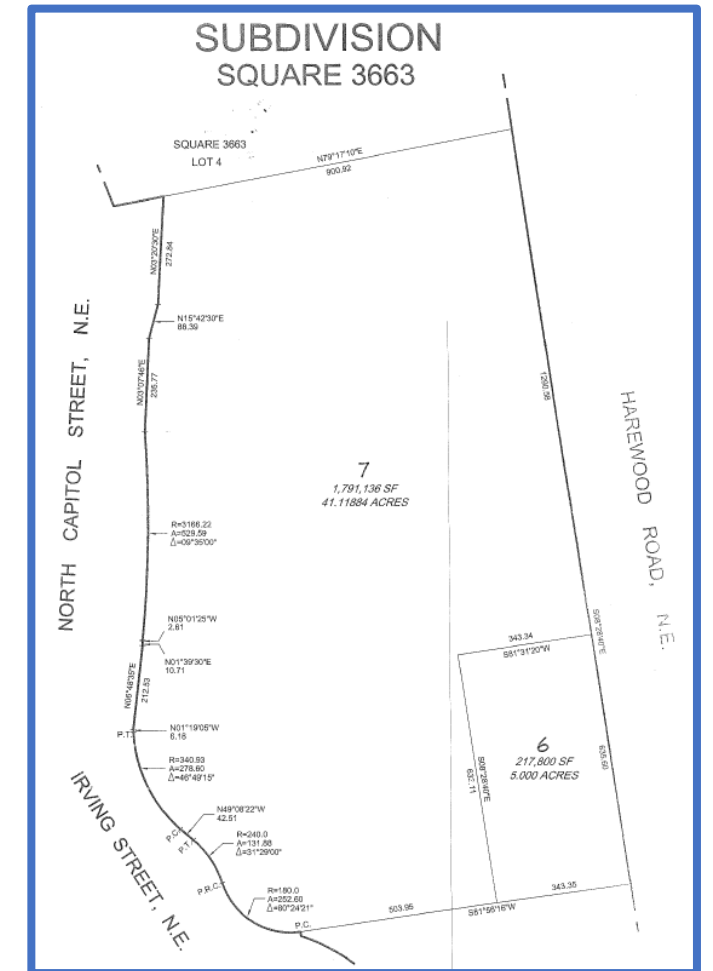
**April 2004:** The University acquired approximately 46.3 acres from the Armed Forces Retirement Home (AFRH) that became known as the “West Campus.” The site, surrounded by an existing iron fence, included existing utility easements along a private drive (“Scale Gate Road”) and the northern property boundary.

**June 2005:** ZC No. 04-25 established R-5-A zoning (now called RA-1) on the previously unzoned (federal) property

**July 2005:** ZC No. 04-25A amended the University’s 2002 Campus Master Plan to include the West Campus with minimal proposed uses (including a performance pavilion, running track, environmental research area, areas of spiritual repose, maintenance and storage facilities, and temporary housing units).



# WEST CAMPUS SITE BACKGROUND AND HISTORY



**May 2012:** ZC No. 12-01 approved the University's 15-year Campus Master Plan (2012-2027); cited the pending sale of 5 acres in the southeast corner of West Campus to the Basilica; introduced a new vehicular approach to Main Campus through West Campus from North Capitol Street; allowed for temporary surface parking.

**July 2012:** The University sold 5 acres to the Basilica, subdividing Parcel 121/29 of Square 3663 into Lot 6 (5 acres) and Lot 7 (41.12 acres).



# WEST CAMPUS SITE DESCRIPTION



## EXISTING CONDITIONS AND SITE CHARACTERISTICS:

- Remnant forest is a dominant characteristic of southwestern third of property
- Remaining portion is characterized by open space and second growth; open space was most recently used as a temporary soil stockpile area for the recently completed Energy Infrastructure project on Main Campus
- Site has evidence of some possible waters of the US and an intermittent stream
- Special and heritage trees have been inventoried
- A tree nursery staging area is located in the northwest corner
- Existing, small maintenance/storage facilities are located near private drive (“Scale Gate Road”)
- An existing vacant gate house is located near the curb cut on Harewood Road just inside iron fence and gate
- Existing rough-graded road bed aligns with the 2012 Campus Master Plan future North Capitol Street approach drive
- Fully surrounded by institutional uses and no adjacent residences



# WEST CAMPUS SOLAR PROJECT IN CONTEXT OF THE 2012 CAMPUS MASTER PLAN



**2012 Campus Master Plan indicates an interim use of a portion of the West Campus as a parking area with a new access road to Campus from the west**

- Existing gates to private drive (“Scale Gate Road”) from North Capitol Street ramp and from Harewood Road provide access for the University, first responders, and utility easement access
- Parking area proposed in the Campus Master Plan has not been implemented
- Controlled access to the site is available for the University’s use in support of educational mission and campus operations, including:
  - Tree nursery staging area in NW corner supporting the University’s partnership with Casey Trees
  - Maintenance/storage facilities (mainly snow removal equipment and salt storage)
  - Sponsored educational, research, demonstration, and passive activities on a scheduled basis in appropriate areas of the property
- Interim uses are removed at the end of their intended function



# EXISTING SOLAR PROGRAM AT CATHOLIC UNIVERSITY

Catholic University currently has **2,600 solar panels** on 7 different flat-roofed buildings and the O'Boyle Parking Lot. At the time of its installation (2009-2010), it was one of the largest solar installations in the District of Columbia at **677 kW of installed capacity**.

The program was established through a 20-year agreement signed in 2009 between the University and Washington Gas Energy Services.



*Solar panels on roof of Gibbons Hall*



*Solar canopy at O'Boyle Parking Lot*



*Solar panels on roof of DuFour Athletic Facility*

### Green Campus Map



**1 AQUINAS HALL SOLAR PANELS AND GREEN ROOF**  
Two-thirds of the roof of Aquinas Hall are covered with 103 kW of solar panels. The other one-third is a green roof that absorbs rainwater and provides insulation for the building.

**2 COLUMBUS SCHOOL OF LAW LAWN**  
This area is the green roof of an underground parking garage.

**3 RAYMOND A. DUFOUR ATHLETIC CENTER SOLAR PANELS**  
A 318 kW solar array is on the roof of the Raymond A. DuFour Athletic Center. It produces enough energy to power 35 homes.

**4 FATHER HALL SOLAR PANELS**  
Father's 35kW rooftop array could power 4 homes a year.

**5 GIBBONS HALL SOLAR PANELS**  
On the roof of Gibbons Hall, one of the oldest buildings on campus is a 30kW array of solar panels. This array could power 3 homes a year.

**6 FATHER O'CONNELL HALL LEED BUILDING**  
Father O'Connell Hall is Leadership in Environmental and Energy Design (LEED)-certified. In the renovation of this building, 95% of the existing structure was reused and 75% of demolition waste was diverted from the landfill. Low-flow plumbing fixtures achieved a 30% indoor water-use reduction. On the northeast section of Father O'Connell Hall is a green roof.

**7 GROUNDS AND MAINTENANCE SOLAR PANELS**  
This building's roof has a 9kW array.

**8 PANGBORN HALL SOLAR PANELS**  
This 11kW rooftop array can power the equivalent of 1 home annually.

**9 COMMUNITY GARDEN**  
As part of a student-led effort, the University opened its community garden in 2021. The garden features vegetables and flowers for pollinators. Students, faculty, and staff can volunteer to maintain the garden.

**10 EDWARD M. CROUGH CENTER FOR ARCHITECTURAL STUDIES LEED BUILDING**  
The Crough Center is notable as the first student-led LEED-certified building and as the first-ever LEED-certified architecture school. The building features many best practices such as efficient lighting and controls, rain gardens and cisterns, building management policies, occupant feedback and encouragement, and water-efficient plumbing fixtures.

**11 POPE LEO LANE RAIN GARDEN**  
Pope Leo Lane features traditional bio-retention structures to mitigate stormwater runoff on campus. The gardens run alongside Pangborn Hall and feature native and adaptive plants and flowers.

**12 MALONEY HALL LEED BUILDING**  
Maloney Hall, the recently renovated home to the Busch School of Business is LEED Gold. Its features include but are not limited to a rainwater collection system to supply the building; LED lighting to minimize electricity use; and, temperature, light, and occupancy sensors to adapt to internal and external changes thereby maintaining optimal comfort.

**13 OPUS HALL LEED BUILDING**  
The building is 11% more energy-efficient than average residence halls. 75% of spaces have access to view and/or adequate daylight. Water fixtures are 20% more efficient than standard indoor plumbing fixtures. The building achieved a 50% reduction in potable water used for landscaping.

**14 EDWARD J. PRYZBYLA UNIVERSITY CENTER COMPOSTING**  
Composting is available to the campus community at the Pryzbyla Center. The receptacles contain real-life displays that explain which items should be recycled, composted, or landfilled.

**15 O'BOYLE HALL SOLAR PARKING LOT CANOPY**  
This parking lot has 714 solar panels that cover over 70 parking spaces. This parking lot installation also includes an electric car-charging station.

Division of Facilities Planning and Management | [sustainability@csa.edu](mailto:sustainability@csa.edu) | [www.cusatransparency.com](http://www.cusatransparency.com) | [www.facebook.com/cusatransparency](https://www.facebook.com/cusatransparency) | [www.instagram.com/cusatransparency](https://www.instagram.com/cusatransparency) | [www.youtube.com/cusatransparency](https://www.youtube.com/cusatransparency)

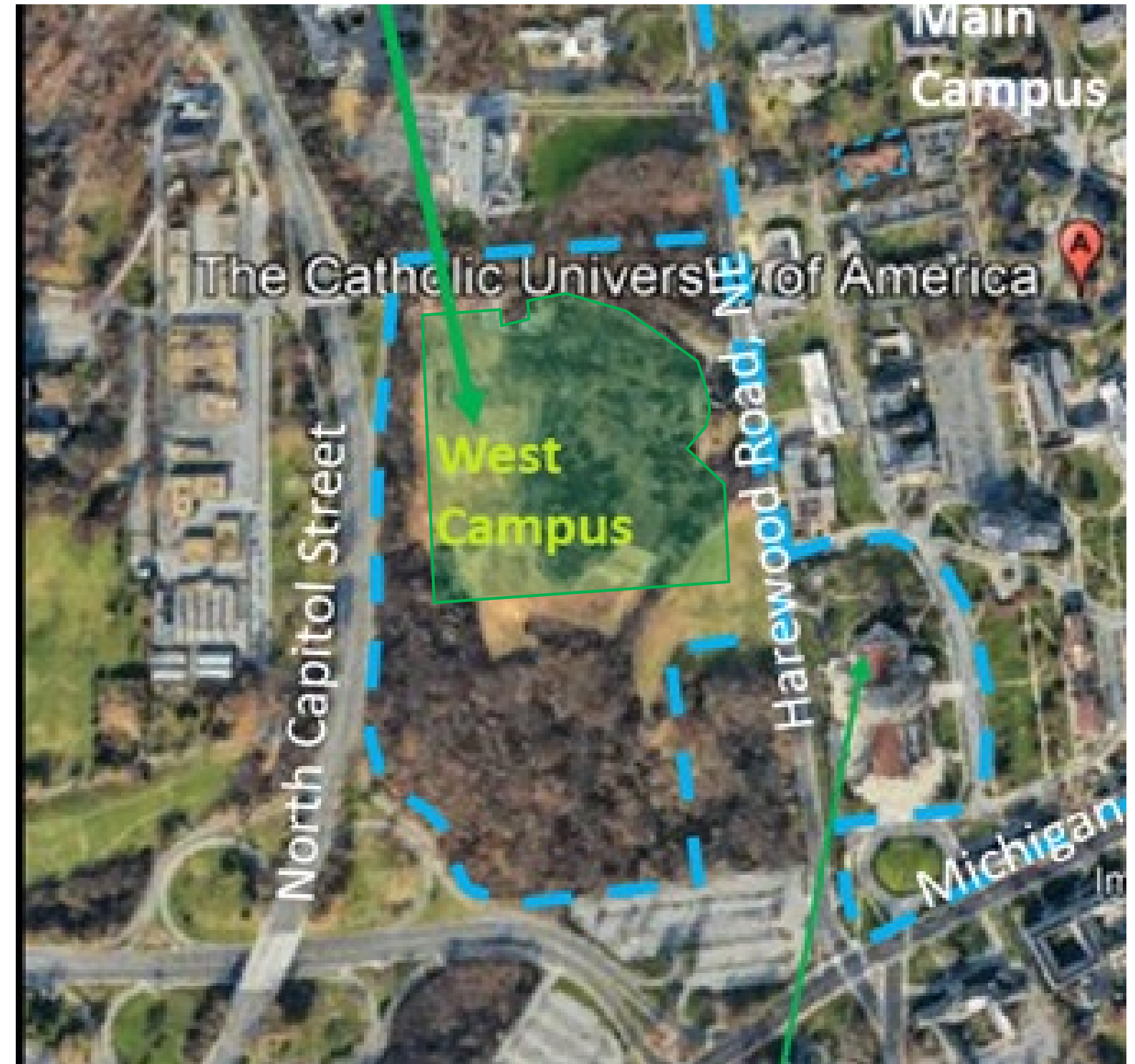




# WEST CAMPUS SOLAR PROJECT APPROACH

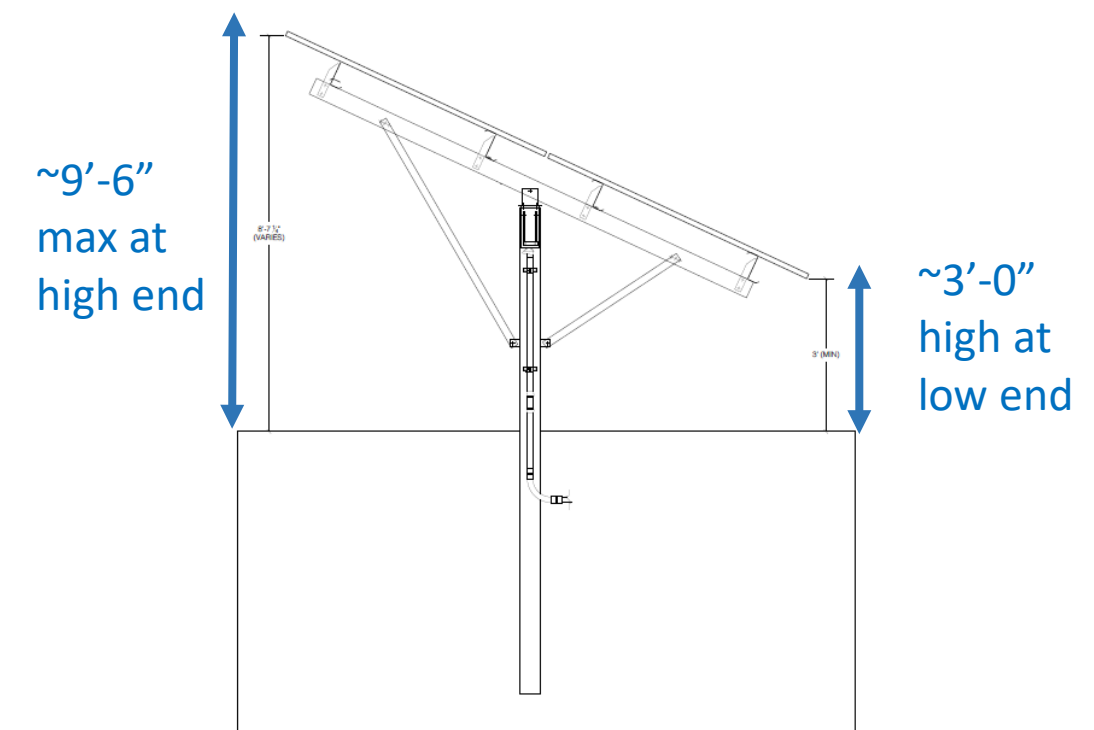
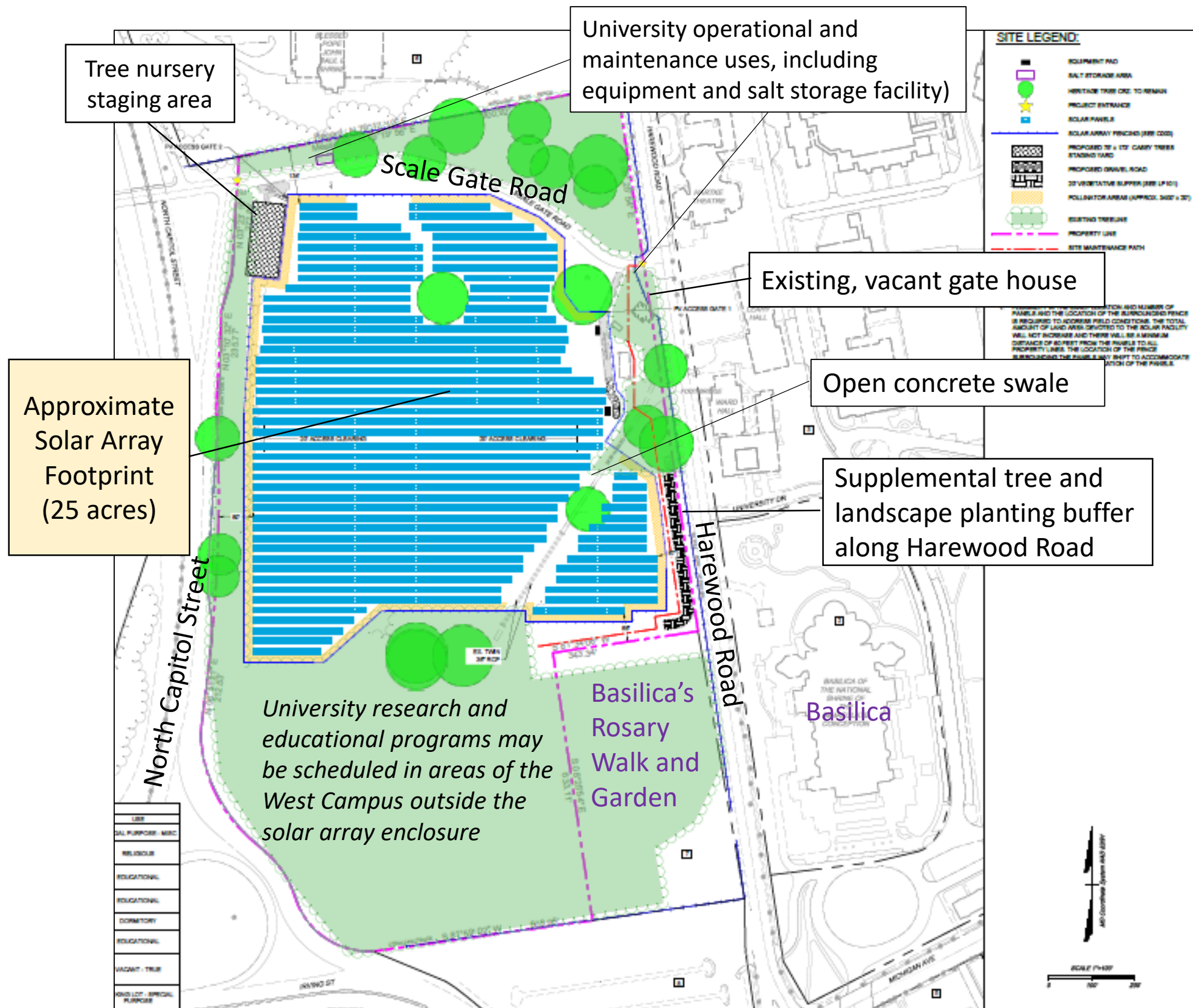
## **A new interim use is proposed: West Campus Solar Project**

- The surface parking lot and paving of the new campus access road indicated in the 2012 Campus Master Plan will not be implemented at this time
- The new Solar Array will cover approximately 60% of West Campus and the expected service life of the facility is 15 to 25 years
- No new curb cuts are proposed; gates on both ends of private drive to remain
- Highest quality tree stands and remnant forest will be preserved
- Heritage trees will be protected
- Landscape buffer plantings will be installed along Harewood Road to enhance street level views
- West Campus Solar Array area will support scheduled demonstration and educational visits. The University will maintain remainder of property for other educational, study and operational uses.



# WEST CAMPUS SITE DIAGRAM WITH SOLAR PROJECT OVERLAY

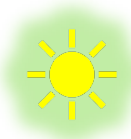
## REVISED EXHIBIT 17 OF THE 2012 CAMPUS MASTER PLAN



**Diagram of ground-based, fixed tilt solar panel**

Engineering underway for:  
 2 arrays of 3MW AC, each generating approximately 5,350,000 kWh/yr, for a combined capacity of 6 MW AC and a combined output exceeding 10,700,000 kWh/yr

*Flexibility in the exact location and number of panels and the location of the surrounding fence is required to address field conditions. The total amount of land area devoted to the solar facility will not increase and there will be a minimum distance of 60 feet from the panels to all property lines. The location of the fence surrounding the panels may shift to accommodate any change in the final location of the panels.*



# WEST CAMPUS SOLAR PROJECT VISUALIZATION



Existing View  
looking south along  
Harewood Road



5-10 year visualization of landscape buffer and pollinator growth



>10 year visualization of landscape buffer and pollinator growth



# WEST CAMPUS SOLAR PROJECT VISUALIZATION



Existing View  
looking north along  
Harewood Road



5-10 year visualization of landscape buffer and pollinator growth



>10 year visualization of landscape buffer and pollinator growth



# WEST CAMPUS SOLAR PROJECT BENEFITS

## ENVIRONMENTAL STEWARDSHIP AND SUSTAINABILITY BENEFITS:

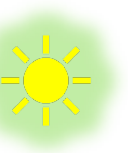
- Contributes significantly toward DC's goals of 50% Clean Power by 2032 and Carbon Neutrality by 2050
  - Increases the amount of solar energy generated within the District
  - 7,087 metric tons of Green House Gas (GHG) emissions avoided (equivalent to 1,541 passenger vehicles/year or CO2 emissions from 797,437 gallons of gasoline consumed)
  - Reduces air pollution by reducing electricity generated from fossil fuels
- Contributes significantly toward the University's Sustainability Plan and the environmental stewardship promoted in Pope Francis's Encyclical *Laudato Si'*
- Puts into sustainable use a large, undeveloped land parcel without additional vehicles or vehicle trips
- Provides storm water management enhancement and protects Heritage Trees on the West Campus
- Offers potential for pollinator-friendly cultivation around and among the solar panels that provides food and shelter for beneficial insects, birds and other wildlife
- Maintains and enhances picturesque character and visual aesthetic of the West Campus with setbacks and landscape screening; maintains attractive views and viewshed corridors
- The proposed large ground-based array generates significantly more green power than would be possible with individual roof installations on the University's Main Campus, where flat roofscape configurations are scarce
- Commits to sustainable practices in site clearing and construction



# WEST CAMPUS SOLAR PROJECT BENEFITS

## NEIGHBORHOOD, COMMUNITY, AND DC BENEFITS

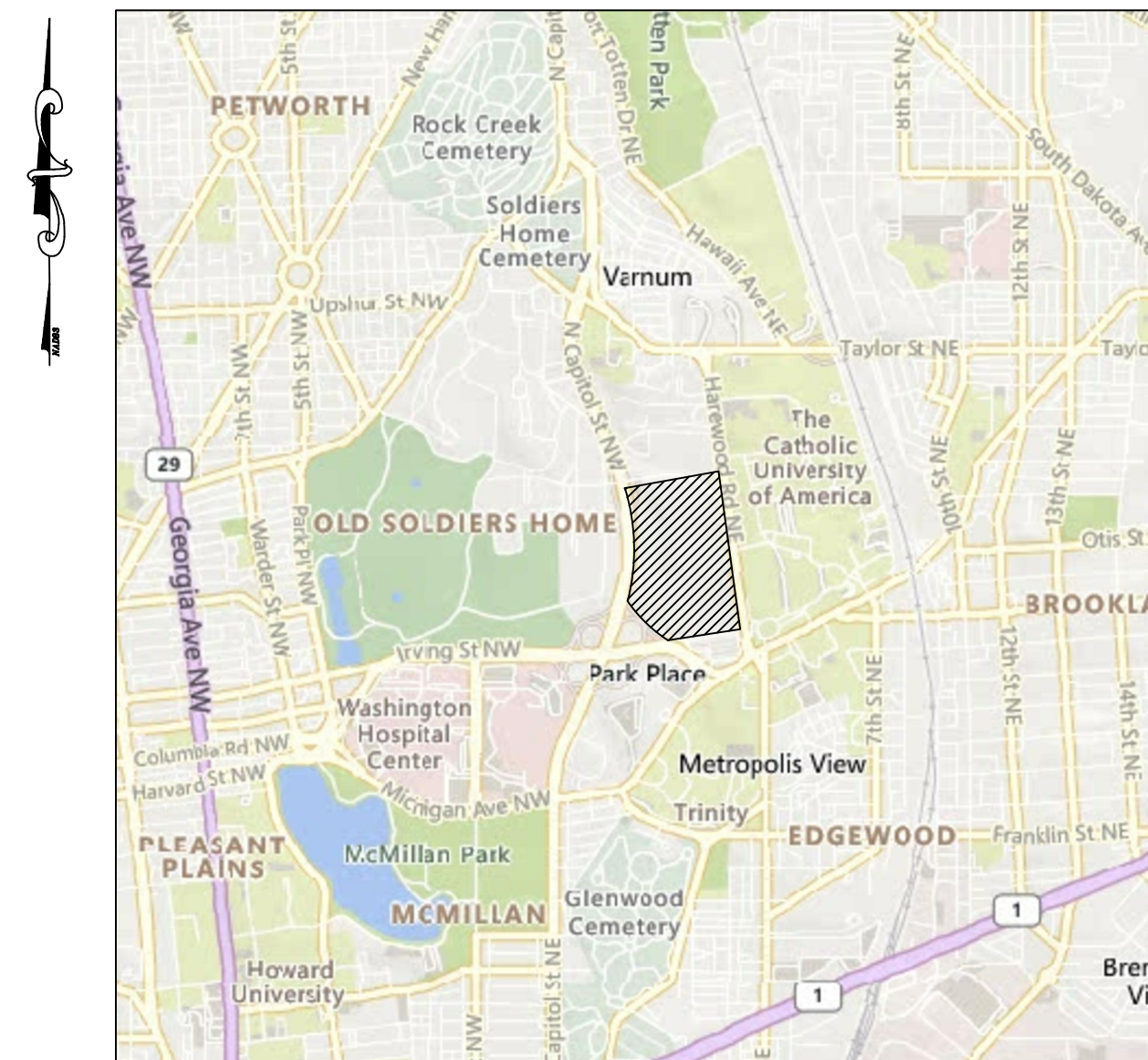
- Contributes to advancing DC to prominence in clean power production among US cities
- Supplies locally-generated, renewable energy to surrounding community and District consumers, households, small businesses, nonprofits
- Promotes local economic development through opportunities for new jobs in solar facility design, construction and energy management
- Provides opportunities for Ward 5 and other District of Columbia businesses, suppliers, and residents
- Photovoltaic technologies and solar developments are not known to pose any public health dangers
- Provides learning opportunities for local K-12 students, inspiring younger generations and instilling appreciation for sustainability and environmental stewardship. Examples:
  - Ward 5 school field trips to see and experience the solar facility
  - Invites students to envision a future for themselves working in STEM and clean power technology
  - Provides real-time, web-based energy production monitoring as a teaching tool
- Enhances partnerships with Ward 5 high schools, including scholarships opportunities at Catholic University
- Enhances research opportunities and sustainability curricula within many of the University's academic schools and departments, including Architecture, Engineering, STEM, Business, and Law



# THE CATHOLIC UNIVERSITY OF AMERICA

## WEST CAMPUS SOLAR PROJECT

HAREWOOD ROAD NE  
WASHINGTON DC  
DECEMBER 17, 2021



**VICINITY MAP**  
SCALE: 1" = 2,000'

**Sheet List Table**

Sheet Number	Sheet Title
C000	COVER SHEET
C001	EXISTING CONDITIONS
C002	SITE LAYOUT PLAN
C003	SITE LAYOUT PLAN
C004	SITE LAYOUT DETAILS
C005	RENDERINGS
LP100	OVERALL LANDSCAPE PLAN
LP101	BUFFER LANDSCAPE PLAN AND LANDSCAPE NOTES AND DETAILS
LP102	BUFFER LANDSCAPE IMAGES

**TIMMONS GROUP**

THE CATHOLIC UNIVERSITY OF AMERICA  
WASHINGTON DC

COVER SHEET

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	12/17/2021	

JOB NO.  
**49574**

SHEET NO.  
**C000**

DRAWN BY  
**S. STOCKTON**

DESIGNED BY  
**J. CRUZ**

CHECKED BY  
**T. LOWER**

SCALE  
**N/A**

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**LEGEND:**

- WATER SPIGOT
- LIGHT POLE
- BOLLARD
- MONITORING WELL
- STORM GRATE
- END OF INFORMATION
- SURVEY CONTROL
- HERITAGE TREE CRZ

- CENTERLINE GRAVEL DRIVE
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- CHAIN LINK FENCE LINE
- EDGE OF LANDSCAPING
- TREE LINE
- BRUSH LINE
- SWALE
- EDGE OF WATER
- OVERHEAD POWER LINE
- PROPERTY LINE
- 1' TOPOGRAPHIC CONTOURS
- 5' TOPOGRAPHIC CONTOURS

**NOTES:**

1. TOPOGRAPHIC DATA DEPICTED IS BASED ON A CURRENT FIELD SURVEY BY THIS FIRM, COMPLETED SEPTEMBER 14, 2021.
2. ELEVATIONS SHOWN ARE REFERENCED TO NAVD88.

ADJACENT PROPERTIES					
IDENTIFIER	SSL	OWNER NAME	ZONE	AREA (AC)	USE
1	PAR 01210028	UNITED STATES OF AMERICA	UNZONED	276.66	SPECIAL PURPOSE - MISC
2	3281 0040	NAT. SHRINE OF THE IMMACULATE CONCEPTION	RA-1	8.66	RELIGIOUS
3	3281 0044	CATHOLIC UNIVERSITY OF AMERICA	RA-1	95.32	EDUCATIONAL
4	PAR 01220006	MARIAN FATHERS OF THE IMMACULATE CONCEPTION	RA-1	0.61	EDUCATIONAL
5	PAR 01330130	THEOLOGICAL COLLEGE INC	RA-1	4.93	DORMITORY
6	3663 0004	KNIGHTS OF COLUMBUS FAMILY LIFE BUREAU, INC	RA-1	11.64	EDUCATIONAL
7	3663 0006	BASILICA OF THE NATIONAL SHRINE OF THE IMMACULATE CONCEPTION	RA-1	4.97	VACANT - TRUE
8	PAR 01210022	NAT. SHRINE OF THE IMMACULATE CONCEPTION	RA-1	5.52	PARKING LOT - SPECIAL PURPOSE

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SCALE  
1" = 100'

REVISION DESCRIPTION

DATE

EXISTING CONDITIONS

WASHINGTON DC

JOB NO.  
49574

SHEET NO.  
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WASHINGTON DC

SCALE 1"=100'

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