



Executive Director's Recommendation

Commission Meeting: January 5, 2017

PROJECT

Installation of Ground Mounted Photovoltaic Panels, Sites 1, 4, and 34

Joint Base Anacostia - Bolling
1314 Harwood Street, SE
Washington, DC

SUBMITTED BY

United States Department of Defense
Department of the Navy

REVIEW AUTHORITY

Review of Projects on the Bolling-Anacostia Complex
per Public Law 93-166, Section 610(a)

NCPC FILE NUMBER

7627

NCPC MAP FILE NUMBER

84.22(61.10)44047

APPLICANT'S REQUEST

Approval of comments on preliminary and final site and building plans

PROPOSED ACTION

Comments favorably on preliminary and final site and building plans

ACTION ITEM TYPE

Consent Calendar

PROJECT SUMMARY

The project will construct ground photovoltaic (PV) arrays on three sites (1, 4, and 34), each with an eight-foot high perimeter security fence with black mesh covering, 12-foot high tree buffer, gate, gravel access paths, and substation. Site 1 consists of 4,600 panels (11.23 acres), Site 4 consists of 5,250 panels (8.26 acres), and Site 34 consists of 5,000 panels (6.1 acres). All panels have an anti-reflective coating and a maximum height of eight feet. The buffers will consist of 12-foot high trees, with varying species, and Site 1's northern buffer will have higher trees to help shield the project from South Capitol Street Bridge views.

KEY INFORMATION

- The Navy has entered into a long-term (26 year) lease agreement with a commercial PV developer to construct and operate a solar PV system that would generate renewable energy to supply the existing installation electrical energy grid. The Contractor will develop, construct, operate, maintain, own, and finance the solar arrays and associated equipment.
 - The project will supply approximately 10% of Joint Base Anacostia-Bolling's electrical requirements.
 - The Navy is only responsible for purchasing the minimum annual guaranteed amount of electricity from the provider based on the contract.
-

RECOMMENDATION

The Commission:

Comments favorably on the preliminary and final site and building plans for three new ground photovoltaic solar arrays on Sites 1, 4, and 34 at Joint Base Anacostia-Bolling, located in Southeast Washington, D.C.

PROJECT REVIEW TIMELINE

Previous actions	None.
Remaining actions (anticipated)	None.

PROJECT ANALYSIS

Executive Summary

Staff evaluated the project by reviewing its consistency with the 2014 Joint Base Anacostia Bolling (JBAB) Master Plan, installation design guidelines, and relevant policies within the Comprehensive Plan for the National Capital. In particular, this project is generally consistent with regional federal policies relating to site development and sustainable energy production. The project is included in the Master Plan (approved by the Commission in September, 2014) and adheres to design guidelines related to fencing and vegetation. Therefore, staff recommends that the Commission **comment favorably on the preliminary and final site and building plans for three new ground photovoltaic solar arrays on Sites 1, 4, and 34 at Joint Base Anacostia-Bolling, located in Southeast Washington, D.C.**

Analysis

NCPC staff reviewed each of the three installation sites within the context of the following topic areas as follows: Site 1 – views, floodplains, and existing/future land use; Site 4 – views, floodplains, and existing/future land use; and Site 34 – views and existing/future land use. Staff analysis is described on a site-by-site basis in the following sections.

Site 1

As the northern-most site, closest to the South Capitol Street Bridge, with little existing development, Site 1 has the greatest potential for adverse visual impacts from the west-side of the Anacostia River and from the South Capitol Street Bridge. Initially, when the project was submitted for staff-level review in 2014, the Navy provided photo simulations that show a large expanse of arrays clearly visible from the Bridge and west of the Anacostia River (Buzzard Point). Slides 7 and 11 show the 2014 photo simulations from these vantage points. In response to NCPC staff recommendations, the Navy scaled back the Site 1 array and will require the solar provider

to plant a tree buffer area surrounding the site as shown in the Slide 9 and 13 photo-simulations. Also, the tree buffer along the northern edge of Site 1 will be 15 feet (rather than 12 feet) to provide additional visual protection from nearby off-site locations. Based on the photo simulations, NCPC staff believes that the project will not result in any significant adverse visual impacts to the two visually-sensitive vantage points that were considered as part of the project planning process.

The project will result in negligible impacts to the existing floodplain since the array foundations, each with a small footprint, will minimally affect the floodplains ability to hold and absorb floodwater. In regards to protection of federal investments from flood risk, the solar provider has flood insurance for all project-related equipment, and the Navy will not be required to pay for lost energy production time due to equipment that is damaged due to flooding. Finally, the Navy complied with the requirements of Executive Order 11988 – Floodplain Management, and Executive Order 13690 – Establishing a Federal Flood Risk Management Standard, including the public input process required when considering floodplain development.

The existing and future designated land use for the site is Open Space/Outdoor Recreation. The Navy has determined that converting the land to energy production will not adversely impact JBAB's total land identified for recreational use since the installation currently has a significant surplus. Conversion of the site to energy production will decrease JBAB's total recreation land use from 114.5 to 103.25 acres, which continues to meet the military's minimum two acres/1,000 resident requirement. At the end of the lease, the array will be removed and the land can be converted to another use. The current 2014 Master Plan shows Site 1 as a potential ground array site (Slide 25). As such, NCPC staff believes that use of Site 1 for a ground array is acceptable since the new use will help the Navy meet its future sustainable energy production goals, result in cost savings for the federal government, and contribute to installation security.

Site 4

Site 4 is relatively visible, near the Potomac Riverfront, adjacent to the south-side of Site 1. Slide 17 shows the developed site from Hains Point, without visual mitigation, and Slide 18 shows the site with the planned tree buffer. The array area has decreased in size from its initial 2014 conceptual site boundary. The 2016 photo simulations show a developed site that is only marginally visible from Hains Point. Based on the submission materials, NCPC staff believes that the project will not result in any significant adverse visual impacts to off-site vantage points.

Similar to Site 1, the project will result in negligible impacts to the existing floodplain since the array foundations, each with a small footprint, will minimally affect the floodplains ability to hold and absorb floodwater. The Navy has complied with the requirements of Executive Order 11988 – Floodplain Management, and Executive Order 13690 – Establishing a Federal Flood Risk Management Standard, including the public input process required when considering floodplain development.

The site is partially undeveloped (level grassy area) and partially developed with a 299-space surface parking lot. The current Master Plan identifies the site for Mixed Use development, but the proposed use will not impact the installation's future projects, and the proposed use is not

precluded under the Mixed Use designation. The array will be installed over the surface lot, thereby eliminating the parking from JBAB's inventory and slightly improving the installation's parking ratio from 1:1.67 to 1:1.73. NCPC staff believes that use of the site for a ground array is appropriate since the array will help the Navy meet its sustainable energy production goals, result in cost savings, and contribute to JBAB security.

Site 34

With its location on the east-side of the installation, Site 34 is closest to off-site vantage points from South Capitol Street, SE, Anacostia Freeway, and I-295. The closest of these three roadways, South Capitol Street, is situated roughly at the same elevation as the site, however, the existing tree buffer between the road and installation perimeter security fence completely obscures views toward the site during warmer months. Though the deciduous trees along the outside of the security fence do lose their leaves during colder months, the planned perimeter buffer along the east-side of the site will still partially hide the array from South Capitol Street vantage points with a mix of coniferous trees. Vantage points along I-295 are located further east and elevated from South Capitol Street, however, tree buffers between the I-295 and South Capitol Street, between South Capitol Street and the JBAB perimeter fence, and surrounding Site 34, will blend the array into other background development.

The site is currently vacant open space, with limited future development potential since the land was previously used as a landfill, which has since been capped, and as a construction staging area. The site is identified as Industrial use in the 2014 Master Plan, which is compatible with the planned solar array project. Staff appreciates the limited potential use of Site 34, and the fact that the site will be converted into a function that contributes to the security, sustainability, and reducing JBAB's operational costs.

CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE

Comprehensive Plan for the National Capital

As noted above, this projects meets basic goals of the Comprehensive Plan.

National Historic Preservation Act

The District of Columbia State Historic Preservation Office (SHPO) concurred with the Navy's determination of No Adverse Effect for the project on May 6, 2015. The SHPO included several conditions for specific facilities in their concurrence; however, none of the current proposed ground sites are affected by those conditions. For projects within JBAB, NCPC does not have Section 106 responsibility pursuant to Public Law 93-166, Section 610(a), which pertains to Commission review of Bolling-Anacostia Complex projects.

National Environmental Policy Act

An EA was prepared for this project and a Finding of No Significant Impact (FONSI) was signed

on September 22, 2015. The Final EA and FONSI are provided within the project submission. For projects within JBAB, NCPC does not have NEPA responsibility pursuant to Public Law 93-166, Section 610(a), which pertains to Commission review of Bolling-Anacostia Complex projects.

CONSULTATION

Coordinating Committee

The Coordinating Committee reviewed the proposal at its December 14, 2016 meeting. Without objection, the Committee forwarded the proposed preliminary and final site and building plans to the Commission with the statement that the proposal has been coordinated with all participating agencies. Participating agencies included: U.S. General Services Administration, National Park Service, District of Columbia Department of Transportation, District of Columbia Office of Planning, and Washington Metropolitan Area Transit Authority.

U.S. Commission of Fine Arts

The initial project, with 50 potential sites (rooftop, ground, parking lot canopy) throughout JBAB, was presented to CFA in November, 2014 and received Concept approval from the Commission. The current project, with three ground sites, has been submitted for combined Concept/Final approval by the Commission at its January 19th meeting.

The Navy met with NCPC and CFA staff in October, 2016 to discuss the project and to gather initial design comments. CFA and NCPC staff suggested a varied pallet of trees within the buffer areas surrounding each site, and taller trees along Site 1's northern buffer to help shield the project from the South Capitol Street Bridge vantage points. CFA staff has communicated to the Navy that the Commission will likely approve the project since submitted plans reflect previous CFA/NCPC staff recommendations.

ONLINE REFERENCE

The following supporting documents for this project are available online:

- Environmental Assessment (EA)
- EA Finding of No Significant Impact (FONSI)
- Project Narrative
- Project Plans
- Project Synopsis
- Submission Letter

Prepared by Michael Weil
12/28/2016

POWERPOINT (ATTACHED)

Project # 7627

New PV Solar Arrays – Sites 1, 4, 34

Joint Base Anacostia-Bolling
Anacostia, Washington, DC

Submitted by the United States Department of the Navy

Preliminary and Final Site Development Plans

Project Synopsis

Commission meeting date: January 5, 2016

NCPC review authority: Advisory – Section 610(a) of Public Law 93-166

Applicant request: Preliminary and final approval of site development plans

Delegated / consent / open / executive session: Consent Calendar

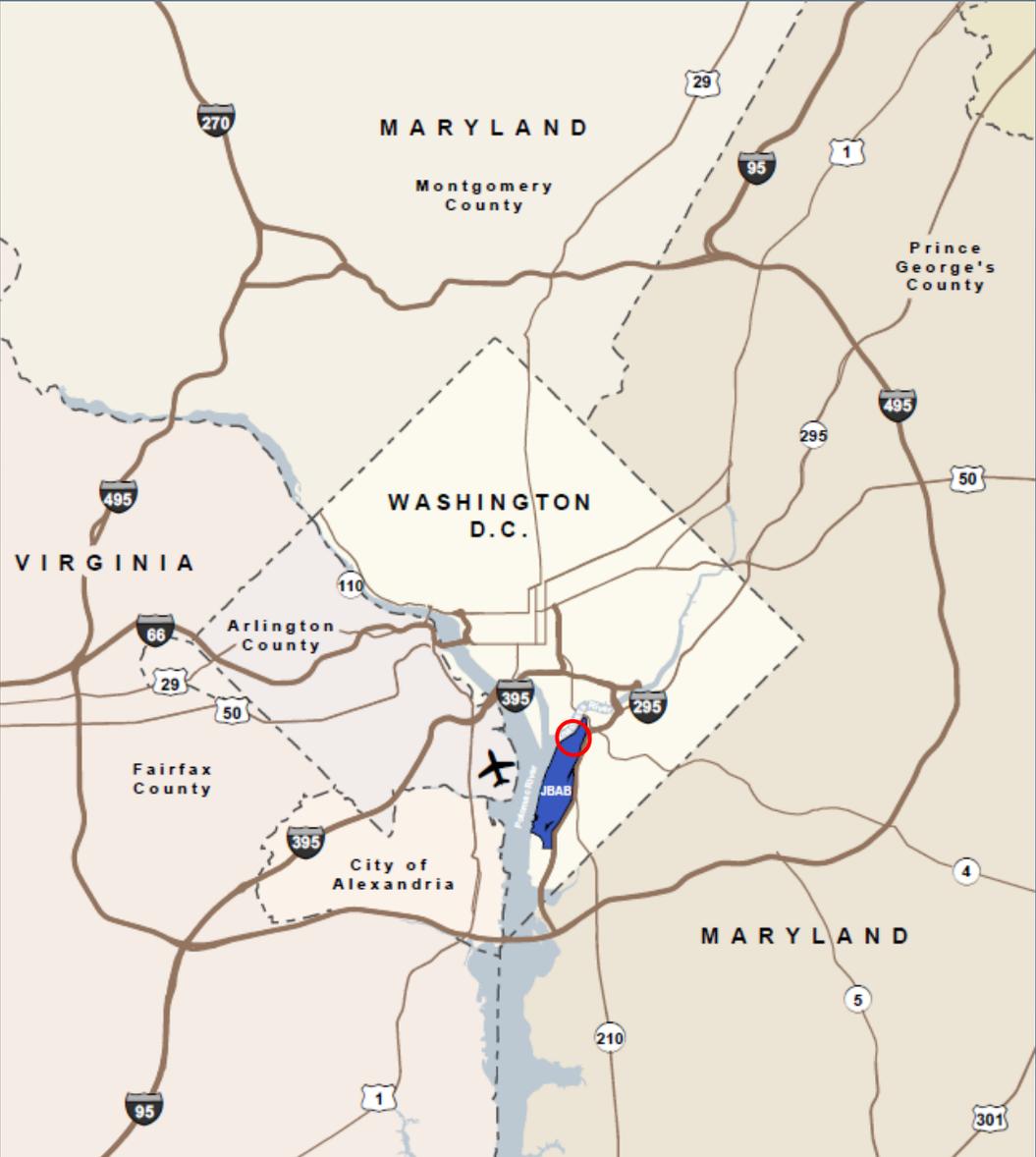
NCPC Review Officer: Michael Weil

NCPC File number: 7627

Project Summary:

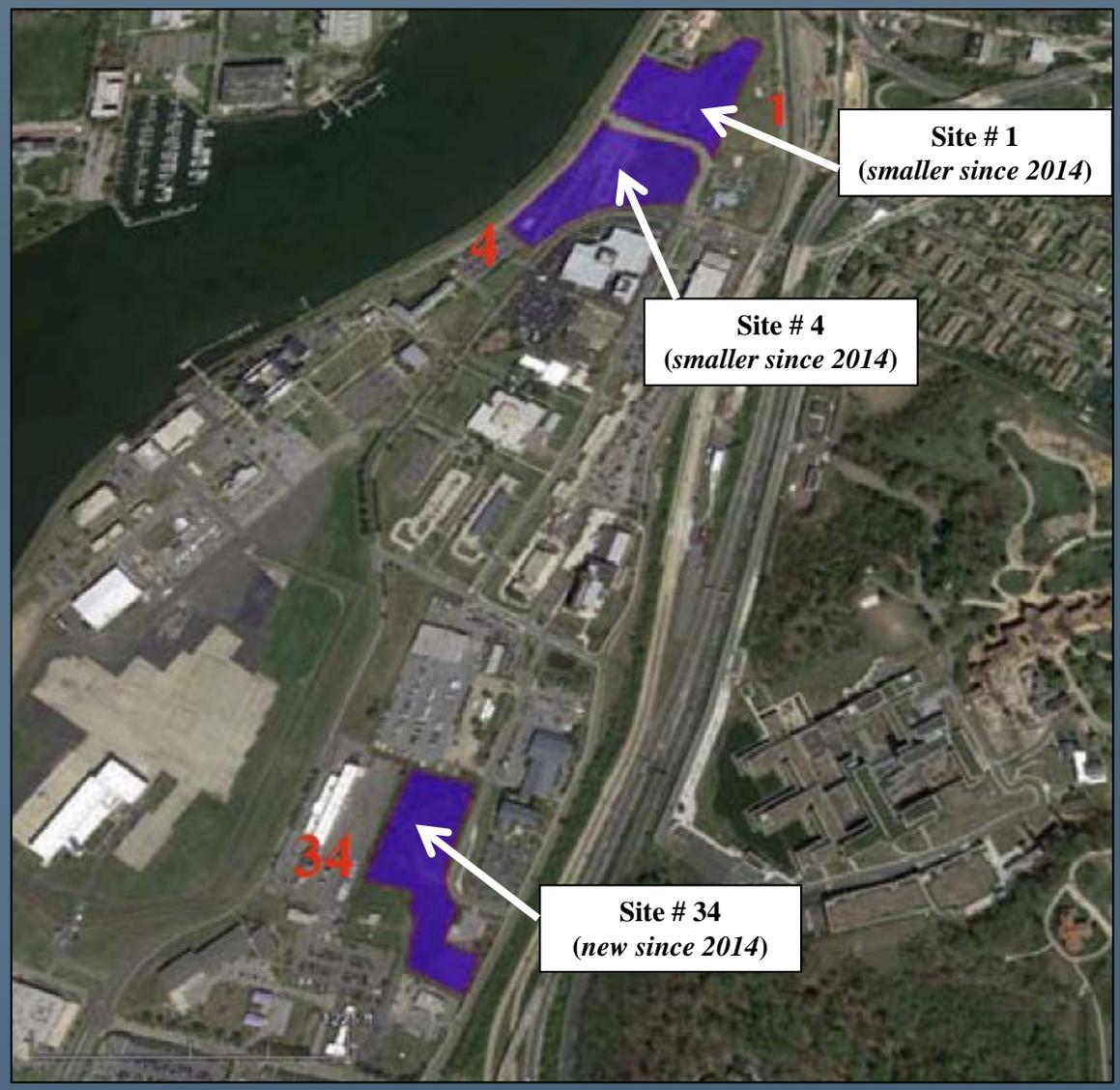
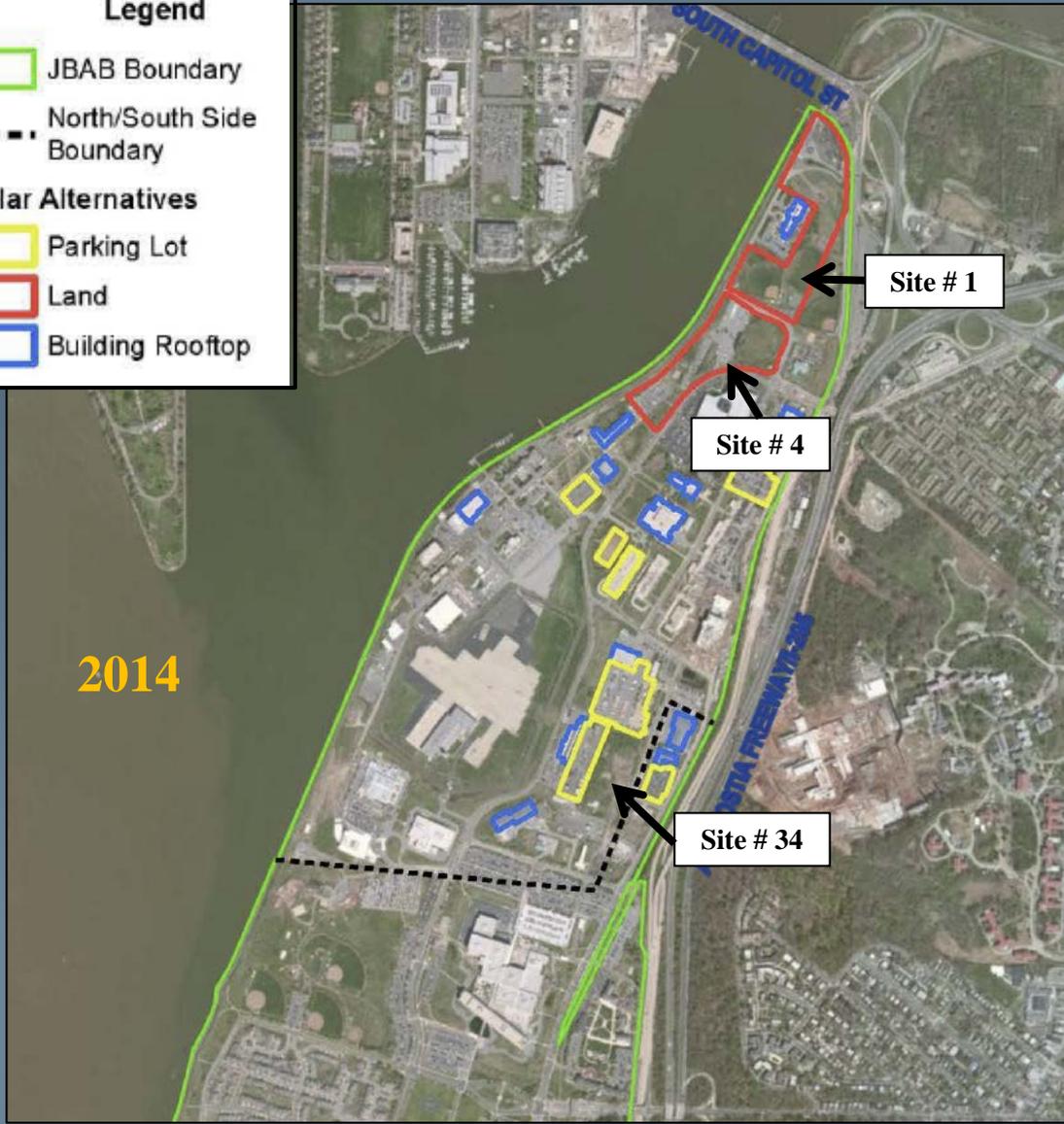
In support of the Energy Policy Act of 2005 (EPAAct) (42 U.S.C. 15852) and 10 U.S.C. 2911(e) renewable energy goals, the Secretary of the Navy created the 1 Gigawatt (GW) Initiative named for the amount of renewable energy generation capacity to be deployed by 2020 (Navy 2012), either on or near Navy installations. To aid in the accomplishment of the initiative, the Navy proposes the construction of photovoltaic (PV) solar panel arrays within Joint Base Anacostia-Bolling (JBAB). The Navy has entered into a long-term lease agreement with a commercial PV developer to construct and operate a solar PV system that would generate renewable energy to supply the existing installation electrical energy grid. The Contractor will develop, construct, operate, maintain, own, and finance the solar arrays and associated equipment. The Department of Navy (DON) will purchase the energy produced by the arrays at an economical rate that results in energy savings to DON. A single award Firm Fixed Price (FFP) contract will be awarded under authority 10 U.S.C. 2922a for a 25 year contract term.

The current project proposal is to construct ground PV arrays on three (3) sites (#1,4,34), complete with panel mounting brackets on vertical members, steel tracking structures, and miscellaneous electrical equipment at the point of connection (i.e., inverters, combiner boxes, electrical switchgear, associated electrical wiring, and connections) and other items required for the solar PV system. The two northern sites (1 and 4) will serve the loads for the Anacostia and the southern array (34) will serve loads for the Bolling side. Site 1 is a 2 MW system which consists of 4,600 panels at 20 degree tilt with an azimuth of 0 degrees (south facing). Site 4 is a 2.28 MW system which consists of 5,250 panels at 20 degree tilt with an azimuth of 0 degrees (south facing). Site 34 is a 2.17 MW system which consists of 5,000 panels at 10 degree tilt with an azimuth of 0 degrees (south facing). All panels have an anti-reflective coating and the solar panels maximum installed height is eight (8) feet at all sites. Each site will have a perimeter fence and 8-foot wide landscape buffer consisting of 12-foot trees, which will exceed the height of the solar arrays without affecting energy output. The fence and landscape buffer will comply with the JBAB's Installation Appearance Plan.



Legend

- JBAB Boundary
- North/South Side Boundary
- Solar Alternatives**
- Parking Lot
- Land
- Building Rooftop





Existing Condition (view from Buzzard Point)





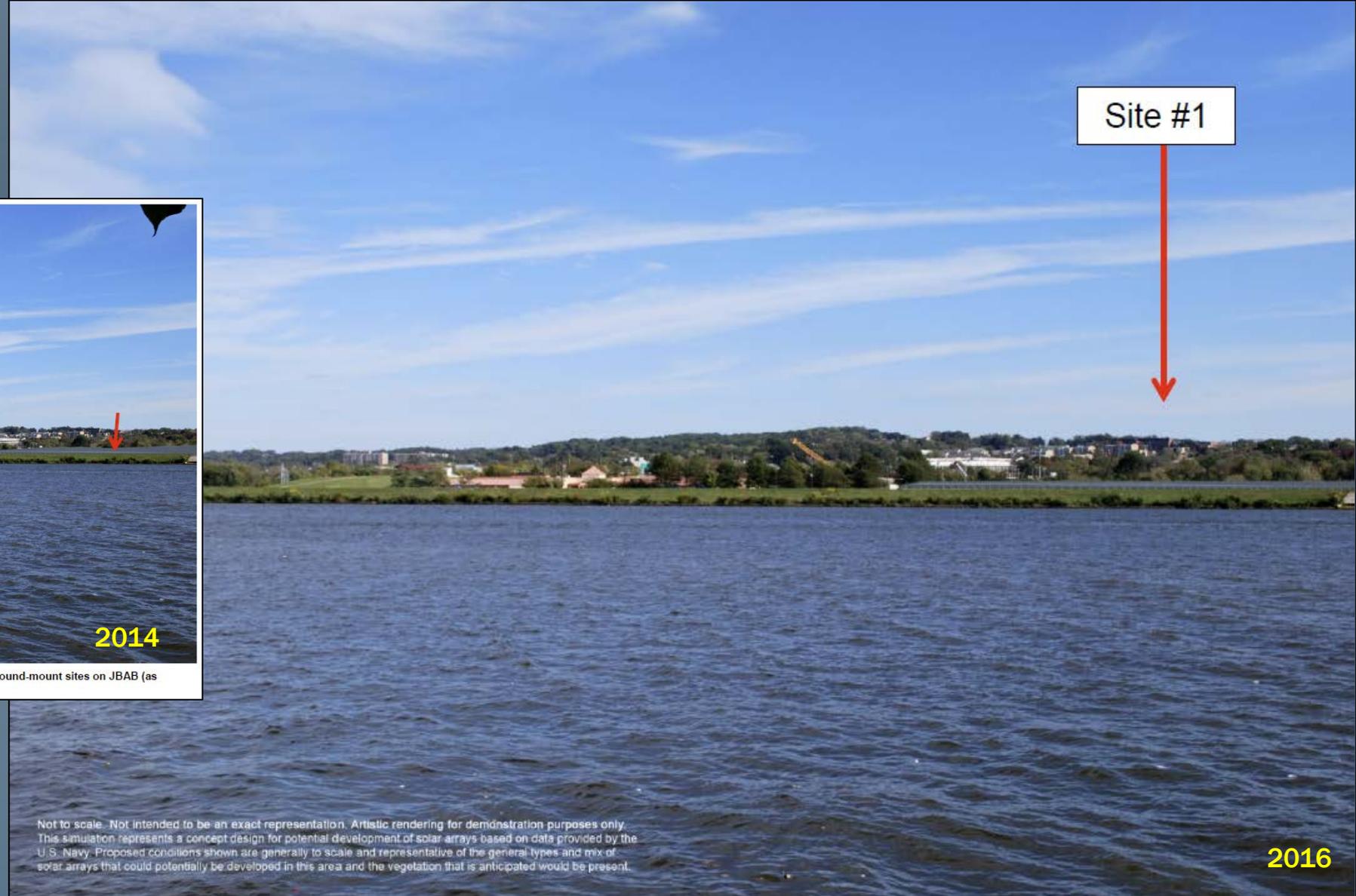
DSC1081 – View facing east from west bank of Anacostia River looking toward selected PV ground-mount sites on JBAB (as indicated by arrows).

2014 vs 2016 Proposed Future Condition (*Buzzard Point*)



2014

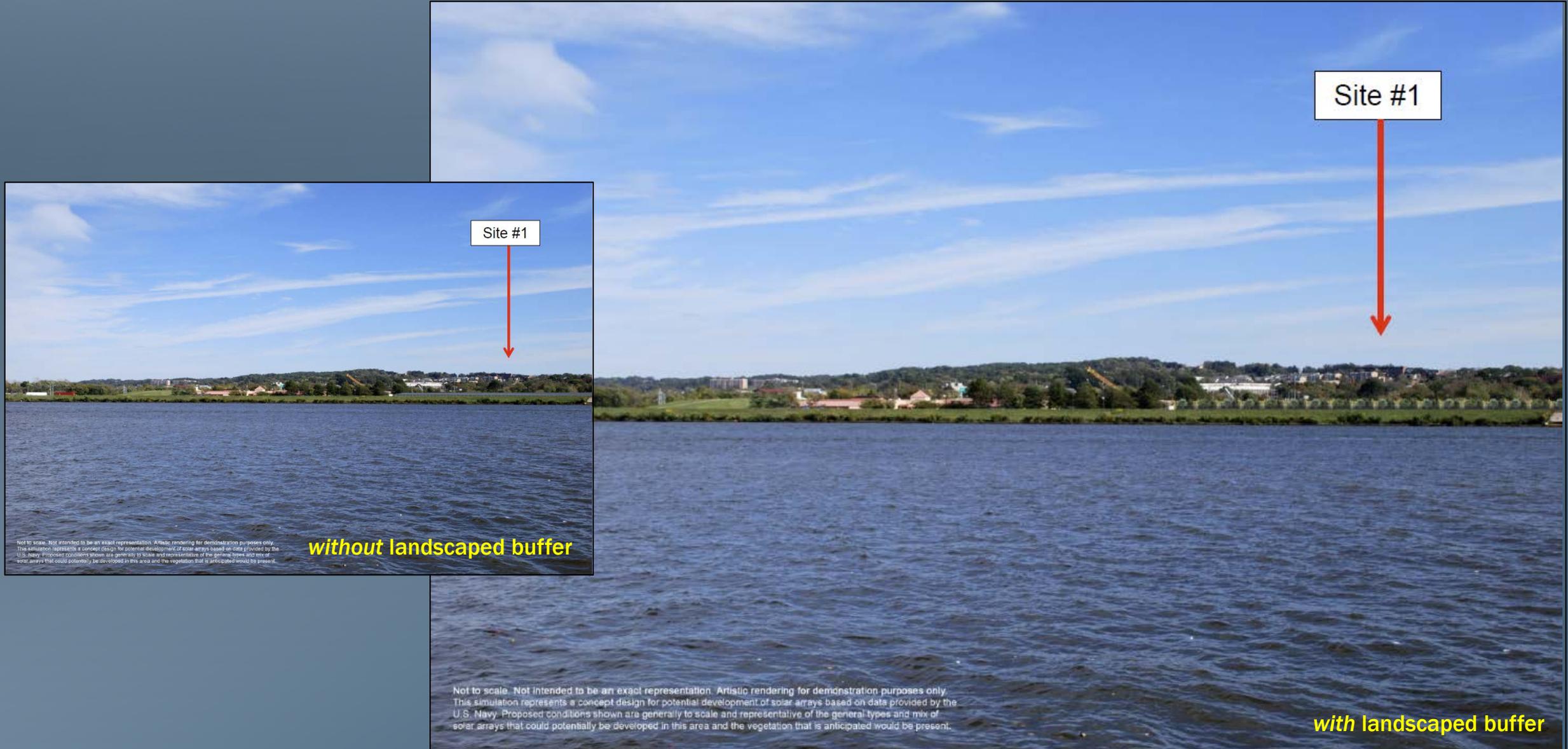
DSC1081 – View facing east from west bank of Anacostia River looking toward selected PV ground-mount sites on JBAB (as indicated by arrows).



2016

Not to scale. Not intended to be an exact representation. Artistic rendering for demonstration purposes only. This simulation represents a concept design for potential development of solar arrays based on data provided by the U.S. Navy. Proposed conditions shown are generally to scale and representative of the general types and mix of solar arrays that could potentially be developed in this area and the vegetation that is anticipated would be present.

2016 Proposed Future Condition – *with and without visual mitigation*



Site #1

Site #1

Not to scale. Not intended to be an exact representation. Artistic rendering for demonstration purposes only. This simulation represents a concept design for potential development of solar arrays based on data provided by the U.S. Navy. Proposed conditions shown are generally to scale and representative of the general types and mix of solar arrays that could potentially be developed in this area and the vegetation that is anticipated would be present.

without landscaped buffer

Not to scale. Not intended to be an exact representation. Artistic rendering for demonstration purposes only. This simulation represents a concept design for potential development of solar arrays based on data provided by the U.S. Navy. Proposed conditions shown are generally to scale and representative of the general types and mix of solar arrays that could potentially be developed in this area and the vegetation that is anticipated would be present.

with landscaped buffer

Existing Condition (view from South Capitol Street Bridge)



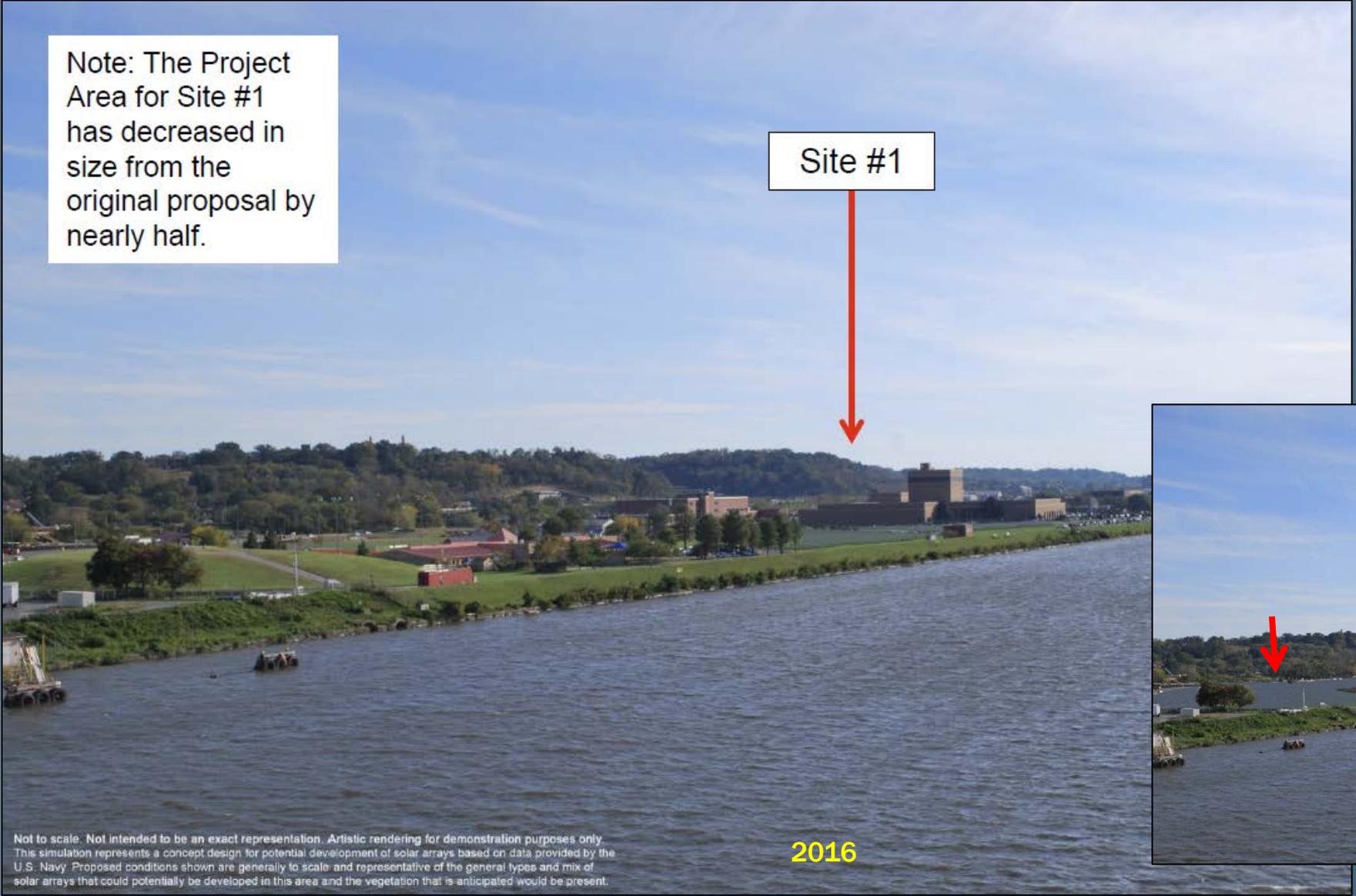
2014 Proposed Future Condition (South Capitol Street Bridge)



2014 vs 2016 Proposed Future Condition (South Capitol Street Bridge)

Note: The Project Area for Site #1 has decreased in size from the original proposal by nearly half.

Site #1



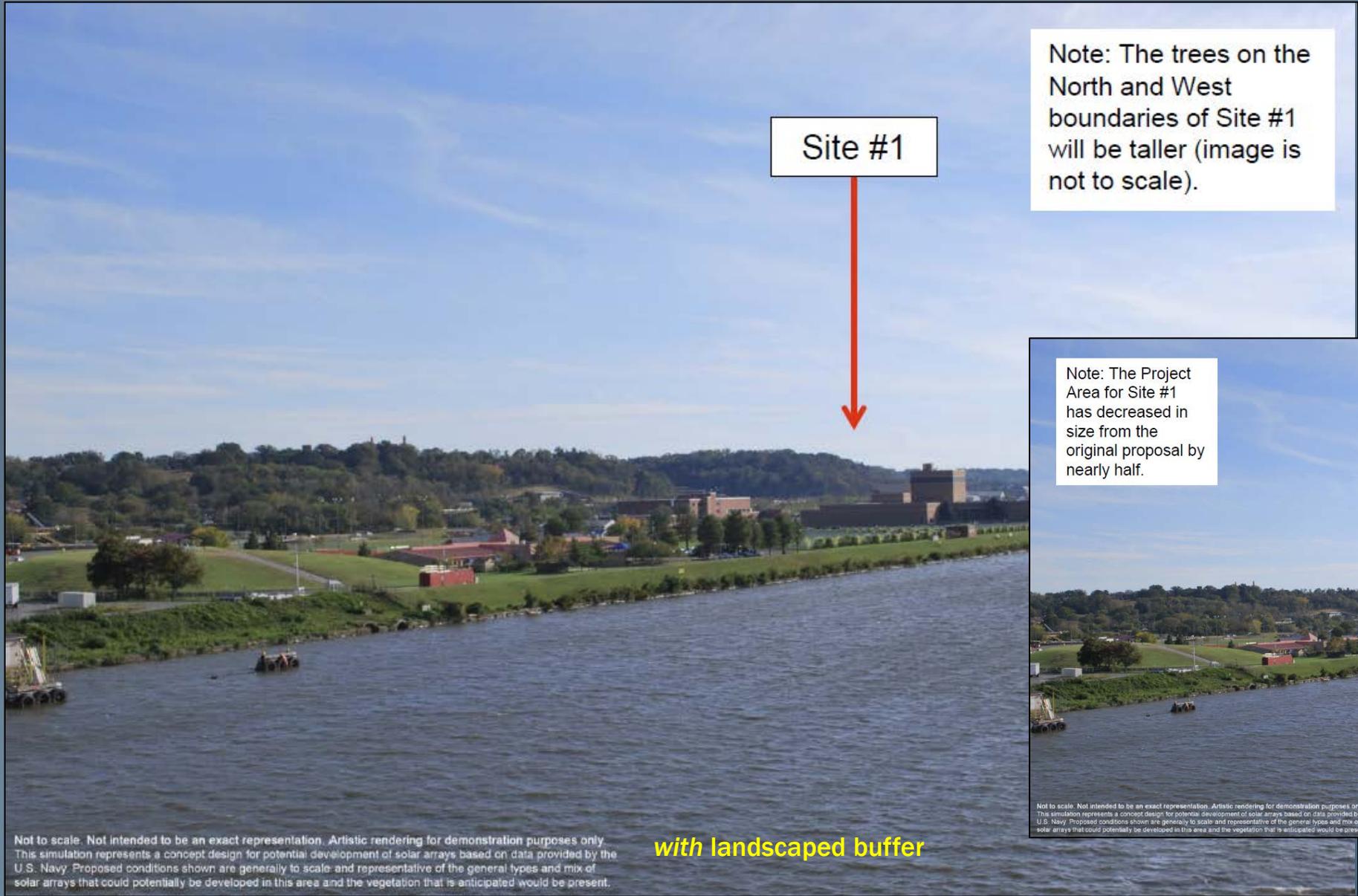
2016



2014

Not to scale. Not intended to be an exact representation. Artistic rendering for demonstration purposes only. This simulation represents a concept design for potential development of solar arrays based on data provided by the U.S. Navy. Proposed conditions shown are generally to scale and representative of the general types and mix of solar arrays that could potentially be developed in this area and the vegetation that is anticipated would be present.

2016 Proposed Future Condition – with and without visual mitigation

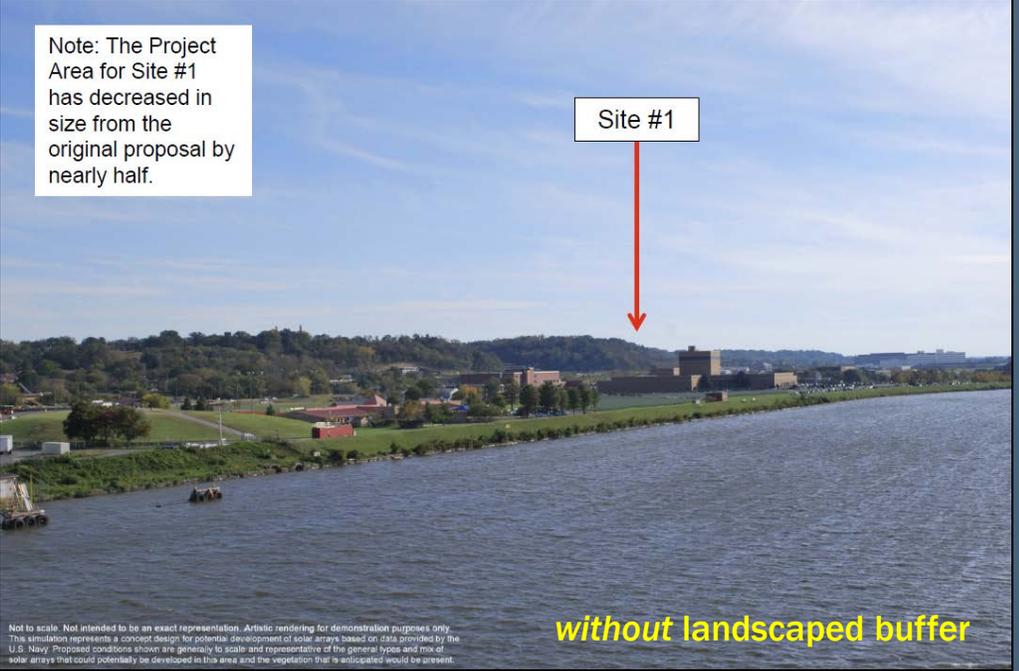


Site #1

Note: The trees on the North and West boundaries of Site #1 will be taller (image is not to scale).

Not to scale. Not intended to be an exact representation. Artistic rendering for demonstration purposes only. This simulation represents a concept design for potential development of solar arrays based on data provided by the U.S. Navy. Proposed conditions shown are generally to scale and representative of the general types and mix of solar arrays that could potentially be developed in this area and the vegetation that is anticipated would be present.

with landscaped buffer



Site #1

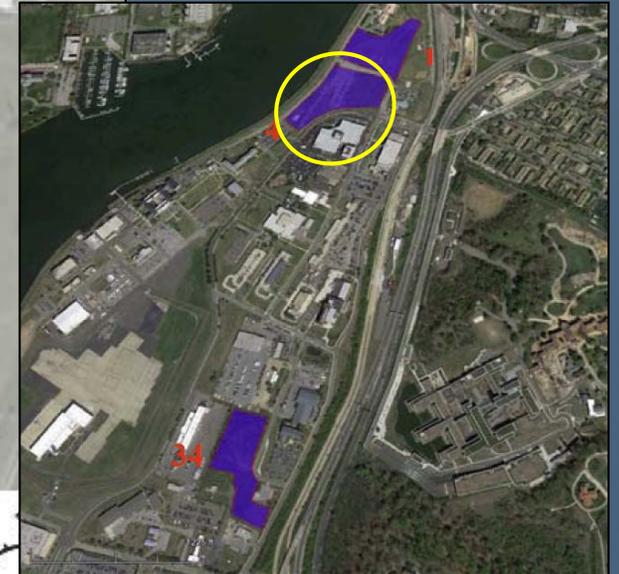
Note: The Project Area for Site #1 has decreased in size from the original proposal by nearly half.

Not to scale. Not intended to be an exact representation. Artistic rendering for demonstration purposes only. This simulation represents a concept design for potential development of solar arrays based on data provided by the U.S. Navy. Proposed conditions shown are generally to scale and representative of the general types and mix of solar arrays that could potentially be developed in this area and the vegetation that is anticipated would be present.

without landscaped buffer



Note: The array installation will remove 299 surface parking spaces, and the spaces will not be replaced elsewhere on the installation.



Existing Condition (view from Hains Point)



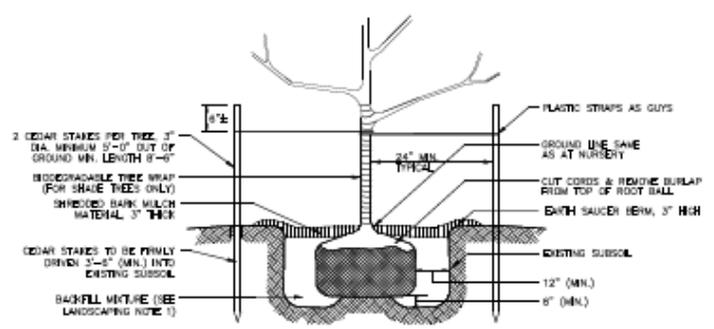


2014 vs 2016 Proposed Future Condition (*Hains Point*)



2016 Proposed Future Condition – *with and without visual mitigation*



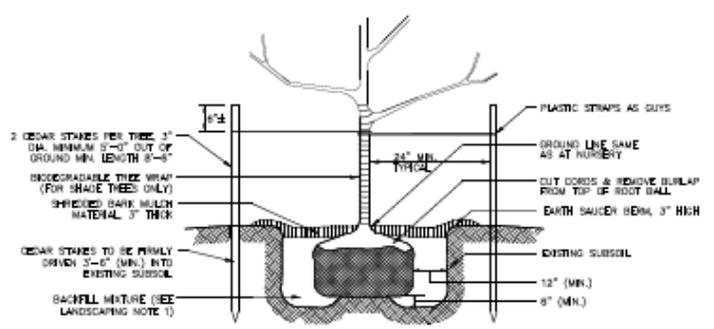


PLANT LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE	CALIBER	TYPE	SPACING	QUANTITY	NOTES
PLANTED TREES								
R	FRAXINUS X INTERMEDIA	BORDER FRAXINUS	6"	-	880	-	319	FULL TO GROUND
MC	WICKELIA CEFIFERA	WAX MYRTLE	6"	-	880	-	319	FULL TO GROUND
KL	KALMA LATIFOLIA	MOUNTAIN LAUREL	6"	-	880	-	318	FULL TO GROUND
							TOTAL	956

NOTE: PERMANENT GROUND COVER WILL CONSIST OF A LOW-MAINTENANCE MEADOW GRASS MIX THAT DOES NOT REQUIRE FREQUENT MOWING OR MAINTENANCE. SEED MIXTURE TO CONSIST OF OWN MIXTURE AS SUPPLIED BY SOUTH JERSEY FARMERS EXCHANGE (204) 799-3002 OR APPROVED EQUAL. 30% CHEWINGS PEGOLE, 30% CREEPING PEGOLE, 40% PERENNIAL RYEGRASS.

TYPICAL PLANTING DETAIL & PLANT LIST
NOT TO SCALE

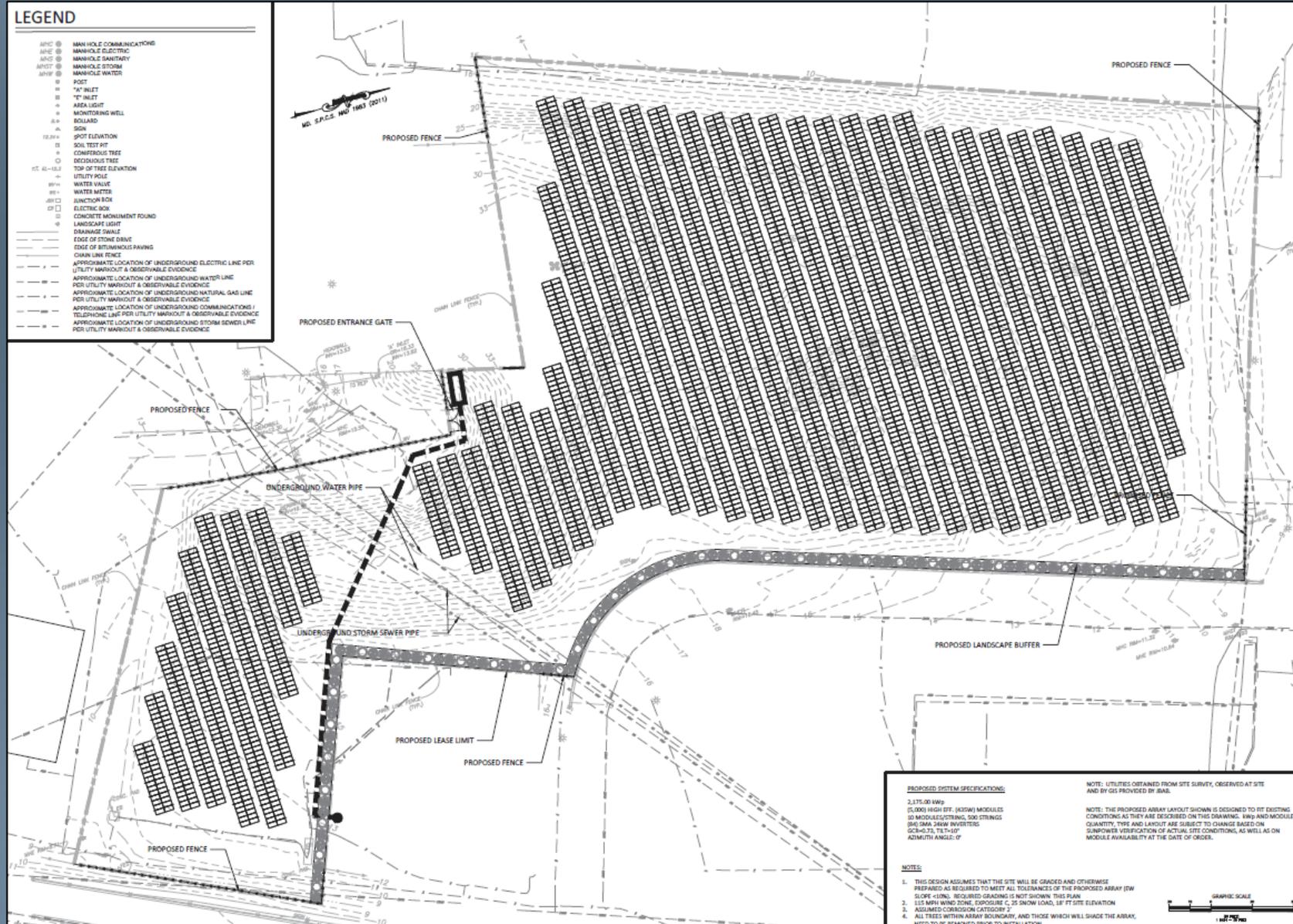


PLANT LIST

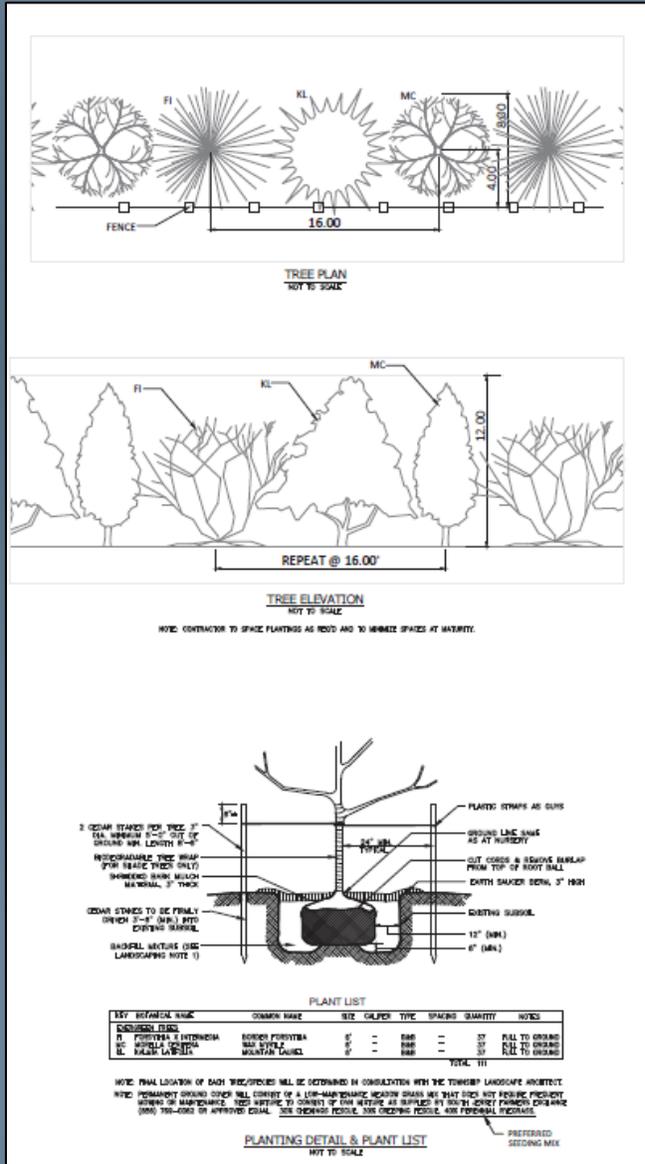
KEY	BOTANICAL NAME	COMMON NAME	SIZE	CALIBER	TYPE	SPACING	QUANTITY	NOTES
PLANTED TREES								
T	QUERCUS OCCIDENTALIS	EASTERN WHITE OAK	6"	-	880	-	84	FULL TO GROUND
MC	WICKELIA CEFIFERA	WAX MYRTLE	6"	-	880	-	128	FULL TO GROUND
KL	KALMA LATIFOLIA	MOUNTAIN LAUREL	6"	-	880	-	128	FULL TO GROUND
							TOTAL	340

NOTE: PERMANENT GROUND COVER WILL CONSIST OF A LOW-MAINTENANCE MEADOW GRASS MIX THAT DOES NOT REQUIRE FREQUENT MOWING OR MAINTENANCE. SEED MIXTURE TO CONSIST OF OWN MIXTURE. 30% CHEWINGS PEGOLE, 30% CREEPING PEGOLE, 40% PERENNIAL RYEGRASS, OR APPROVED EQUAL.

TALL PLANTING DETAIL & PLANT LIST
NOT TO SCALE



Note: The array installation will convert a previous waste site (non hazardous materials) into a site for “sustainable” energy production.

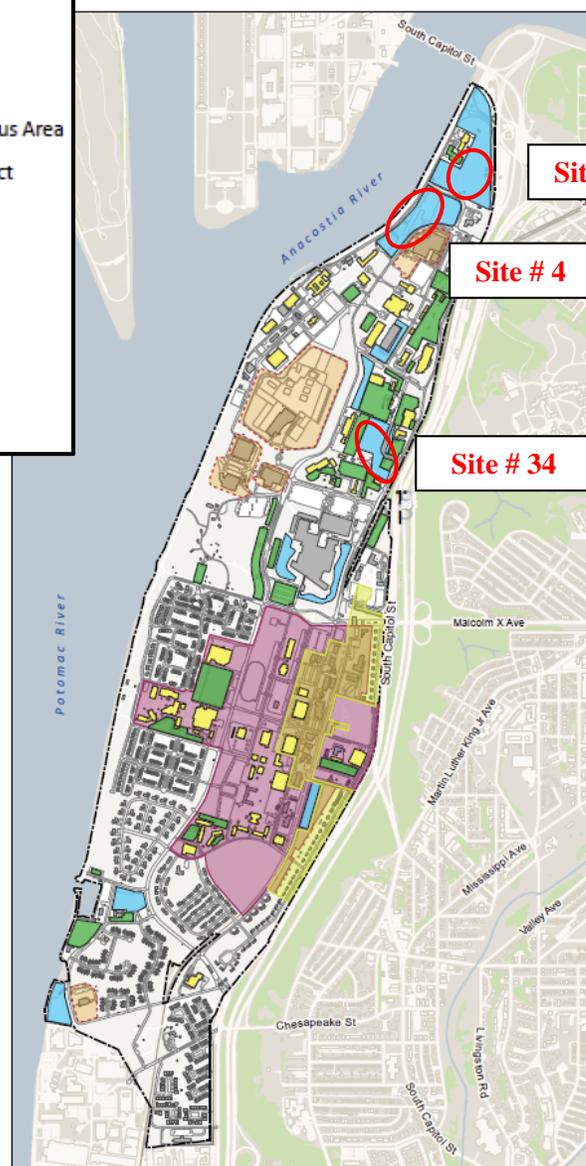


Sample View of Proposed PV Array



**MAP 3-11: PHOTOVOLTAIC PPA
PROPOSED POTENTIAL SITES**

-  Installation Boundary
-  Central Development Focus Area
-  Bolling AFB Historic District
-  Restricted access area
-  Ground-Mount PV
-  Carport PV
-  Rooftop PV



Sources:
Naval District Washington, 2013
Washington DC GIS Department, 2013
ESRI Streetmap USA, 2012
Louis Berger Group, 2013

