FINDING of NO SIGNIFICANT IMPACT
for
ENVIRONMENTAL ASSESSMENT
Installation of a Solar Photovoltaic System
at the

Calverton National Cemetery

Calverton, New York

United States Department of Veterans Affairs

INTRODUCTION

An Environmental Assessment (EA) has been prepared under the direction of an interdisciplinary team analyzing the proposed construction of a Photovoltaic System at the Calvertion National Cemetery (CNC) in Calverton, New York. The Department of Veterans Affairs (VA) evaluated Veterans Health Administration (VHA) and National Cemetery Administration (NCA) facilities nationwide to identify locations with the highest potential to use solar technologies. The evaluation, completed by the Department of Energy's National Renewal Energy Laboratory (NREL), identified the CNC as a potential location for solar photovoltaic (PV) system installation.

The proposed action, to install a solar PV system at the CNC, is a federal action subject to the procedural requirements of the *National Environmental Policy Act of 1969* (NEPA) (42 U.S. Code 4321 et seq.). NEPA requires federal agencies consider environmental consequences in their decision-making process. The Council on Environmental Quality (CEQ) issued regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508) to implement NEPA that include provisions for both the content and procedural aspects of the required environmental analysis. The VA complies with NEPA and CEQ implementing regulations in accordance with 38 CFR Part 26 (*Environmental Effects of the Department of Veterans Affairs Actions*).

The VA prepared that Environmental Assessment (EA) to analyze potential direct, indirect, and cumulative environmental impacts of solar PV system installation (proposed action). For purposes of comparison, that EA also evaluated the impacts of not installing a solar PV system (no action alternative). There were no other alternatives analyzed in detail, but alternate sites for solar PV system installation that were considered and eliminated from further analysis were briefly discussed.

DECISION

Based on the analysis in the EA for Construction of a *Photovoltaic System* at the CNC, I have decided to implement the *Proposed Action Alternative.* The selected alternative is summarized below.

The proposed action is the installation and operation of a solar PV system. Individual PV cells are semiconductor devices that convert sunlight into electricity. Cells are connected together to form modules that, in turn, are combined and connected to form arrays of different sizes and power output. Solar PV arrays are commonly installed on roofs or mounted on the ground.

The solar PV system proposed for the CNC consists of ground based PV arrays, inverters, and ancillary equipment

to connect to the building electrical system. The PV arrays provide direct current (DC) power at a voltage depending on the configuration of the arrays. An inverter is required to convert the DC to alternating current (AC) of the desired voltage compatible with building and utility power systems, and provide important safety, monitoring, and control functions.

The ground-mount system would consist of arrays oriented at different locations to achieve design kilowatt (kW) capacity. The arrays would be installed on footings appropriate to fixed and/or single axis tracking systems. The number of arrays and orientation would be determined by the contractor and approved by the VA prior to installation. The final system configuration would allow automatic operation without operator intervention.

PURPOSE AND NEED FOR ACTION

Specific laws and executive orders require federal agencies to reduce energy consumption and improve energy efficiency through the use of alternative fuels and renewable sources. The *National Energy Conservation Policy Act* serves as the underlying authority for federal energy management goals and requirements. Signed into law in 1978, it is regularly updated and amended by subsequent laws, most recently being the *Energy Independence and Security Act of 2007*. Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, updates prior energy management practices and goals, such as reducing energy intensity by three percent (%) annually through 2015 or by 30% by 2015, and requiring that half of renewable energy consumed annually is from new renewable sources. The EO directs federal agencies to implement renewable energy generation projects on agency property for agency use.

The VA has a need for reliable energy at its health care facilities while pursuing options for reducing energy demand and cost. The VA must also meet the renewable energy goals established by laws and executive orders. The purpose and need for installing and operating a solar PV system (proposed action) would be to meet EO 13423 goals through on-site installation of a renewable energy generation system, and to reduce the amount of electrical energy needed from commercial sources.

LOCATION of PROPOSED ACTION

The CNC is located at located in eastern Long Island between the towns of Manorville and Riverhead in Suffolk County, New York (Figure 1). The proposed solar PV system would be installed at a ground location as determined by the contractor and approved by the VA (Figure 2). The final location(s) would be determined in coordination with the selected contractor using appropriate criteria such as location, access to electrical hook-up, access to water for maintenance washdown, orientation, period on sunlight, and obstructions to solar access.

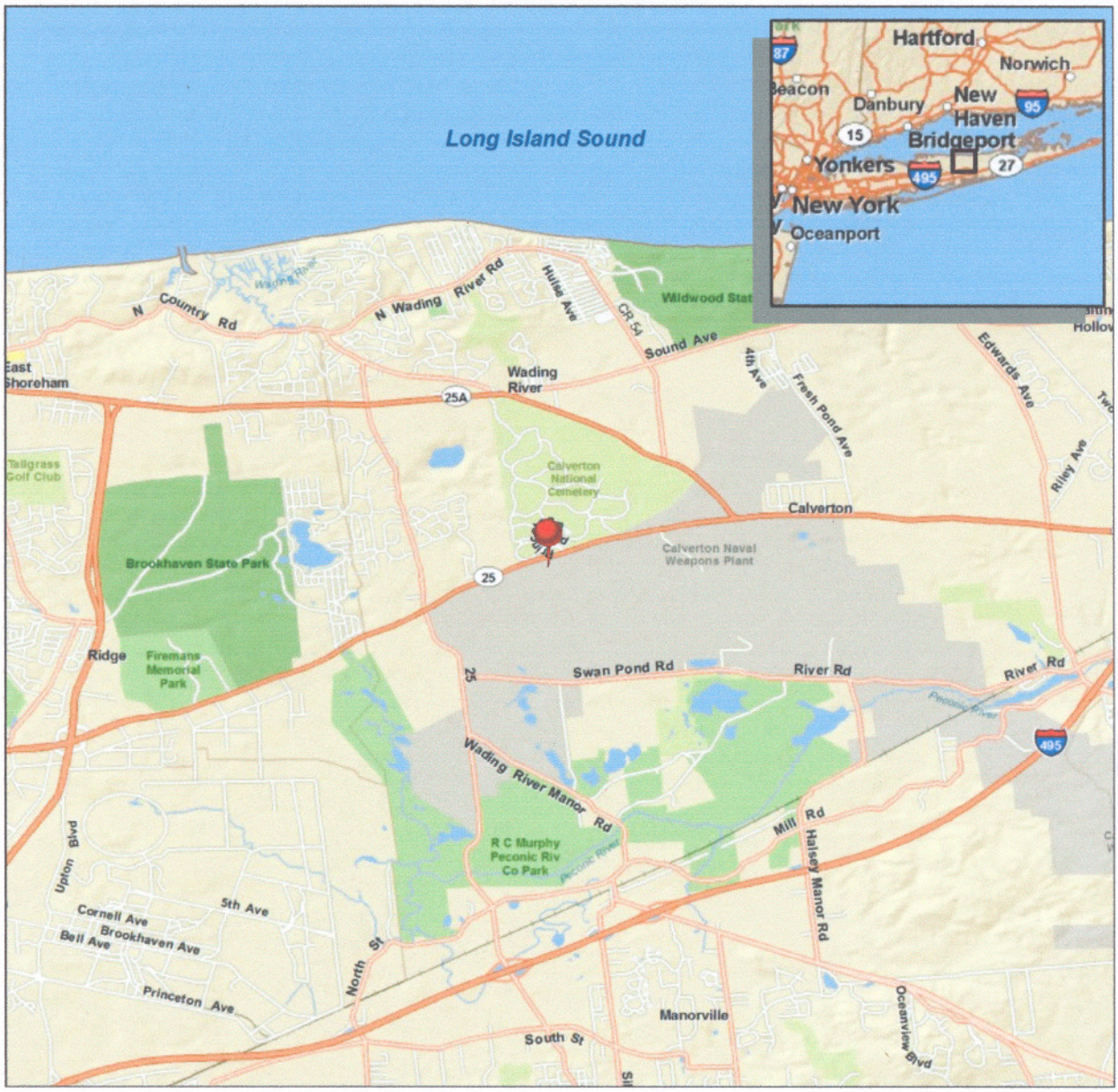


Figure 1. Location of Calverton National Cemetery
(Source: TeleAtlas, 2009)

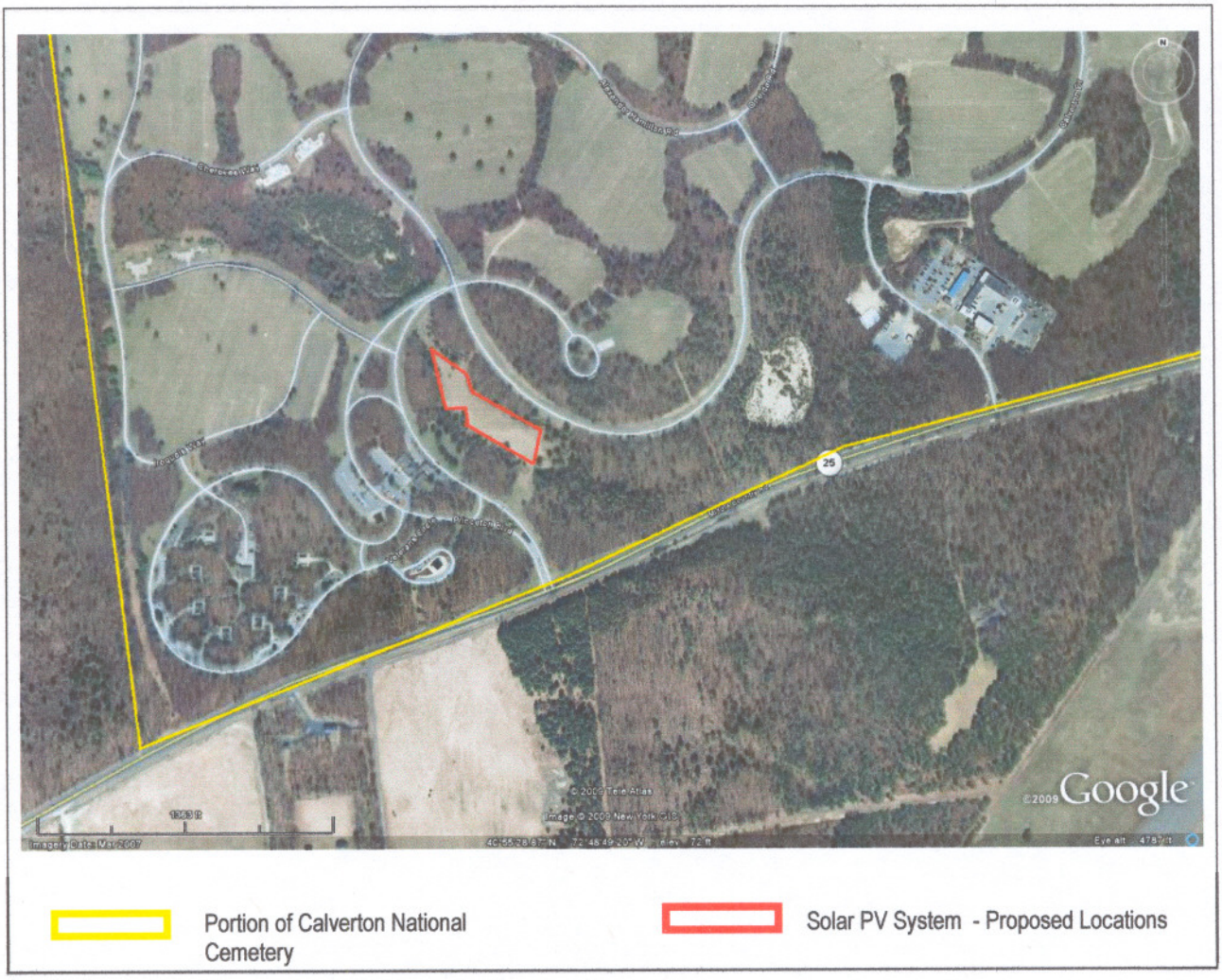


Figure 2. Location of Solar PV System at Calverton National Cemetery

(Source: Google Earth, Imagery 2005)

ALTERNATIVES CONSIDERED

Description of Alternatives

No-Action Alternative

The no action alternative would be to not install a solar PV system at CNC. The CNC would continue to receive all required energy from the local commercial utilities. The no action alternative would not meet the purpose and need of achieving renewable energy goals through on-site installation of a renewable energy generation system.

Proposed Action

The solar PV system proposed for the CNC consists of ground-mounted PV arrays, inverters, and ancillary equipment to connect to the building electrical system. The PV arrays provide direct current (DC) power at a voltage depending on the configuration of the arrays. An inverter is required to convert the DC to alternating current (AC) of the desired voltage compatible with building and utility power systems, and provide important safety, monitoring, and control functions.

Alternatives Considered but Deleted From Detailed Analysis

The NREL assisted the VA with an evaluation of VHA and NCA facilities to identify opportunities and alternatives to install solar PV systems. The evaluation included roof-top and ground locations. Location criteria for rooftop or ground-mounted solar PV arrays included areas with unobstructed sunlight, southern exposure, and connection to an electrical grid system. Rooftop limitations included size, slope, composition, and condition (age) of roof materials. Ground-mounted limitations included available vacant/open land, future planned use, size, topography, and adjacent land uses.

Rooftop and other ground locations were considered for solar PV array installation at the CNC but were eliminated from further analysis in this EA. The rooftop locations were not of adequate size to install enough arrays to maximize annual output in kilowatt-hours (kWh) separately or when combined with rooftop systems, or were eliminated because of roof composition, age of materials, shading, competing uses, and planned building demolition. Other ground based locations interfered with other planned future use.

REASONS FOR THE DECISION

The Proposed Action Alternative was selected because it:

1. Best satisfies the purpose and need and issues developed for the proposal.
2. Minimizes environmental impact.
3. Human health and safety will be protected.

The No Action Alternative was not selected because it fails to satisfy the purpose and need of the Proposed Action and relevant issues identified through scoping.

ISSUES NOT STUDIED IN DETAIL

After careful analysis, the team determined that the following issues would not have a meaningful impact on the quality of the human environment. Following the CEQ regulations (1500.4(c)(g)), we discuss these issues only briefly here, to emphasize the issues most useful to the decision maker and the public.

- Air Quality: Solar PV systems are passive electric power generation systems. There is no combustion of material that might generate emissions. While there may be the emission of some fugitive dust during construction and panel washdown, it would be of a deminimus amount and duration that would not be expected to impact surrounding air quality.

- Aviation/Radar: The solar PV system would not affect flight patterns or radar communication used by aircraft.
- Community Service: No public services, facilities, or utilities would be altered that could affect the community.
- Cultural Resources: The solar PV system would not be installed on or near any building listed or eligible for listing on the National Register of Historic Places.
- Economic Activity: The overall estimated construction costs and short time for construction would not affect the local economy. Although construction workers may patronize nearby businesses, any short-term beneficial affect to the economy would be negligible.
- Environmental Justice: The proposed action would not have significant adverse impacts, and therefore, any low income or minority populations that may be in the vicinity of CNC would not be disproportionately affected.
- Floodplains, Wetlands, and Coastal Zones: Installation of a rooftop system would not impact floodplains or wetlands. The CNC is not located within the state coastal zone and would not impact environmental issues of focus within that jurisdiction.
- Geology and Soils: Installation of a rooftop system would not impact geology or soils.
- Land Use: Installation of a rooftop system would not impact existing or planned land use.
- Potential for Creating Substantial Controversy: Use of renewable energy sources is generally viewed by the public as favorable. The installation of solar PV arrays would not likely create any negative controversy for the VA.
- Real Property: The solar PV system would be within the boundaries of CNC; no change in land ownership, boundaries, or tax values would occur.
- Transportation and Parking: A rooftop location would not displace or disrupt any parking areas, travel lanes, or roads on CNC.
- Vegetation and Wildlife: A rooftop location for the proposed solar arrays would not impact wildlife or vegetation.
- Environmental Regulations: The installation and operation of the solar PV system would comply with applicable regulations.

ISSUES STUDIED IN DETAIL

- Aesthetics / Visual Resources: The CNC is a campus of buildings and grounds located in a rural area of Long Island. The grounds are maintained in a manner appropriate to the purpose of the facility. Visually, the people visiting the CNC have become accustom to the appearance of the buildings and grounds in the area. The installation of ground based solar panels at the preferred location would have little impact to the appearance of the buildings and grounds for most pedestrian and vehicular traffic in the immediate vicinity.

Aesthetically, people in general view solar panel applications as a necessary step in upgrading the nation's overall use of electric power and how that power is generated.

- Hydrology and Water Quality: The CNC facility uses water supplied by the local municipal authority. Rain water runoff from area rooftops and grounds are directed off site to local drainage. The ground-based installation would not require some ground disturbance during installation but would not impact area hydrology. Any small loose installation/construction debris left following installation would be removed by the contractor to prevent contaminated rainfall runoff. Over time some very small fraction of area runoff from the construction site could reach local drainage but on site natural filtering should eliminate off site impacts. Also, the panels would require periodic cleaning to maintain efficiency in power generation. This cleaning would likely be by a spray washdown that may include a mild detergent biodegradable household cleaner and some fraction of that washdown could also ultimately reach off site drainage. In any event, such a small amount of dust, debris, and washdown detergent would not be expected to impact water quality.

- Noise: The current background noise at the CNC is typical of what one might expect at a medical facility. Typical sounds are created by pedestrian and vehicular traffic, supply delivery, grounds maintenance, and the operation of facility equipment. Solar panels are passive generators of electricity. Under normal operations they should generate no sound. The only sounds to be expected would be during PV installation and maintenance. The overall impacts from such noise would be below any typical threshold of significance.

- Utilities: Current electric usage at the CNC is typical of a facility of this size. Installation of the proposed PV system is estimated to be capable of producing only a small fraction of the electrical energy usage of CNC, sunlight permitting (NREL, 2007). However, this would have an overall positive impact in reducing facility electric utility costs and in reducing electric demand on the local electric utility provider. At the current and projected cost of electricity, the system installation could pay back that cost in reduced electric bills over approximately 35 years with state and federal incentives.

- Resident Population: The possibility exists that maintenance requirements for either the PV System or the grounds around that system could increase to some degree due to the need to monitor the mounting structure, the need to periodically washdown the PV cells, and the need to mow and keep leaf debris away from the cells. If workforce is not added, then a maintenance contract may be added. Neither of these events should be considered significant; however, either could extend the projected payback period.

- Solid Waste: The removal and proper off-site disposal of solid waste, including potentially hazardous medical waste is currently handled by a licensed local contractor. The PV system installation contractor would be required to clean up all waste material remaining after the installation. With the implementation of best management practices in the handling of waste material generated from the proposed action, there should be no impact to the environment from solid waste generated from installation.

FINDINGS REQUIRED BY OTHER LAWS

This decision is consistent with applicable laws and regulations:

The National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C 4321 et seq.) – Requires analysis of major Federal actions that could have a significant impact on the environment.

The National Energy Conservation Policy Act of 1978 – Serves as the underlying authority for federal energy management goals and requirements.

Energy Independence and Security Act of 2007. Executive Order (EO) 13423, Strengthening Federal Environmental, Energy, and Transportation Management – Updates prior energy management practices and goals, such as reducing energy intensity by three percent (%) annually through 2015 or by 30% by 2015, and requiring that half of renewable energy consumed annually is from new renewable sources. The EO directs federal agencies to implement renewable energy generation projects on agency property for agency use.

FINDING OF NO SIGNIFICANT IMPACT

Context – This decision is a site specific action that by itself does not have international, national, or statewide importance. The discussion of the significance criteria that follows applies to this decision and is within the context of local and regional importance.

Intensity – The following discussion is organized around the Ten Significance Criteria described in the NEPA regulations (40 CFR 1508.27).

Based on the EA, I have determined that the Proposed Action is not a major federal action, either individually or cumulatively, and will not significantly affect the quality of the human environment; therefore, the preparation of an environmental impact statement is not necessary. This determination is based upon the following factors found at 40 CFR 1508.27(b):

1. The analysis documented in the EA did not identify any individual or cumulatively significant adverse effects.

2. Public health and safety is not adversely affected.

3. Planned actions will not significantly affect any unique characteristics or features of the geographic area, such as wetlands, park lands, prime farm lands, wild and scenic rivers, floodplains, or ecologically critical areas, etc.

4. The effects on the quality of the human environment are not likely to be highly controversial.

5. The actions do not involve highly uncertain, unique, or unknown environmental risks.

6. The actions in this decision will not set a precedent influencing approval of future actions with significant effects.

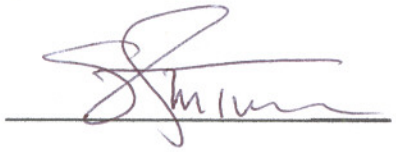
7. The possible cumulative effects of the Proposed Action have been analyzed with consideration for past and reasonable foreseeable future activities on adjacent private and public lands. Cumulative impacts over space and time will not be significant.

8. The Proposed Action will have no adverse effect on any sites listed, or eligible for listing, in the National Register of Historic Places nor will they cause the loss or destruction of significant scientific, cultural, or historical resources.

9. Implementing this decision will not adversely affect threatened or endangered species, or result in loss of any other species' viability, or create significant trends toward Federal listing of the species under the Endangered Species Act.

10. None of the actions threaten to lead to violations of federal, state, or local laws imposed for the protection of the environment.

RESPONSIBLE OFFICIAL SIGNATURE / DATE



8/24/2009

Name Steven M. Turner
Title Program Specialist, MSW-1 Date of Decision