DOE/EA-1823

DRAFT
ENVIRONMENTAL ASSESSMENT

FOR

ROCKFORD SOLAR ENERGY PROJECT

CHICAGO ROCKFORD INTERNATIONAL AIRPORT, WINNEBAGO COUNTY, ILLINOIS

U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
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COVER SHEET

RESPONSIBLE AGENCY: U.S. Department of Energy

TITLE: *Draft Environmental Assessment: Rockford Solar Energy Project, Chicago-Rockford Airport, Winnebago County, Illinois* (DOE/EA-1823)

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ABSTRACT: The U.S. Department of Energy (DOE) has provided Federal funding to the Illinois Department of Commerce and Economic Opportunity (DCEO) under the State Energy Program (SEP). DCEO is seeking to provide $4 million of its SEP funds to Rockford Solar Partners LLC (RSP), who would use these funds for the design, permitting, and construction of a solar photovoltaic facility with a generating capacity of up to 20 megawatts (MW). DOE's Proposed Action would authorize $4,025,000 million in grant expenditures. The total cost of Rockford Solar Partner's proposed project would be approximately $127 million.

Prior to DOE's decision to provide SEP funds to the Rockford Solar Energy Project (proposed project; RSEP), DOE must first complete review under the *National Environmental Policy Act* (NEPA). This Draft EA analyzes the environmental impacts of the construction, operation, and decommissioning of the proposed project and the alternative of not implementing this project (the No-Action Alternative).

DOE has authorized DCEO to use a percentage of the Federal funding for preliminary activities, which include the EA preparation and studies. Such activities are associated with the proposed action and would not significantly impact the environment nor represent an irreversible or irretrievable commitment of resources in advance of DOE completing the NEPA process for the proposed project.

PUBLIC INVOLVEMENT: The public is provided with an opportunity to comment on this Draft EA by sending comments via email, mail, or fax marked to the attention of the NEPA Document Manager listed above. Envelopes and the subject line of emails should be labeled "Rockford Solar Energy Project Draft EA Comments." Letters and emails should be postmarked or dated, respectively, no later than October 31, 2011. Use of email to submit comments will avoid processing delays associated with delivery of mail to Federal agencies in Washington, D.C.

AVAILABILITY: This EA is available for review on the DOE Golden Field Office Reading Room Website, http://www.eere.energy.gov/golden/Reading_Room.aspx, and the DOE NEPA Website, http://nepa.energy.gov.

ACRONYMS AND ABBREVIATIONS

AAIA	*Airport and Airway Improvement Act of 1982*
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DCEO	Department of Commerce and Economic Opportunity
DOE	U.S. Department of Energy
EA	Environmental Assessment
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FONSI	Finding of No Significant Impact
FPPA	*Farmland Protection Policy Act*
GHG	greenhouse gas
GRAA	Greater Rockford Airport Authority
IDNR	Illinois Department of Natural Resources
IHPA	Illinois Historic Preservation Agency
NEPA	*National Environmental Policy Act*
NHPA	*National Historic Preservation Act*
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PV	photovoltaic
Recovery Act	*American Recovery and Reinvestment Act of 2009* (also Recovery Act)
RSP	Rockford Solar Partners, LLC
SEP	State Energy Program
SHPO	State Historic Preservation Office(r)
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service

CONTENTS

Section Page

LIST OF FIGURES

APPENDICES

Appendix A: Public Involvement
Appendix B: Floodplain and Wetland Assessment
Appendix C: Agency Coordination and Approvals
Appendix D: Proposed Solar Farm Site Plan
Appendix E: Biological Survey – Indiana Bat Roosts
Appendix F: Endangered Species and Habitat Assessment
Appendix G: Phase I Archaeological Survey
Appendix H: Wanxiang & City of Rockford- Developmental Agreement

1. INTRODUCTION

The Illinois State Energy Program (SEP) through the *American Recovery and Reinvestment Act of 2009* (the Recovery Act; Public Law 111-5; 123 Stat. 115) receives financial and technical assistance grants from the U.S. Department of Energy (DOE) to promote the conservation of energy and to reduce dependence on imported oil.

The SEP is authorized under the *Energy Policy and Conservation Act of 1975*, as amended, and can be used to fund a wide variety of activities related to energy efficiency and renewable energy (42 United States Code (U.S.C.) 6321 et seq. and Title 10 Code of Federal Regulations (CFR) Part 420). Through the Recovery Act, Congress appropriated a total of $3.1 billion for DOE's SEP support. Of the $3.1 billion, the State of Illinois received over $101 million pursuant to a Federal formula for the distribution of SEP funds.

The Illinois Department of Commerce and Economic Development (DCEO), the administrator of the Illinois SEP program, chose Rockford Solar Partners, LLC (RSP) as the recipient of a $4 million dollar grant to construct and operate a 20-megawatt photovoltaic (PV) solar power generation facility in Rockford, Winnebago County, Illinois (Rockford Solar Energy Project, or proposed project). RSP is a joint venture between Wanxiang Investment Corporation of Rockford and New Generation Power, a Chicago-based renewable energy developer. The proposed 20-megawatt project would be located on property within the boundaries of the Chicago Rockford International Airport. Rockford is approximately 70 miles northwest of Chicago (Figure 1-1).

Figure 1-1. General Location of Rockford

Federal funding of projects under SEP requires compliance with the *National Environmental Policy Act of 1969*, as amended (NEPA; 42 U.S.C 4321 *et seq*.), the Council on Environmental Quality regulations (CEQ; 40 CFR Parts 1500 to 1508), and DOE implementing procedures (10 CFR Part 1021). Therefore, DOE prepared this *Draft Environmental Assessment for the Rockford Solar Energy Project, City of Rockford, Winnebago County, Illinois* (DOE/EA-1823) to evaluate the potential environmental consequences of DOE's Proposed Action, RSP's proposed project, and the No-Action Alternative. DOE's Proposed Action would authorize about $4 million in grant expenditures for use by RSP in the development of the proposed project. The total cost of the proposed project is approximately $127 million.

1.1 National Environmental Policy Act Requirements

In accordance with DOE NEPA implementing procedures, DOE must evaluate the potential environmental impacts of Proposed Actions that could have a significant impact on human health and the environment, including decisions on whether to provide financial assistance to government agencies and private entities. In compliance with these regulations and DOE's procedures, this Environmental Assessment (EA):

- Examines the potential direct and indirect environmental impacts of the Proposed Action and the No-Action Alternative;
- Identifies potential alternatives to the Proposed Action;
- Identifies unavoidable adverse environmental impacts if the Proposed Action is implemented;
- Describes the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity;
- Characterizes irreversible and irretrievable commitments of resources that would be involved if DOE funded the proposed project; and
- Analyzes past, present, and reasonably foreseeable actions to evaluate potential cumulative impacts.

DOE must meet the requirements of NEPA before it can make a final decision to proceed with a proposed Federal action that could cause significant impacts to human health or the environment. This EA provides DOE and other decision makers the information necessary to make an informed decision about the construction and operation of the proposed project. If DOE determines as a result of this EA that the proposed project would not result in significant adverse impacts, it will issue a Finding of No Significant Impact (FONSI). If DOE concludes that the proposed project would cause actions that would significantly and adversely affect the quality of the human environment, it could announce its intent to prepare an environmental impact statement to examine the proposed project in more detail.

For purposes of comparison, this EA also evaluates the impacts that could occur if DOE did not provide funding (the No-Action Alternative), and impacts of other alternatives to the proposed project, under which DOE assumes RSP would not proceed with the project.

1.2 Federal Aviation Administration as a Cooperating Agency

Due to the proposed location of the proposed project at the Chicago Rockford International Airport, DOE acknowledges that the Federal Aviation Administration (FAA) has jurisdiction by law and special expertise applicable to this EA effort. For this EA, DOE is the Lead Agency, and the FAA is a Cooperating Agency.

DOE consulted with the FAA to ensure process coordination, identifying and obtaining relevant data, establishing schedules, and resolving issues. Special consideration was given to the FAA on topics over which the FAA has jurisdiction by law or special expertise, including the areas of alternatives, land use, Section 4(f) of the United States Department of Transportation Act of 1966) analysis, and FAA's Federal actions.

DOE provided the FAA with copies of documents underlying the EA relevant to the FAA's responsibilities, including technical reports, data, analyses, comments received, and working drafts related to environmental reviews.

The FAA provided specific guidance on public involvement strategies, data needs, management actions to resolve planning issues, identification of the effects of alternatives, and potential mitigation measures. As a Cooperating Agency, the FAA is responsible for issuing its own NEPA determination and/or decision documents associated with its specific Federal action concerning the project.

1.3 Illinois' State Energy Program

The Illinois SEP is using its Recovery Act funding for programs to increase the energy efficiency of businesses and industry while promoting deployment of clean energy projects that will help improve the cost-effectiveness and economic stability of businesses and industry in the state.

For the funding of this proposed project, DOE is the Federal action agency, while the DCEO is the recipient of Federal funding and RSP is the sub-recipient of this funding. The proposed project would be constructed within the boundaries of the Chicago Rockford International Airport.

1.4 Purpose and Need

1.4.1 DOE'S PURPOSE AND NEED

DOE's purpose and need is to ensure that SEP funds are used for activities that meet congressional aims to improve energy efficiency, reduce dependence on imported oil, decrease energy consumption, create and retain jobs, and promote renewable energy. Providing funding as part of Illinois' SEP grant to RSP would partially satisfy the need of that program to assist U.S. cities, counties, States, territories, and Indian tribes to develop, promote, implement, and manage energy efficiency and conservation projects and programs designed to:

- Reduce fossil fuel emissions;
- Reduce the total energy use of the eligible entities;
- Improve energy efficiency in the transportation, building, and other appropriate sectors; and
- Create and retain jobs.

Congress enacted the American Reinvestment and Recovery Act (Recovery Act) to create jobs, restore economic growth, and strengthen America's middle class through measures that modernize the nation's

infrastructure, enhance America's energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need. Provision of funds under SEP would partially satisfy the needs identified under the Recovery Act.

1.4.2 FAA'S PURPOSE AND NEED

The Federal Aviation Administration's (FAA) purpose and need is to ensure that the proposed solar project is consistent with an airport sponsor's Federal obligations regarding financial self-sustainability and retention of airport revenue, as well as national environmental policy. Section 511(a)(9) of the Airport and Airway Improvement Act of 1982 (AAIA) and Grant Assurance 24 requires airports to be as self-sustaining as possible. The proposed development would provide the Airport with a new revenue source. Grant Assurance 31: Land Disposal further emphasizes the importance of airports being self-sufficient. To obtain this goal, the FAA encourages airport sponsors to dispose of land no longer needed for airport purposes. The proposed facility would be located within the runway protection zone, and the land must therefore remain under the ownership of the GRAA. Grant Assurance 31c states the following:

> *"Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue from interim uses of such land contributes to the financial self-sufficiency of the airport."*

Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management,* sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, renewable energy, sustainable buildings, electronics stewardship, fleets, and water conservation. The proposed solar project at RFD would contribute to these national goals.

In response to growing interest in solar energy at airports, the FAA has prepared *Technical Guidance for Evaluating Selected Solar Technologies on Airports* to meet the regulatory and informational needs of the FAA Airports organization and airport sponsors. This guidance states:

> *"Solar is a renewable energy source that contributes to national goals of sustainability, energy independence, and air quality improvement. It is particularly well-suited to airports because of the available space at airports, unobstructed terrain, and energy demand."*

This guidance has been utilized in the development and evaluation of the proposed solar farm at RFD. Further information regarding the FAA's proposed federal actions required as a part of this project is included in Section 2.1 of this document.

1.4.3 STATE OF ILLINOIS' PURPOSE AND NEED

Illinois' purpose and need is to grow the economy of the state by connecting companies and communities to financial and technical resources to deploy renewable energy technologies, and to support the needs of SEP and the Recovery Act.

In August of 2010, the Governor of Illinois signed the "Solar Ramp-Up Bill" (HB 6202), which establishes interim goals to generate 6 percent (or 3 million kilowatt hours) of the State's energy needs through solar power by 2015. The proposed project would contribute to helping the State meet this goal by providing 20-megawatt of solar PV energy.

1.5 Public Involvement Process and Consultations

1.5.1 PUBLIC INVOLVEMENT

RSP provided agencies with an early notice letter on July 8th, 2010 stating, "This letter presents your agency with an early opportunity to comment on any issues or concerns related to the effects that the proposed development may have on the study area.... Please provide us with any comments on potential impacts and concerns that should be addressed in the EA. In addition, if your agency is a resource agency responsible for documentation and/or protection of any natural resources, we ask that you provide us with relevant information regarding the type of resource, location, importance, etc. as it relates to this project." RSP received the following comments regarding this project, the aforementioned notices and distribution lists are provided in Appendix A of this EA:

Scoping Responses

Agency	Comments	Response
Illinois Department of Agriculture – Bureau of Land & Water Resources	No comments, recommended contact with Terry Schaddel at Illinois Department of Aeronautics	Terry Schaddel was contacted as recommended. He referred questions to Amy Hanson with Federal Aviation Administration. Ms. Hanson requested coordinating agency status with DOE, which was granted.
Illinois Department of Natural Resources	EcoCAT review indicated adverse effects of this project are unlikely	None
Illinois Department of Natural Resources	Project complies with Illinois Farmland Preservation Act	None
Illinois Environmental Protection Agency (IEPA)	IEPA has no objections to the project. An NPDES storm water permit would be required if more than 1 acre of land is disturbed. Soil and hazardous waste must be properly disposed of.	An NPDES storm water permit would be required and would be obtained prior to start of construction.
Illinois Historic Preservation Agency	A Phase I Archaeological Survey is required.	Phase I Archaeological Survey was completed. No additional investigations were identified as necessary. Illinois Historic Preservation Agency concurred. Documented compliance under Section 106 of the National Historic Preservation Act.
Rock River Water Reclamation District	RRWRD does not have any existing facilities that would be impacted by development of site.	None.
United States Coast Guard	No navigable waterways would be impacted by this project.	None

Agency	Comments	Response
United States Department of Agriculture – Natural Resources Conservation Service	Comments on flood plain, flooding, hydric soils, sediment and erosion control plans, high water table, and wetland delineation	Site was revised to eliminate all development in any wetland area. Development would still occur in the floodplain but would avoid the existing floodway. An NPDES storm water permit would be required and would be obtained prior to start of construction.
United States Fish and Wildlife Service	Comments that tree removal cannot occur between 4/1 and 9/30 each year to protect Indiana Bat habitat.	Tree removal cannot occur between 4/1 and 9/30. Documented compliance under Section 7 of the Endangered Species Act. Please see Section 3.2.2.5 for the conclusion of the Section 7 consultation.
USEPA – Region V	USEPA has no comments, but referred letter to Federal Aviation Administration (FAA)	None
Winnebago County Forest Preserve	Comments on water quality impacts to Kilbuck Creek and Kishwaukee River, run off, and trees.	Site was re-configured to address these issues. The site no longer borders Kishwaukee River and densely forested areas would remain untouched. Site was revised to eliminate all development in any wetland area. Development would still occur in the floodplain but would avoid the existing floodway.

1.5.2 CONSULTATIONS

The proposed project would be located within a 100-year floodplain. In accordance with the regulations contained in 10 CFR Part 1022, "Compliance with Floodplain Environmental Review Requirements," DOE established policy and procedures to consider impacts on floodplains and wetlands as part of the proposed floodplain action and to meet the public notification process required under 10 CFR Part 1022. Therefore, DOE prepared a Floodplain and Wetlands Assessment (see Appendix B) and sent a Notice of Proposed Floodplain or Wetlands Action to the distribution list in Appendix A concurrently with the Public Comment period for the Draft EA.

DOE's compliance with Section 106 of the National Historic Preservation Act and Section 7 of the Endangered Species Act are described in Section 3.2.2.2 (Cultural and Historic Resources) and 3.2.2.5 (Biological Resources).

Correspondence with these agencies and other agencies are provided in Appendix C of this EA.

2. PROPOSED ACTIONS AND ALTERNATIVES

2.1 Proposed Federal Actions

2.1.1 DOE'S PROPOSED ACTION

DOE proposes to authorize the use of approximately $4 million of Federal funding through the State of Illinois under the DOE SEP. The DCEO, which administers the State of Illinois SEP, selected RSP to receive a sub-grant for its Rockford Solar Energy Project, a proposed solar PV facility generating up to 20-megawatt that would be located on Chicago Rockford International Airport property. DOE is proposing to authorize the State of Illinois to expend such Federal funding to RSP to design, permit, and construct the Rockford Solar Energy Project. DOE has already authorized the use of a percentage of the Federal funding for preliminary activities, including the preparation of this EA and associated analyses. These activities are associated with the proposed project and do not significantly impact the environment nor represent an irreversible or irretrievable commitment of resources in advance of DOE completing the NEPA process for the proposed project.

2.1.2 FAA'S PROPOSED ACTION

Due to the location of the project at the Chicago Rockford International Airport, the proposed project would also require FAA approval, pursuant to the following Federal statutory or regulatory requirements:

- Unconditional approval of the revised airport layout plan depicting the proposed solar facility;
- Final airspace determination (14 CFR Part 157, [49 U.S.C. 40103(b), 40113);
- Final determination of potential obstructions to navigable airspace per an aeronautical study outlined under (14 CFR Part 77, 49 U.S.C. 40103(b) and 40113);
- Issue a finding for Executive Order 12372, "Intergovernmental Review of Federal Programs";
- Issue a finding for the Department of Transportation Order 5650.2, "Floodplain Management and Protection," which implements Federal Executive Order 11988, "Floodplain Management"

2.2 Rockford Solar Partners Proposed Project

RSP is a joint venture between Wanxiang America Corporation, Illinois, and New Generation Power, a Chicago-based renewable energy developer. RSP proposes to construct and operate a 20-megawatt PV power generation facility on property within the boundaries of the Chicago Rockford International Airport. The Illinois DCEO selected RSP to receive a DOE grant for approximately $4 million for the proposed project. The total project cost is estimated to be $127 million.

2.2.1 PROJECT SITE

The proposed project would be located on land owned by the Greater Rockford Airport Authority (GRAA) at the Chicago Rockford International Airport in the city of Rockford, Winnebago County, Illinois. The proposed location is adjacent to Baxter and South Bend Roads. Title to the land is held in a fixed-term leasehold estate. GRAA is the landowner, the City of Rockford is the lessee, and Wanxiang America Corporation is the proposed sub-lessee. The lease term would be for 30 years and stipulates that Wanxiang is fully permitted to use the land as "development and operation of a solar farm." The lease

would provide an option that can be exercised by Wanxiang to extend the lease term for additional periods with the same terms and conditions.

The proposed project site is approximately 70 acres. Figure 2-1 shows the project site boundaries and the area that would be potentially disturbed. The site is bordered on the north by Beltline Road. South Bend/Baxter Road is to the south of the site with vacant land beyond and to the west. Railroad tracks and vacant land are east of the site. The proposed site is approximately 0.43 mile from the airport's nearest runway end to the north across the Kishwaukee River.

Figure 2-1. Proposed Location of Solar Farm (Preferred Alternative Site)

The site is predominantly flat with grades sloping to the southwest. Soil samples indicate presence of a mix of top soils, sand and gravel. Minimal grading (approximately 5 acres) is anticipated. A new gravel access road from South Bend Road to the panels would be constructed on the project site. Two unused roadways were previously vacated on the proposed site and would be replaced by the new gravel roads. The approximate global positioning system coordinates for the center point of the project site are 42°10'22.45" N, 89°5'21.88"W.

2.2.2 ROCKFORD SOLAR ENERGY PROJECT'S CONSTRUCTION AND OPERATION

The following sections provide information on the proposed design, installation, and operation of RSP's proposed solar farm. Figure 2-3 provides a site layout plan.

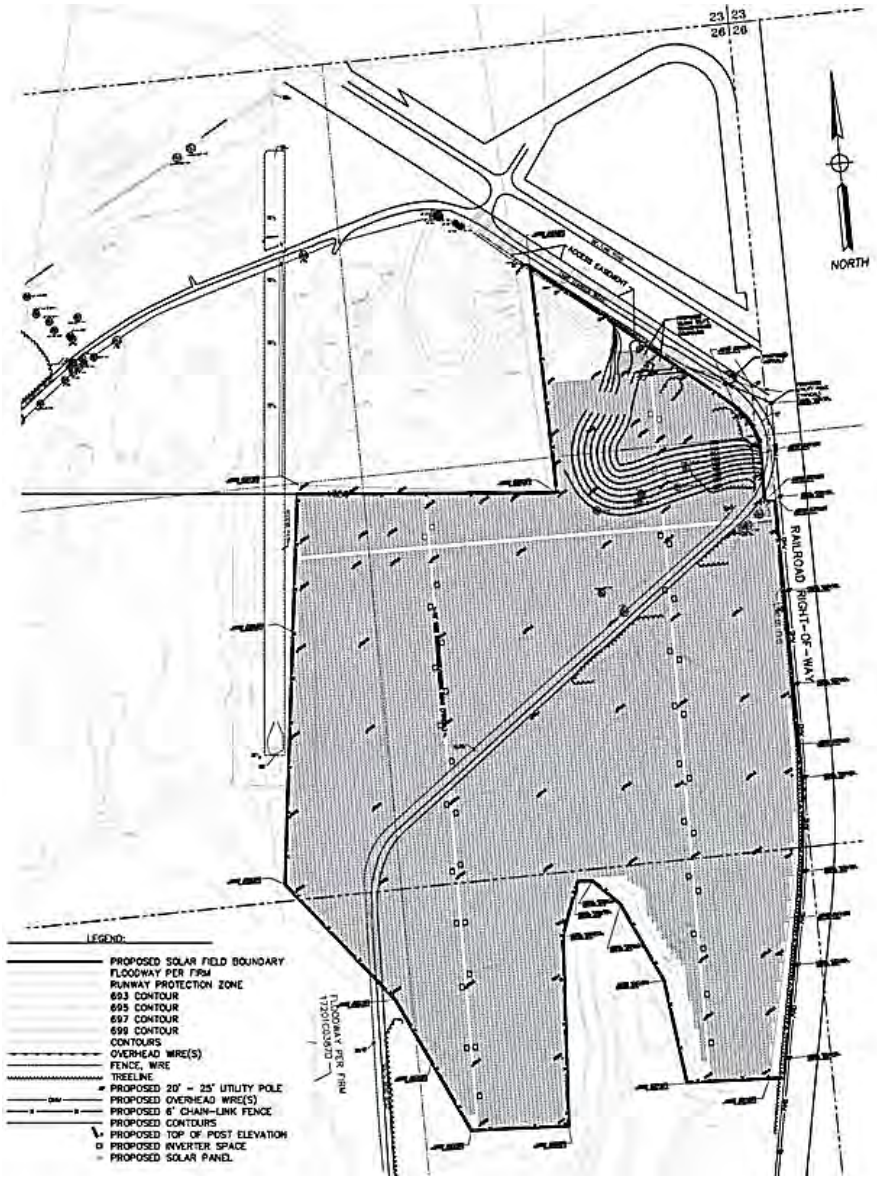

Figure 2-3. Proposed Solar Farm Site Plan (See Appendix D, for high resolution image)

2.2.2.1 Design, Installation, and Construction

The solar farm would utilize 280-watt WXS280P multi-silicon solar cells manufactured by Wanxiang America Corporation. The cells would be mounted in groups of four panels using a fixed ground mount PV system manufactured by Patriot Solar Group. The four panels would be attached to a rack mounted on two support posts approximately 13 feet apart. The posts would be driven into the ground, leaving approximately 2 to 5 feet exposed aboveground. The elevation of the top of the posts would be carefully

calculated so that the posts would be at least 18 inches above grade in all locations and have at least 2 feet of clearance above the established base flood elevation. The proposed ground mount system would be designed to withstand winds up to 90 miles per hour.

The panels would face due south with an upward tilt angle of 15 degrees to optimize output during the summer months and allow for passive snow clearing during winter months. The tilt angle was selected in conjunction with panel spacing between rows to allow for maintenance access and to limit shading from adjacent panels. The grade of the site would rise from south to north from 0 to 5 percent; therefore, the panels would be slightly lower at the southern end of the field. Throughout much of the site there would also be a grade change from east to west, also approximately 0 to 5 percent. The rise and fall of panels would be minimized as much as possible by adjusting the post height while still maintaining the minimum and maximum heights; that is, at least 18 inches above grade but no higher than 5 feet.

The project's PV solar modules would be mounted on aluminum racks with multiple vertical pile-driven support structures throughout the 70-acre site. Once the modules were mounted, each string would be wired to a combiner box. Each combined circuit would be installed in conduit and run in conduit within the supporting frame of the solar panels to a transition box in one of the area inverter houses where the circuits would be re-combined into array circuits and connected to the inverter.

Forty-two inverter houses would be constructed of concrete tip-up panels with concrete floors and roofs and would be placed in the northern portion of the site. Each inverter house would be 7 feet tall by 3 feet wide by 9 feet long, and would include several conduits and cables to the utility-owned transformer, substation, and electrical switchgear. Cables would run aboveground in conduit at the approximate mid-point of each solar panel to newly constructed overhead power lines along the western edge of the railway right-of-way. Poles are planned to be placed at 300-foot intervals to the interconnect point. The 500-kilowatt inverters would be placed in the inverter houses. Each inverter house would contain multiple 500-kilowatt inverters. The proposed project also would include a comprehensive data acquisition and monitoring system and several weather stations for site data collection, as well as lightning protection, security fencing, and security personnel. Figure 2-3 depicts the proposed interconnection route, utility-owned conduits, cables, and existing substations, please see Appendix D for the high resolution image.

Approximately 70 acres of land would be disturbed at the proposed project site. Approximately 10 acres of the project site would require tree clearing, which would occur along vacated roads onsite, along the site perimeter, and on the northeast portion of the site (Figure 2-1).

During construction, there would be an average of six pieces of equipment onsite daily. The first part of the project would involve heavy equipment for earth moving and minimal grading, and the second part would involve smaller equipment for installing facility equipment and conducting finish work. Construction staging would occur on the northern-most portion of the proposed project site, along Beltline Road. The entire project, including the construction staging area, would be outside the runway protection zone. This area is above the 700-foot flood elevation and is the designated area for the storage of the job trailer and construction equipment. No fill material would be brought onto the proposed project site, and no fill material would be generated by the construction. Current plans for site grading would maintain the existing grade where possible and leave topsoil in place.

Total project completion time for design, installation, and construction is estimated to be 12 months.

2.2.2.2 Operation and Maintenance

Operation and maintenance activities associated with the proposed solar farm would be minimal. The facility would operate during daylight hours only and would require up to 5 full-time personnel for operation, maintenance, and security.

The operations workforce would be onsite on an as-needed basis. At times when non-routine maintenance or major repairs were required, additional workers or contract labor could be utilized.

Long-term maintenance schedules would include periodic maintenance and equipment servicing per the manufacturer's recommendations. Moving parts, such as motorized circuit breakers/disconnects and inverter ventilation equipment would be serviced on a regular basis. Additional maintenance would take place as required.

No heavy equipment would be used for normal operations. Vehicles that would be used as part of maintenance could include trucks, forklifts, and loaders. Water trucks would be used to wash panels. Larger off-road equipment may be brought onsite on an as-needed basis for replacement or repair purposes.

2.2.2.3 Decommissioning

The solar panels and some of the other components are expected to have a useful life of at least 25 years; however, the operational life of the facility could be much greater if facility components, including panels, are replaced at the end of their life cycles. At the end of the solar project's life cycle, decommissioning (dismantling) of the system or re-commissioning or re-powering (installation of a new system) would occur. While solar panels have a manufacturer's expected life of 20 to 25 years, the solar industry does not have much experience with decommissioning and re-commissioning solar facilities because the majority of utility-scale solar PV facilities built in the United States are still operating. In addition, useful life varies and is dependent upon a particular system's production, operation and management costs, and costs and benefits of repowering the system.

Activities associated with decommissioning the project are expected to be similar to those in the initial construction. When RSP terminates the project, and if an upgrade is not considered, RSP would sell, reuse, or recycle salvageable items (including fluids), as appropriate; unsalvageable material would be disposed of at authorized sites. The soil surface would be restored as closely as possible to its original condition. Reclamation procedures would be based on site-specific requirements commonly employed at the time the area is to be reclaimed and could include re-grading, adding topsoil, and replanting all disturbed areas.

2.2.3 PROJECT PROPONENT-COMMITTED MEASURES

Based on the activities proposed above and the estimate of potential environmental impacts presented in Chapter 3 of this EA, RSP and GRAA have committed to the actions listed below.

2.2.3.1 Water Resources – Ground and Surface Water

Storm water and silt runoff management would include silt fencing and stabilized rock construction entrances and use of an estimated 2,000 gallons per day of water for dust mitigation. RSP would acquire and adhere to a National Pollution Discharge Elimination System (NPDES) General Storm Water Permit for Construction Activities from the Illinois Environmental Protection Agency. All site runoff would be managed in accordance with the pollution prevention plan prepared under that permit.

It is estimated that as much as 328,000 gallons of water per year would be required for cleaning PV panels. Current plans are to use water only for cleaning; should cleaning require amended water in the future, environmentally benign materials would be used.

2.2.3.2 Waste Management

Waste generated during construction, operation, and eventual decommissioning of the proposed project, including used lubricants and other nonhazardous municipal waste, would be handled, collected, transferred and reused/recycled in accordance with applicable Federal, State, and local regulations. All hazardous material would be stored at an elevation above the 100- year floodplain.

2.2.3.3 Biological Resources

A 10-acre field with scattered trees (Figure 2-1) is likely to be cleared during the Indiana bat maternity season, which occurs from April 1 through September 30 in Illinois. In order to reduce the potential for take of Indiana bats, RSP conducted a walking survey of the area on February 16, 2011, to locate potentially suitable Indiana bat roost trees (Appendix E). The survey identified two trees in the area that meet the criteria for suitable Indiana bat roost trees. Such suitable roosting trees would either be cleared out during non-maternity season (that is, between October 1 and March 31) or after a bat emergence survey indicated that the trees had not been inhabited by bats over two consecutive nights and that there were no signs of daytime bat use over the same period.

All construction will be performed in accordance with the "Illinois Standard Specifications for Construction of Airports – State of Illinois – Department of Transportation – Division of Aeronautics – Effective Date April 1, 2010". Specifically Division V of the document, "Turfing– Item 901 Seeding" addresses the restricted use of non-wildlife attracting groundcover post construction.

2.2.3.4 Human Health and Safety

The construction contractor and facility operator would prepare a health and safety plan before beginning work, according to the Occupational Safety and Health Administration requirements.

2.2.3.5 Air Quality

Temporary dust generated during construction and decommissioning would be minimized to the extent practicable (for example, by keeping gravel on roads and watering dry, unpaved roads).

2.2.3.6 Cultural and Historic Resources

If archaeological resources were encountered during construction, ground-disturbing activities would cease, and construction personnel would contact the Illinois Historic Preservation Agency (IHPA) for resolution and further instruction regarding additional studies and/or potential mitigation measures required in accordance with the NHPA.

2.2.3.7 Noise

All construction activities would occur during normal working hours to avoid noise and other disturbances to surrounding areas, and would conform to all local noise ordinances and other applicable Federal, State, and local requirements.

2.2.3.8 Utilities and Energy

While impacts to the electromagnetic communication links (for instance, radio, microwave, radar) are not anticipated, should another Federal agency or private entity identify concerns with the proposed project, the concerns of the party will be addressed.

An analysis of the potential impacts of reflectivity (also known as solar glare) and communication systems interference on sensitive airport receptors was conducted for FAA. The FAA has completed an aeronautical study (Appendix C) of the proposed solar facility, including a review of the reflectivity analysis. Based on the FAA's review, no negative impacts to operation and/or navigational aids at RFD are anticipated. However, if any unforeseen impacts on airport operations should occur, RSP and/or the airport would mitigate the impacts to FAA's satisfaction and in accordance with the Airport's Grant Assurances.

2.3 Alternatives

2.3.1 DOE'S ACTION ALTERNATIVE

DOE's alternatives to its Proposed Action relating to Illinois' use of its SEP funds are limited to: (1) Allowing Illinois to provide funding to the proposed project; and (2) Not allowing Illinois to provide grant funding for the proposed project. The Illinois SEP selection process is described below. One alternative Illinois is considering is equivalent to DOE's No-Action Alternative and is described in Section 2.3.3.

2.3.2 ILLINOIS' SEP PROJECT SELECTION PROCESS

The Illinois DCEO is using its Recovery Act funds for four sub-programs:

- Energy Efficiency Development
- Renewable Energy Development
- Green Manufacturing
- Biofuels Development

Illinois' DCEO issued a Request for Proposal for the SEP-funded Renewable Energy Development Program. The Illinois program used the following criteria for selection: project readiness; matching fund capabilities, financing, and cost-effectiveness; economic impact for Illinois; project characteristics and potential for innovation; and a project's ability to (1) provide emission-free energy, and (2) create jobs during the construction of the project. Illinois has informed DOE that it is not considering any project-specific alternatives to the Rockford Solar Energy Project.

2.3.3 NO-ACTION ALTERNATIVE

CEQ regulations include specific directions in the consideration of alternatives. Section 1502.14(d) of the regulations state; "Agencies shall include the alternative of no action in any environmental analysis."

Under the No-Action Alternative for the proposed project, DOE would not allow Illinois to use its SEP funds for the proposed solar energy project generating up to 20-megawatt. As a result, implementation of the proposed project would be delayed while RSP obtained other funding sources, or abandoned if other funding sources could not be obtained. DOE assumes, for purposes of this EA, that the project would not proceed without SEP funding. Using this assumption allows a comparison between the potential impacts

of the project as proposed and the impacts of not proceeding with the project. Without the proposed project, Chicago Rockford International Airport operations would continue as otherwise planned, without the proposed solar installation and the revenue generated from the land lease. Furthermore, reductions in future increases in fossil fuel use and improvements in energy efficiency would not occur and DOE's ability to achieve its objectives under SEP and the Recovery Act would be impaired as would its ability to create jobs and invest in the nation's infrastructure to further the goals of the Recovery Act. Potential impacts to geology, land use, air quality, water resources, biological resources, historic and cultural resources, and transportation would not occur.

2.3.4 GRAA AND RSP'S ALTERNATIVE ANALYSIS

Due to the location of the proposed project at the Chicago Rockford International Airport, the FAA requires that all reasonable alternatives to its Proposed Action be considered. The examination of site specific alternatives is an integral part of FAA's NEPA process.

Other on-airport sites were investigated, while taking into consideration the constraints shown in the airport layout plan (Figure 2-5). Four sites, including the preferred alternative, were identified on undeveloped sites on existing airport property and that are outside of the FAA operational surfaces, safety areas, protection zones, building restriction line, and proposed area of future development, as identified in the figure. The following sections describe these sites.

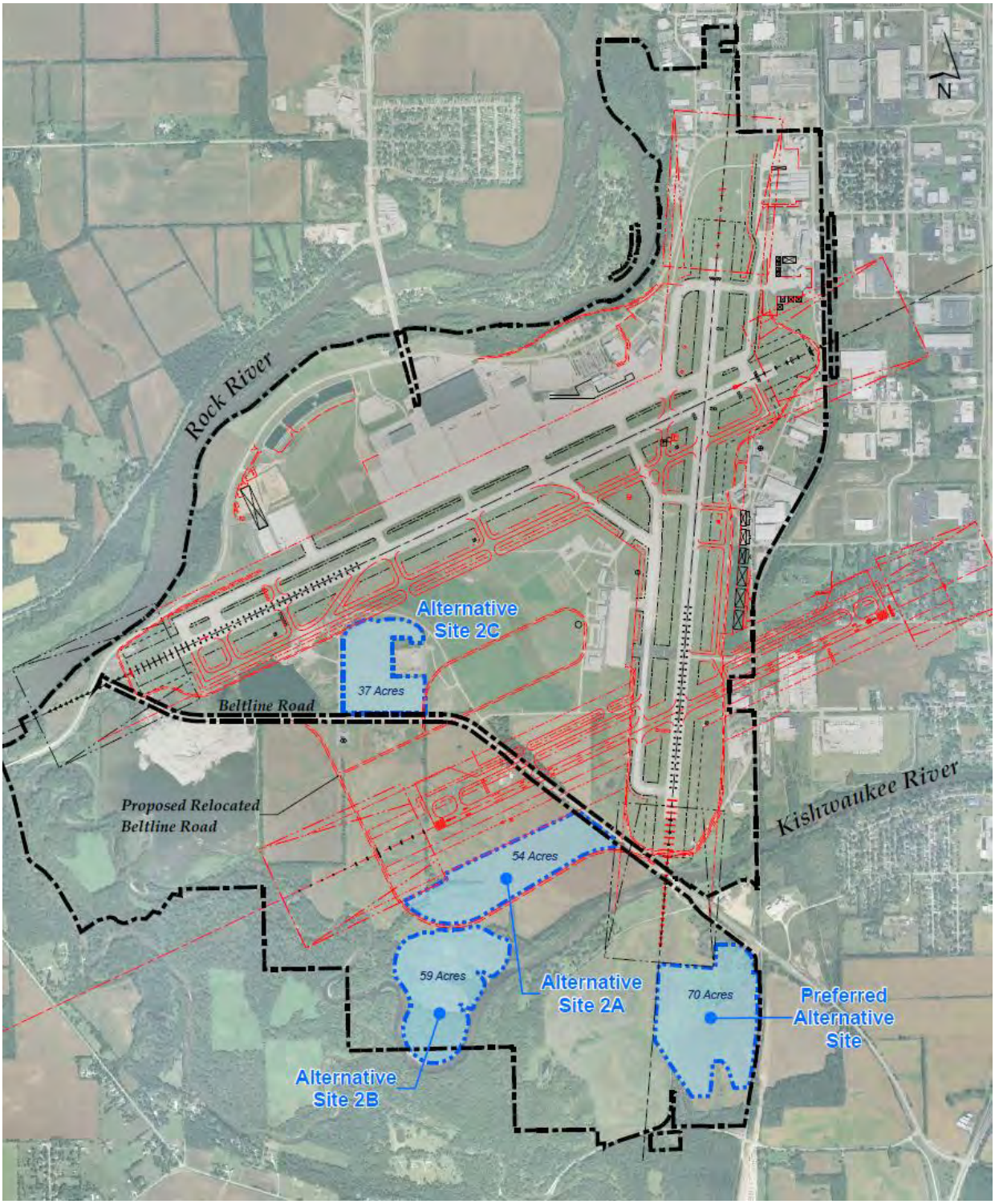

Figure 2-5. On-Airport Alternatives

2.3.4.1 Alternative Site 2A – Southwest Quadrant

This alternative site is located along the proposed Runway 7R/25L, just north of the proposed relocated Beltline Road and north of Kishwaukee River (see Figure 2-5), and is immediately adjacent to the 35-foot

building restriction line. This site is currently vacant and encompasses approximately 54 acres and would be located within the airport perimeter fence. This area is planned for an aviation-related use associated with the construction of the proposed Runway 7R/25L.

Because the area is planned for an aviation-related use associated with the construction of the proposed Runway 7R/25L, this site was dismissed from further consideration.

2.3.4.2 Alternative Site 2B – Southwest Quadrant

This alternative site is located south of Beltline Road, just north of the Kishwaukee River and northwest of the Runway 19 approach end (see Figure 2-5). This site is currently vacant and encompasses approximately 59 acres. The site is located outside of the airport perimeter fence.

The size, configuration, and location of this site would not be adequate to develop the proposed RSP 20-megawatt solar facility. The site is immediately adjacent to the Kishwaukee River, consists of approximately 16 acres of forested vegetation (which would have to be removed), and is located entirely within the Kishwaukee floodway, which is in the 100-year floodplain. The floodway is the channel and the adjacent portion of the floodplain that is needed to safely convey and store flood waters. It is the area subject to higher velocities and inundation with appreciable depths at frequent intervals. The Illinois Department of Natural Resources (IDNR) regulations include directions in the consideration of construction in the floodway. Section 3706 of said regulation states: "Construction which results in increased flood heights or velocities, or cause pollution, erosion, sedimentation, fire hazards, other hazards, or nuisances is prohibited." Consequently, prior to any construction, RSP would need to bring in fill material, remove a significant number of trees, and grade the site. For these reasons, Alternative Site 2B was dismissed from further consideration.

2.3.4.3 Alternative Site 2C – Midfield

This alternative site is located adjacent to Beltline Road, southwest of the South Cargo Apron and south of Runway 7L/25R (see Figure 2-5). The site is currently an undeveloped site located within the airport perimeter fence within the midfield area of the airport. This area encompasses approximately 37 acres.

The area is planned for expansion of cargo facilities as well as the future development of general aviation facilities. Use of this site for the proposed project would negatively affect the potential for future aviation development. For these reasons, Alternative Site 2C was dismissed from further consideration.

2.3.4.4 Preferred Alternative Site – Southeast Quadrant

RSP's preferred alternative involves the redevelopment of the southeast quadrant of the airport property to accommodate up to a 20-megawatt PV solar energy facility, as identified in Section 2.2 of this EA. The southeast quadrant encompasses a 70-acre site that would be leased by the GRAA to RSP to develop and operate the new solar facility (see Figure 2-5). Because there is limited developable space to the west due to the existing floodplain and wetlands, RSP proposes to maximize use of the site and has designed the proposed facilities accordingly.

Given the close proximity of the preferred alternative to the approach to Runway 1 and its location within the 100-year floodplain, this site would not be practicable for future airport development. However, the solar facility would be a compatible use at this location since the elevation of the solar arrays and supporting equipment would be well below the runway approach zone. This location currently has little value for aviation-related uses due to height restrictions and separation from the airport by the Kishwaukee River, and would provide the airport with a new revenue source via the lease. Section

511(a)(9) of the *Airport and Airway Improvement Act of 1982* (AAIA) and Grant Assurance 24 requires airports to be as self-sustaining as possible. Such a leasing arrangement with RSP would help the airport meet its obligation of the AAIA. The 70-acre site is a relatively flat, undeveloped site located outside the airport's perimeter fence, and requires limited tree removal. Since this site is located outside the airport perimeter fence, no airfield access would be required for construction, operations, and/or maintenance staff for the proposed project.

The footprint of the proposed project site, as presented to RSP originally, included potential development within wetlands areas. Based on the wetlands delineation conducted by RSP during preparation of this EA, the preferred site was reconfigured to avoid construction that would potentially impact wetland areas.

2.3.4.4.1 Site Selection Process

The Rockford Global Green Initiative (Appendix H- "Wanxiang & City of Rockford- Developmental Agreement") is the driving force behind the proposed solar project that is analyzed in this EA. When Wanxiang America Corporation began looking for a location to site its new manufacturing facility, the City of Rockford offered numerous incentives to Wanxiang. This incentive package included lease options for land that would accommodate up to a 20 MW solar array. Under the Rockford Global Green Initiative, locations considered for the proposed solar project were limited to sites owned or leased by the City of Rockford.

The proposed location in the southeast corner of the airport, owned by GRAA, was approved by the Rockford City Council and Rockford Economic Development Council on November, 19, 2009 (Appendix A - "Meeting Minutes") for the following reasons:

- GRAA owns the proposed site, which they have determined through their alternative analysis is a suitable site for a solar array and such use compatible with other airport activities;
- GRAA is an identified partner with the City of Rockford and Winnebago County in promoting the Rockford Global Green Initiative;
- The proposed solar field is compatible with GRAA development plans for the area;
- The proposed site is essentially not buildable for other uses due to floodplain issues and height restrictions; and
- An existing electrical transmission line is located immediately adjacent to the proposed site, which allows for interconnection between the proposed site and the electrical grid without requiring the construction of new transmission lines.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter of the EA examines the potential environmental impacts of the proposed project and the No-Action Alternative for the following resource areas: aesthetics and visual resources; noise; occupational and public health and safety; waste and hazardous materials; geology and soils; land use; air quality; water resources; biological resources; historical and cultural resources; socioeconomic and environmental justice; transportation; and utilities and materials.

3.1 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the use of Federal funds for the proposed project. As a result, the project could be delayed until the company could identify other funding sources. The project could also be abandoned if other funding sources could not be obtained. If the project was delayed or abandoned, reductions in future use of fossil fuel use would not occur and DOE's ability to achieve its objectives for renewable energy would be impaired. The jobs created by construction and installation of the solar field would not be realized and the local area would forego the economic benefit associated with these new jobs. The Chicago Rockford International Airport would not receive the lease payment for the solar farm site.

If the project did proceed without DOE's financial assistance, the potential impacts would be essentially identical to those under DOE's Proposed Action (that is, providing assistance that allows the project to proceed). To allow a comparison between the potential impacts of a project as implemented and the impacts of not proceeding with a project, DOE assumed that if it decided to withhold assistance from this project, final design and construction of RSP's proposed project would not proceed and 7 million kilowatt-hours of electricity would not be generated with renewable energy. Potential impacts to geology, land use, air quality, water resources, biological resources, historic and cultural resources, and transportation would not occur.

3.2 Rockford Solar Partner's Proposed Project

The proposed project could potentially impact the environmental resources on and near the project site and region. The following sections describe the potential environmental impacts for each environmental resource area.

3.2.1 RESOURCE CONSIDERATIONS NOT CARRIED FORWARD FOR FURTHER ANALYSIS

Table 3-1 presents DOE's evaluation of resource areas that it did not carry forward for further analysis. In an effort to focus the analyses on resource categories commensurate with their importance in relation to the proposed project, DOE limited the evaluations of these resource areas according to the sliding-scale approach. This sliding-scale approach is consistent with NEPA regulations (40 CFR 1502.2(b)), under which impacts, issues, and related regulatory requirements are investigated and addressed with a degree of effort commensurate with their importance. DOE concluded that the proposed project would result in no impacts, minimal impacts, or temporary impacts, to the following resource areas and did not carry them forward to more detailed description and analyses. Section 3.2.2 presents the consideration carried forward for further analyses.

Table 3-1. Environmental Resource Areas with No, Minimal, or Temporary Potential Impacts

Environmental Resource Areas	Impact Considerations and Conclusions
3.2.1.1 Aesthetics and Visual Resources	The project components would be of heights varying from 4' to 7.5' above ground surface and would not likely be visible at receptor locations (residents) present in the general vicinity. Properties adjacent to the proposed project are primarily agricultural, wetlands, and those utilized by the Chicago Rockford International Airport and owned by GRAA. There are two businesses slightly north-northeast of the property that will be able to see the north end of the site, there are no residences located within the immediate viewshed of the proposed project. DOE has determined the proposed project's impact on visual resources would be negligible.
3.2.1.2 Noise	The proposed project area is immediately surrounded by a railroad right-of-way to the east, industrial plants on the north at Beltline Road, and the Chicago Rockford International Airport on the west and north. The Winnebago County Forest Preserve District owns the Kilbuck Bluffs Forest Preserve south of the property project. Existing noise sources in the surrounding area include cars, trucks, buses, trains, airplane landings and take-offs, and industrial operations. The closest sensitive receptors are homes approximately 0.5 mile from the eastern site boundary. Construction activities would temporarily contribute to the ambient noise levels for a period of approximately 11 months. The noise sources would be from typical construction vehicles. Estimated noise levels during construction would be about 42 A-weighted decibels at 0.5 mile, the nearest offsite receptor location. DOE expects that noise levels during operations would be negligible, temporary, and related to the occasional presence of vehicles and construction equipment during maintenance and repair activities.
3.2.1.3 Occupational and Public Health and Safety	Potential health and safety issues would be limited to standard construction hazards; the proposed project would not affect offsite personnel or facilities, and impacts related to occupational health and safety would be minimized by appropriate planning and safeguards. Because the proposed site is on airport property, panel reflectivity was considered. Glint and glare are potential impacts associated with solar panels. The solar panels that would be installed as part of this project would be constructed of dark, light-absorbing materials and covered with an anti-reflective coating. Panels of this design would reflect less than 2 percent of the incoming sunlight. Therefore, DOE does not anticipate impacts associated with glint or glare.
3.2.1.4 Waste and Hazardous Materials	Waste generation would be typical of construction projects and would not be substantial. Waste would include general debris (to be disposed of at the Winnebago Reclamation Services landfill), trees (to be disposed of at a nearby composting facility), and minor quantities of used oil and lubricants associated with construction equipment (which would be removed by a licensed disposal contractor). No demolition waste would be generated. Limited amounts of waste would be generated during operations and would primarily be standard waste generated by routine maintenance.
3.2.1.5 Intentional Destructive Acts	The effects of intentional destructive acts would be limited to damage to equipment and/or personnel resulting from the acts themselves. The nature of construction and/or operating activities would not amplify the impacts of such acts nor be a target for such acts.

3.2.2 CONSIDERATIONS CARRIED FORWARD FOR FURTHER ANALYSIS

3.2.2.1 Geology and Soils

Affected Environment

Soil maps obtained from the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey show eight soil types within the project area (NRCS 2010). Two of the eight soil types are hydric, which covers approximately 6 acres of the site. Hydric soils have sufficiently wet conditions throughout the year to support the growth and regeneration of vegetation that grows partially or fully under water.

Approximately 5 acres of the proposed project site is prime farmland. Approximately 54 acres of the site is considered important farmland. Prime farmland is defined in part as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. "Congress enacted the *Farmland Protection Policy Act* (FPPA) as a subtitle of the 1981 Farm Bill. The purpose of the law is to "...minimize the extent to which Federal programs contribute to the unnecessary conversion of farmland to nonagricultural uses..." (P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201 *et seq*.). The FPPA also stipulates that Federal programs be compatible with State, local, and private efforts to protect farmland".

The project site primarily consists of a relatively level area. Elevations within the site range from approximately 690 to 720 feet above mean sea level. Seismic activity in Winnebago County is not considered a substantial hazard, as the majority of seismic activity (81 percent) in Illinois occurs in southern Illinois.

Environmental Impacts

Construction of the proposed project would disturb approximately 70 acres of land, including the addition of multiple areas of impervious (concrete) surface. Construction of the following support features would result in a slight increase in impermeable surfaces over a total of approximately 12,890 square feet (0.3 acre): 32 concrete equipment pads, each about 270 square feet supporting solar array inverters and transformers; a 250-square-foot equipment pad supporting a switchgear equipment building; a 2,500-square-foot concrete equipment pad for the 33 Million Volt Amperes (MVA) step-up transformer; and a 2,000-square-foot maintenance building. Current plans for site grading would maintain the existing grade where possible and leave topsoil in place. No fill material would be brought in from offsite. No fill material would be removed from the project site.

Erosion and run-off would be managed through the use of best management practices (BMPs) as required and by following requirements set forth in RSP's NPDES Permit during construction activities. IDOT's Standard Specifications for Construction of Airports, Section 156-3.6 would also be incorporated into the construction documents. BMPs would include at a minimum the following: containing excavated material, use of silt fences, protecting exposed soil, stabilizing restored material, and re-vegetating disturbed areas. The potential for offsite flow of sediment associated with storm water would also be regulated by Winnebago County grading and drainage requirements. Areas disturbed during construction would be re-vegetated using local non-wildlife attracting native species.

3.2.2.2 Land Use

Affected Environment

The proposed 70-acre solar farm would be located within the boundaries of the Chicago Rockford International Airport. The proposed project site is zoned for industrial use but is currently being used for agricultural purposes on airport property.

Beltline Road borders part of the proposed site to the north, and industrial plants are located beyond approximately 500 feet north and 620 feet northeast of the proposed site boundary. Also north of the project site is the Chicago Rockford International Airport, and the proposed facility would be located on 4 percent of the GRAA's total land area at the airport. A railroad track and vacant farmland are located directly to the east, and Baxter Road is to the south of the site. Kilbuck Bluffs Forest Preserve is approximately 2,000 feet to the west of the site. Onsite land use consists of open space and agricultural areas. Agricultural plants within the site include soybean fields in the central portion of the project site and a corn field in the eastern portion of the project area.

While the project site is currently used for agricultural purposes, it is zoned Industrial-2 (I-2) by the City of Rockford, which designates heavy industrial districts. The area of the proposed site is approximately 4 percent of the GRAA's total land area.

Figure 3-1 presents a 2009 aerial photograph of the proposed site and surrounding areas, including Winnebago County zoned land uses:

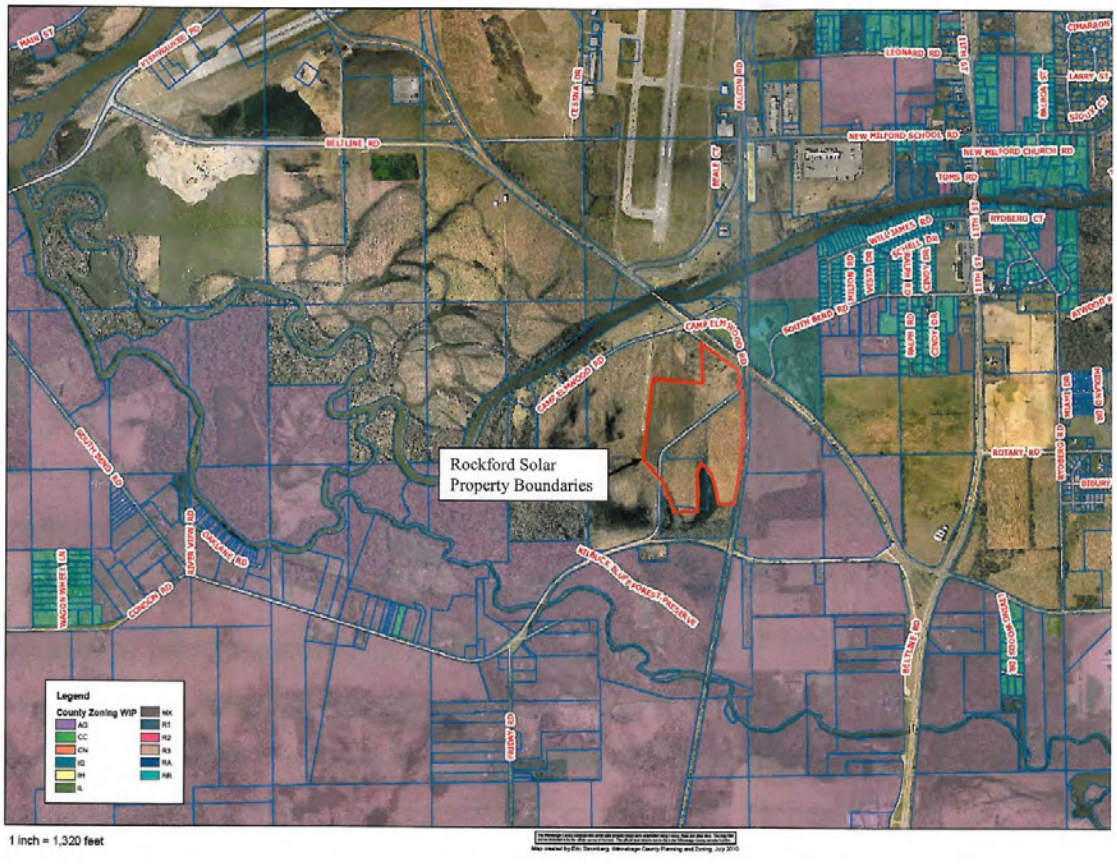

Figure 3-1. Land Use Within 1 Mile of Proposed Project Site

Environmental Impacts

Land use within the proposed project site would change from agricultural land uses to groups of fenced solar arrays. The proposed use of the land is consistent with the areas I-2 zoning. Construction and operation of the proposed project would not change the type of activities/operations performed at other areas of the Chicago Rockford International Airport or other offsite areas. Implementation of the Proposed Project would permanently commit 70 acres of previously disturbed land.

3.2.2.3 Air Quality

Affected Environment

The *Clean Air Act* requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for the six common air pollutants. The criteria pollutants are particulate matter, (PM_{10} and $PM_{2.5}$), ozone, sulfur dioxide, nitrogen oxides, carbon monoxide, and lead. The Rockford region is in compliance for all criteria pollutants, which means that the levels of these pollutants in the air are below the EPA standards and air conformity rules do not apply.

Greenhouse Gases (GHGs)

Ongoing climate change research was summarized in reports by the United Nations Intergovernmental Panel on Climate Change, *U.S. Climate Change Science Program's Science Synthesis and Assessment Products* and *U.S. Global Change Research Program*. These reports concluded that the climate is already changing; that the change would accelerate; and that manmade GHG emissions, primarily carbon dioxide, are the main sources of accelerated climate change (DOE 2009).

DOE used the EPA's eGRID Website calculator to determine that conventional means of producing 20 megawatts of energy in this particular region would emit approximately 174,575 U.S. tons of carbon dioxide per year (EPA 2008). The proposed project would provide approximately 7 million megawatt-hours of renewable energy over the 20-year life of the project that would otherwise be generated by conventional means.

Environmental Impacts

Exhaust from construction, worker, and material delivery vehicles, as well as other equipment used during construction (e.g., portable electrical generators) would result in localized, short-term increases in emissions (e.g., carbon monoxide, sulfur dioxide, particulate matter, methane, carbon dioxide, and nitrogen oxides). Airborne dust ($PM_{2.5}$ and PM_{10} emissions) could potentially be generated from excavation and vehicular traffic on unpaved surfaces. Airborne dust generation would be controlled using BMPs, such as spraying water on soil surfaces and installing stabilized rock construction entrances, to minimize the potential release and exceedance of these pollutant thresholds ($PM_{2.5}$ and PM_{10}).

Current plans for site grading would maintain the existing grade where possible and leave topsoil in place. Reducing grading actions would minimize airborne dust.

All construction will be performed in accordance with the "Illinois Standard Specifications for Construction of Airports – State of Illinois – Department of Transportation – Division of Aeronautics – Effective Date April 1, 2010". Division V of the document, "Turfing– Item 901 Seeding" addresses the restricted use of non-wildlife attracting groundcover post construction. In accordance with these specifications, RSP would plant native short-growing shade-tolerant grass species specified by USDA as non-wildlife attractant species for ground cover below the solar arrays to minimize fugitive dust

emissions and attracting wildlife. When operational, the solar PV array facility would not be a source of any criteria pollutants.

GHGs

The temporary increase in vehicle exhaust emissions during construction would result in a minimal contribution to increased GHG emissions. Solar technologies offset emissions from conventional methods, which would be a beneficial impact to the regional air quality; therefore, the proposed 20-megawatt solar array would have a beneficial impact on overall GHG emissions by producing electricity with near-zero carbon dioxide emissions.

The Illinois Climate Change Advisory Group estimated the approximate contribution of each source to electricity generated for the Illinois market in 2005 as follows (ICCAG 2007):

- Nuclear 47.8 percent
- Hydroelectric 0.2 percent
- Gas/Oil 3.9 percent
- Coal 47.3 percent
- Landfill Gas/EFW 0.5 percent
- Wind 0.2 percent
- Other 0.1 percent

Over an estimated 30-year life of the proposed project, approximately 5.25 million tons of carbon dioxide from conventional means of production would be avoided. The proposed project would have an overall beneficial impact on GHG emissions.

3.2.2.4 Water Resources

This section discusses groundwater, surface water, floodways and floodplains, and wetlands.

Affected Environment

Groundwater

The deep glacial outwash and underlying Cambrian aquifers of the Rock and Kishwaukee River Valley are the main sources of water for the larger industries and municipalities in Winnebago County. Across the proposed project area, the water table ranges from 0 to 2 feet below the surface. No wells are located on the proposed site.

Surface Water

Two rivers (the Rock and Kishwaukee) and several creeks flow through Winnebago County. Rock River flows through the center of the county and the City of Rockford. The Chicago Rockford International Airport is located at the confluence of the Rock and Kishwaukee rivers in the southern part of the county. Rock River flows north to south, the Kishwaukee flows southwest; both rivers are located immediately northwest of the proposed project site. At its closest point, the northern boundary of the proposed project site is 0.10 mile southeast of the Kishwaukee River. Northern portions of the project site drain north toward the Kishwaukee River; southern portions of the project area drain south toward Kilbuck Creek and an intermittent stream.

Floodways and Floodplains

The proposed project site is close to the Kishwaukee River floodway, which is slightly west and north of the project site. The floodway was identified using FEMA's Flood Insurance Rate Maps and was used to produce Figure 3-2. The proposed project was designed specifically to avoid siting within the floodway.

A Preliminary Floodplain/Wetland Assessment (Appendix B) was prepared in accordance with 10 CFR Part 1022, "Compliance with Floodplain/Wetlands Environmental Review Requirements" for the purpose of fulfilling DOE's responsibilities under Executive Order 11988, "Floodplain Management" and Executive Order 11990, "Protection of Wetlands."

Executive Order 11988 encourages measures to preserve and enhance the natural and beneficial functions of floodplains. It also requires Federal agencies to avoid, to the extent possible, any long and/or short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development whenever there is a practicable alternative.

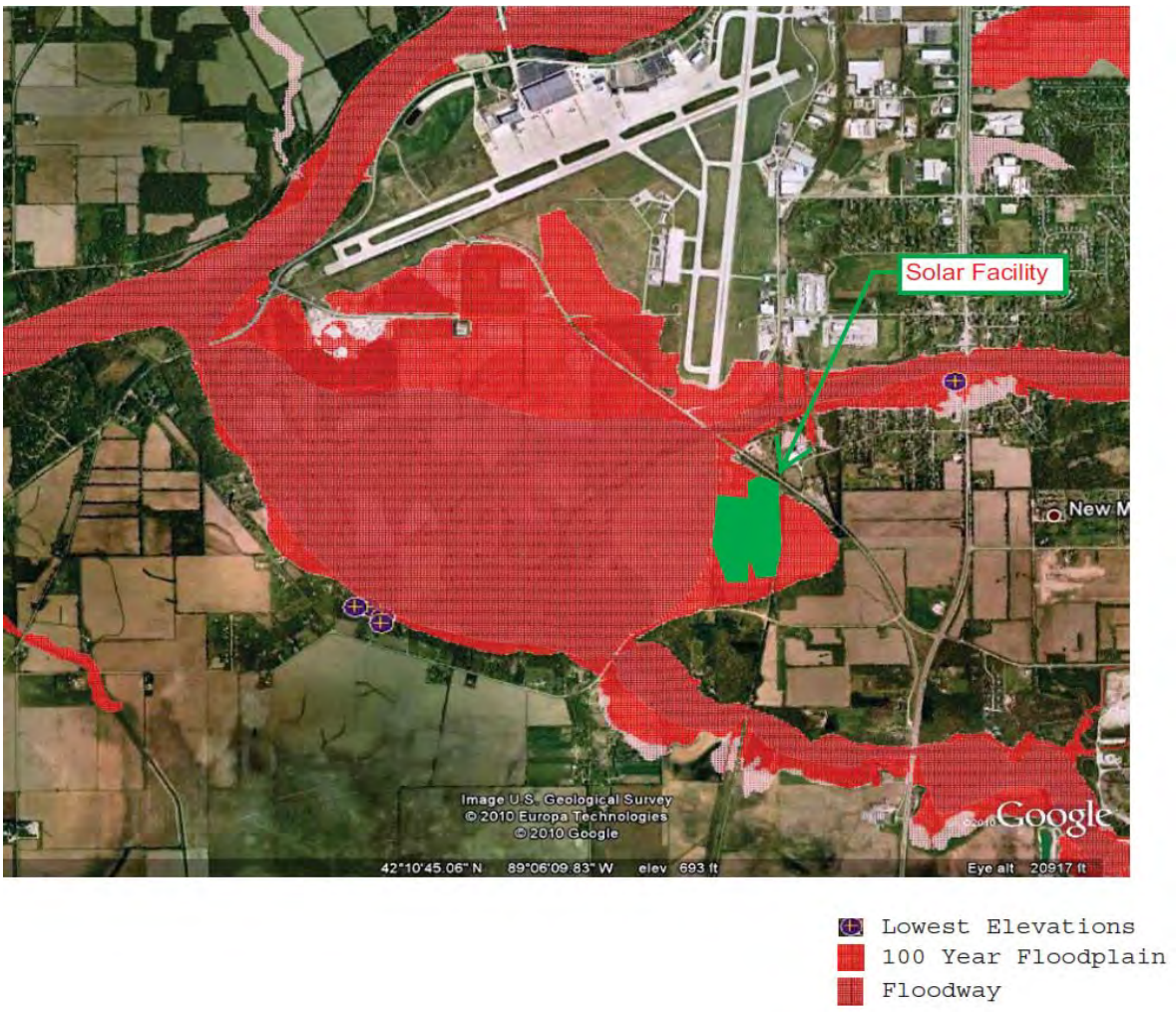

Figure 3-2. Proposed Project Site Showing the Kishwaukee River Floodway

Wetlands

Executive Order 11990 requires Federal agencies to minimize the destruction or degradation of wetlands, and to avoid undertaking new construction located in wetlands unless they find there is no practicable alternative to such construction. RSP used the USFWS National Wetlands Inventory to identify wetlands within and near the proposed project site. Four wetlands were identified in the vicinity of the project site; therefore, RSP commissioned a wetlands delineation study to more precisely identify the extent of the wetlands. As a result of this study, RSP reconfigured the project footprint to avoid disturbance of wetlands.

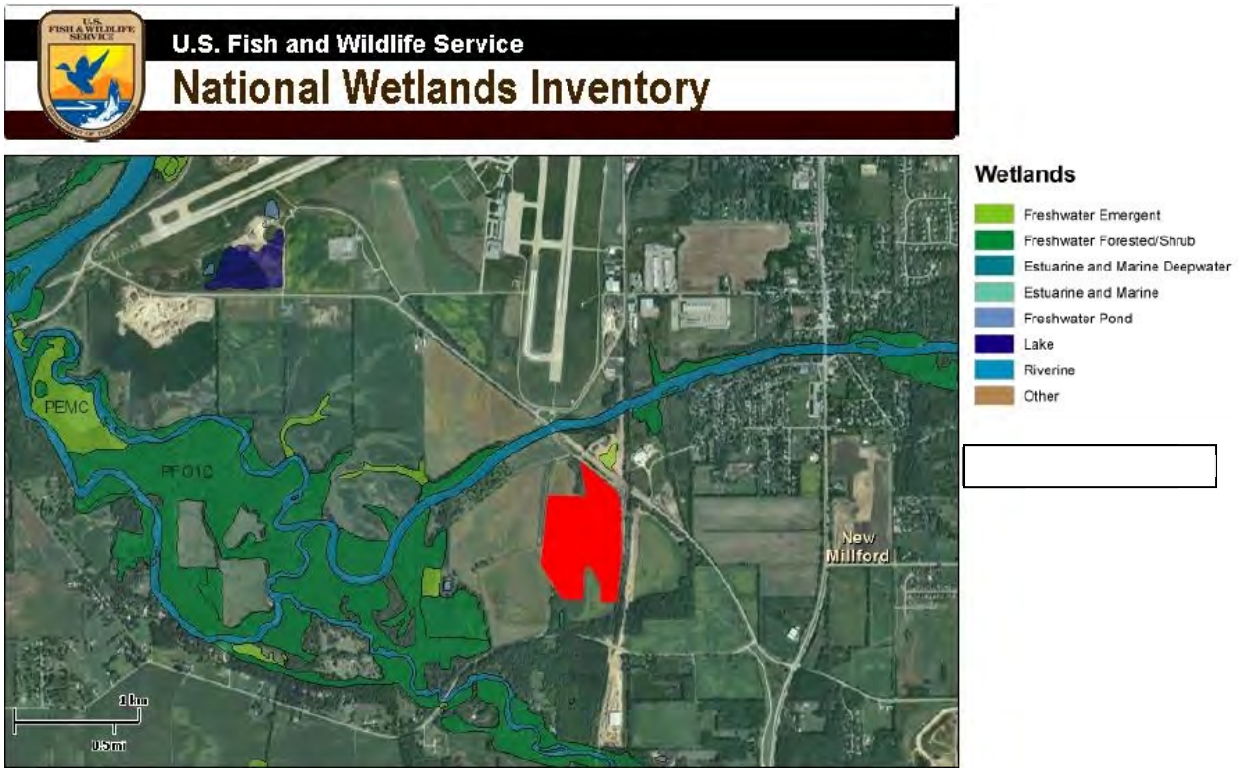

Figure 3-3. Wetlands Within and Near the Project Site (USFWS Wetland Mapper)

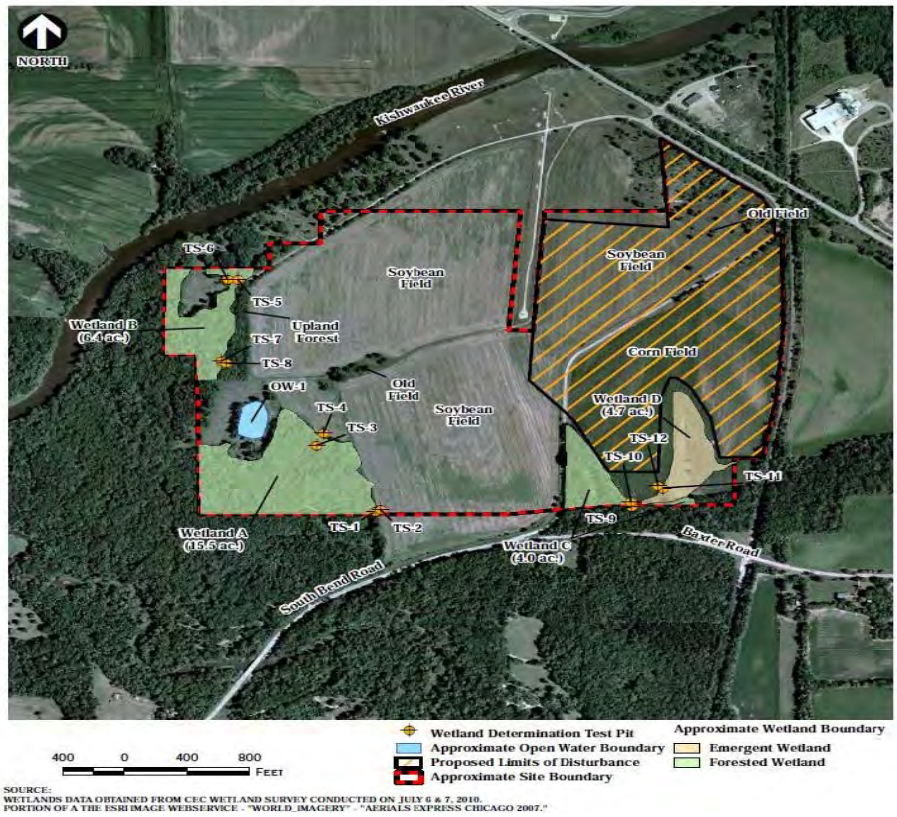

Figure 3-4. Wetlands Within and Near the Project Site (Wetland Delineation Report)

Environmental Impacts

Groundwater

The proposed project is not expected to impact any groundwater resources. No groundwater wells would be installed, as the project would utilize existing city infrastructure. If structural features associated with the abandoned wells were encountered during construction activities, they would be removed in accordance with all local, State, and Federal standards. Overall rainwater infiltration and groundwater flow conditions would not be affected during construction or operations.

Construction of the following support features would result in a slight increase in impermeable surfaces over a total of approximately 12,890 square feet (0.3 acre): 32 concrete equipment pads, each about 270 square feet supporting solar array inverters and transformers; a 250-square-foot equipment pad supporting a switchgear equipment building; a 2,500-square-foot concrete equipment pad for the 33 Million Volt Ampere (MVA) step-up transformer; and a 2,000-square-foot maintenance building.

The addition of a small amount of discontinuous impervious surfaces (0.3 acre) in comparison with the total proposed project (70 acres), roughly 0.4 percent of the area would increase the potential for runoff. Because of this minimal increase to existing conditions, DOE does not anticipate adverse impacts to water infiltration.

Surface Water

Impacts to surface water in the proposed project site are anticipated to be minimal. During construction, storm water and silt runoff from project areas would be managed in accordance the NPDES permit and with the pollution prevention plan prepared by RSP under a General Storm Water Permit for Construction Activities. Examples of pollution prevention measures include the use of standard erosion control mechanisms such as silt fencing and stabilized rock construction entrances. After installation, native vegetation in the form of a low-growing ground cover would be planted under and around the solar arrays to minimize the potential for soil erosion during operation.

Existing drainage ditches from past agricultural use would aid in managing storm water discharges from the area. The surface contour and the potential tie-in of the proposed project with these ditches would be reviewed by Illinois EPA to determine the need for other storm water management methods, such as installation of culverts, water control structures (e.g., gated weir), and open channel flow measuring devices (e.g., Parshall Flume) for estimating flows. This review would also evaluate the need for establishing a new storm water outfall under an NPDES permit. All site runoff would be managed in accordance with the pollution prevention plan prepared under that permit.

The addition of a small amount of discontinuous impervious surfaces (0.3 acre) in comparison with the total proposed project (70 acres), roughly 0.4 percent of the area would only minimally; if at all contribute to an increase in the potential for runoff. Because of this minimal increase to existing conditions, DOE does not anticipate adverse impacts to surface water.

Floodways and Floodplains

The overall impact of the proposed project on floodways and floodplains is anticipated to be minimal. As a result of the floodplain assessment conducted during initial project planning, plans for developing the project site was reconfigured and the site moved east to avoid any construction or operating activities from occurring within the floodway. However the entirety of the proposed project is located within the 100-year floodplain. Though some impermeable surfaces would be constructed, such surfaces would amount to only 0.3 acre, or approximately 0.4 percent of the total project area. Therefore, DOE does not anticipate that the proposed project would adversely affect the ability of the land to respond to flood conditions or increase the frequency or severity of flooding associated with the Kishwaukee River.

Wetlands

During initial planning for the proposed project, a wetland delineation was completed, and the boundaries of the project site were reconfigured to the Northeast to avoid any disturbance to wetlands. Grading of the site would be minimal (approximately 5 acres), and existing surface water flow conditions would be maintained to the maximum extent practicable; therefore, RSP does not anticipate changes in the flow of water or sediment transport to the wetlands. The use of BMPs and the construction of storm water controls would be in place to protect nearby wetlands. Based on the lack of direct or indirect impacts to wetlands, DOE determined that *Clean Water Act* Section 404/401 permits would not be necessary for construction of the proposed project. DOE further anticipates the proposed project would result in no impacts to wetlands.

3.2.2.5 Biological Resources

Affected Environment

RSP conducted a Threatened and Endangered Species and Habitat Assessment of the proposed project on August 20, 2010 (Appendix F). The report summarizes the project site's existing conditions and potential impacts of the proposed project to flora and fauna in the area.

Flora

The project site primarily consists of active agricultural row crop fields. Areas of old field with scattered trees occur within the northeastern and western portions of the project area. Old field vegetation with scattered trees, upland deciduous forest, palustrine forested wetland, and palustrine emergent wetland are also present in the vicinity of the site, but are not within the bounds of the project site.

Agricultural plants within the project site include soybean (*Glycine max*) fields in the central portion of the project site and a corn (*Zea mays*) field in the eastern portion of the project area.

Fauna

Wildlife occurring on the project site includes mammals, reptiles, and birds commonly native to all areas of the state of Illinois. Species most associated with active farmland and old field habitats include small rodents and other small mammals, deer, songbirds, carrion birds, and raptors.

Threatened and Endangered Species

The USFWS (2011) lists the following Federally listed endangered and candidate species as occurring or potentially occurring in Winnebago County:

- Indiana bat (*Myotis sodalis*, endangered): Summer Indiana bat roosting and foraging habitat consists primarily of floodplain and riparian forests, though recently it has been found that upland forests are also used by Indiana bats for roosting.
- Eastern prairie fringed orchid (*Platanthera leucophaea*, threatened): Primary habitat includes mesic tallgrass prairies, sedge meadows, fens, lakeshores, and sphagnum bogs.
- Prairie bush clover (Lespedeza leptostachya, threatened) : Primary habitat includes tallgrass prairies with soils that may be either deeply underlain by till or sand, gravel, or rocks, most often including limestone, but also including sandstone, gneiss, or quartzite.

There are no known occurrences of Federally listed species within the boundaries of the proposed project site or vicinity. However, the Indiana bat is known to occur within Winnebago County and there are trees suitable for the Indiana bat within the project site. A tree survey on the property included in Appendix E revealed the presence of two trees that could be suitable for use by the Indiana bat during the summer maternity season. Based on consultation with USFWS, this project is not likely to adversely affect the

Indiana bat, provided that the suitable Indiana bat roost trees are cleared outside of the maternity season (April 1 through September 30), or after emergence and visual surveys have been conducted.

Suitable habitat for several State-listed species is present in some parts of the project site; however, only one State-listed species, the upland sandpiper, has been documented in the vicinity, with the last reported occurrence in Winnebago County observed in 1988. The proposed site does not contain typical habitat for the upland sandpiper (CEC 2010). Potentially suitable habitat for the following state-listed species s present within the Proposed Project Area: Indiana bat, daisyleaf grape fern, northern grape fern, and loggerhead shrike. The IDNR EcoCAT search resulted in no records of federally-listed, proposed, or candidate species having been document within the vicinity of the proposed project.

Environmental Impacts

Flora

The proposed project would involve removal of existing agricultural crops, scattered trees, and old field vegetation. Following completion of construction, RSP would establish low-growing native grasses throughout the project site. Species were selected to limit interference with airport operations and include Red Top, Timothy, and Red Clover. Because native species are present only in limited areas on the site, impacts to surrounding native vegetation are anticipated to be minimal.

Fauna

10 foot fencing around the perimeter of the proposed project would deter entry of deer and other larger migrating animals, allowing understory vegetation to mature and seed, providing improved habitat for native species. The proposed fencing would also support movement of small animals, such as reptiles and amphibians. Fencing would be located at a minimum distance of approximately 170 feet from local roads, and therefore would not likely cause hazards to the animal or to automotive traffic along S. Bend and Beltline roads. While deer frequent agricultural areas and have been known to eat agricultural plants, they are not necessarily dependent upon them. It is not anticipated that the proposed project would increase stress on surrounding forests from foraging, as no woodlands and/or wetlands accessible to deer post-construction would be substantially altered; it is unlikely that the change in deer foraging habitat would be substantial. The potential for habitat fragmentation to occur for deer and/or other medium-sized animals is low, as the fenced area can be readily circumnavigated. This displacement is anticipated to have minimal impacts to their populations at large.

The proposed tree clearing is anticipated to have a minimal impact on migratory birds, given the presence of numerous other existing trees closer to Kishwaukee River for foraging raptors. Construction noise has the potential to disturb nesting birds.

Threatened and Endangered Species

Trees suitable for Indiana bat habitat occur within the site boundary. In a letter dated October 2010, the USFWS advised that in order to reduce the potential for take of Indiana bats, potentially suitable Indiana bat roost trees within the project area would be required to be removed during the October 1 to March 31 time period. A walking survey of the area was conducted and it identified two trees that meet the criteria for suitable Indiana bat roost trees within the project area. The rest of the trees to be cleared do not have these characteristics. These two trees will be cleared out of season, or cleared after a bat emergence survey of the trees indicates that they have not been inhabited by bats for two consecutive nights. According to USFWS, the project is not likely to adversely affect the Indiana bat, provided that the suitable Indiana bat roost trees are cleared outside of the maternity season (April 1 through September 30), or after emergence and visual surveys have been conducted.

3.2.2.6 Historic and Cultural Resources

Affected Environment

Chicago Rockford International Airport was originally developed as Camp Grant, a military training facility, in 1917. Camp Grant operated from 1917 through 1946. The GRAA began operating at this site in 1946. Although the GRAA currently owns the land upon which the proposed project would be located, it was not originally part of Camp Grant.

The NHPA is the primary Federal law protecting cultural, historic, American Indian, and Native Hawaiian resources. Section 106 of the NHPA (36 CFR Part 800) requires Federal agencies to assess and determine the potential effects of their proposed undertakings on prehistoric and historic resources (for example, sites, buildings, structures, and objects) and to develop measures to avoid or mitigate any adverse effects. Compliance with Section 106 requires consultation with the SHPO.

On August 28, 2009, DOE executed a Memorandum authorizing its Recovery Act grant applicants under the Energy Efficiency and Conservation Block Grants, Weatherization, and SEP programs to initiate Section 106 consultations pursuant to 36 CFR 800.2(c)(4)(DOE 2009). On May 6, 2010, the Illinois Programmatic Agreement was executed with DOE, which further solidified a recipient's ability to initiate consultation with the SHPO. As of that date, applicants and their authorized representatives could consult with the SHPOs and Tribal Historic Preservation Officers to initiate the review process established at 36 CFR Part 800.

RSP conducted a Phase I Archaeological Investigation for the proposed development (Appendix G). RSP identified no archaeological material onsite and recommended project clearance to IHPA.

Environmental Impacts

RSP submitted the Phase I Archaeological Investigation to the IHPA for review on September 27, 2010; IHPA subsequently issued a concurrence letter for the Phase I Archaeological Investigation. In conducting its evaluation, IHPA considered the potential impacts to archaeological resources within the footprint and immediate vicinity of the proposed project area. The Agency also analyzed the potential impacts to the character of the physical features that contribute to historic significance and integrity of significant historic features of properties listed in or potentially eligible for listing in the *National Register of Historic Places*. The IHPA concurrence letter states:

> "The Phase I survey and assessment of the archaeological resource appear to be adequate. Accordingly, we have determined, based upon this report, that no significant historic, architectural, and archaeological resources are located in the project area."

Based on the Phase I Archaeological Investigation of the project area, no impact to any archaeological sites is anticipated. If archaeological resources were encountered during construction, ground-disturbing activities would cease, and construction personnel would contact the IHPA for resolution and further instruction regarding additional studies and/or potential mitigation measures required in accordance with the NHPA.

According to "Indian Entities Recognized and Eligible to Receive Services" from the U.S. Bureau of Indian Affairs in 72 FR 13648 dated March 22, 2007, there are no Federally recognized tribes in the state of Illinois. There are also no State-recognized tribes within Illinois. However, the IHPA provided DOE with a list of tribes with an historic presence in various regions of Illinois (Appendix C). DOE utilized this list to determine the relevant tribes within the area of potential effects of the proposed project. DOE

provided the tribal contacts with the Notice of Availability for the Draft EA and associated 30-day comment period. Tribal contacts can be found within the project's stakeholder list (Appendix A).

3.2.2.7 Socioeconomics and Environmental Justice

Affected Environment

Socioeconomics

Winnebago County is part of the Rockford Metropolitan Statistical Area. The County's estimated population of 353,722 people in 2009 reflects an approximate 10.5 percent rise in population since the 2000 Census recorded 320,204 people. The population of the city of Rockford was estimated to be 157,272 people in 2008. In 2008, approximately 31.6 percent of Rockford's population consisted of minorities. Per capita income in Rockford, Illinois in 2010 is $23,907.

Unemployment in Rockford, IL dropped to 10.6% in May 2011. Employment in Rockford, Illinois in 2010 is broken down as follows:

2010 Employment by Job Type for Civilian Population (Age 16+)	Rockford, IL		Illinois		United States	
White Collar	41,430	69.75%	4,032,548	75.39%	92,009,214	74.72%
Blue Collar	17,964	30.25%	1,316,663	24.61%	31,125,749	25.28%
Management, Business, and Financial Operations	9,335	13.64%	1,042,813	17.01%	23,044,053	16.09%
Professional and Related	14,232	20.79%	1,325,939	21.63%	31,190,648	21.78%
Sales and Office	17,863	26.09%	1,663,796	27.14%	37,774,513	26.38%
Service	8,974	13.11%	769,017	12.54%	19,324,452	13.50%
Farming, Fishing, and Forestry	90	0.13%	12,508	0.20%	727,249	0.51%
Construction, Extraction, and Maintenance	4,804	7.02%	472,006	7.70%	12,677,154	8.85%
Production, Transportation, and Material Moving	13,160	19.22%	844,657	13.78%	18,448,595	12.88%

Source: www.clrsearch.com

Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs Federal agencies to address environmental and human health conditions in minority and low-income communities. The evaluation of impacts to environmental justice is dependent on determining if high and adverse impacts from the proposed project would disproportionately affect low-income or minority populations in the affected community.

DOE has determined that a 1-mile radius around the project boundary would be sufficient for the purpose of an environmental justice analyses. Based on 2009 estimates, 13,460 persons live within 1 mile of the proposed project site. The estimated percentage of minority population within 1 mile of the site boundaries is approximately 8 percent (Cubit 2010a). The aggregate percent of racial minorities in the state of Illinois is 21 percent.

Environmental Impacts

Socioeconomics

The total value of the Rockford Solar Energy Project is estimated at $127 million. The Recovery Act SEP grant is estimated at about $4 million. The grant and the project would directly impact the local and regional economies. Indirect economic benefits would also be temporarily realized through increased personal spending, wages, and the spending of non-local workers during their stay in the area.

The proposed project would require a workforce of approximately 89 full-time employees during the construction phase of approximately 11 months and 3 to 5 full-time operations and maintenance managers and staff. The production of solar panels in the newly constructed Wanxiang manufacturing facility located in the Rockford Global Trade Park adjacent to the Chicago Rockford International Airport would require up to 300 temporary employees during the anticipated expansion of production. Approximately 10 percent of these temporary employees would be expected to transition to permanent employment. These employees are expected to come from the greater Rockford area.

In addition, RSP would provide all project management, equipment procurement, and construction services through a network of local manufacturers. The project would comply with the Davis-Bacon Act, adhere to a "Buy American" philosophy, and maximize the use of local construction firms.

Environmental Justice

Based on the analyses presented in this EADOE determined that no high and/or adverse impacts would occur to any member of the surrounding community, or minority or low-income-populations.

3.2.2.8 Transportation, Utilities and Infrastructure

Affected Environment

During construction, panels, materials, and equipment would be brought to the site via a new gravel access road from South Bend Road. No fill material would be brought to or taken from the site. Trucks carrying waste from tree clearing would periodically enter and leave the site. There are no existing structures located on the proposed project site. The nearest municipal water line runs generally along the east border of the proposed site, along the railroad tracks. Water for cleaning panels would be obtained from this line.

Environmental Impacts

The alternating current output capacity of a 20-megawatt solar power supply can serve approximately 2,200 homes per year. Electrical energy would be delivered to PJM Interconnection LLC, a regional transmission organization that is part of the Eastern Interconnection grid via existing distribution lines.

It is estimated that as much as 328,000 gallons of water per year would be required for cleaning PV panels. Current plans are to use water only for cleaning; should cleaning require amended water in the future, environmentally benign materials would be used. Because this represents a minimal amount (less than 0.005 percent) of water usage for the City of Rockford, which has an annual production rate of 7.2

billion gallons of water, existing sources are considered adequate and impacts to the system would be essentially imperceptible. The Rockford Water Department obtains its water from a series of deep aquifer wells located throughout the City of Rockford. The nearest municipal water line runs generally along the railroad tracks near the eastern border of the proposed site. DOE has determined that existing transportation and housing infrastructure in the City of Rockford is adequate to accommodate the demands of the proposed action.

3.3 Irreversible and Irretrievable Commitment of Resources

A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource or limit those factors that are renewable only over long periods of time. Examples of nonrenewable resources are minerals, including petroleum. An irretrievable commitment of resources refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations. Examples of irretrievable resources are the loss of a recreational use of an area. While an action may result in the loss of a resource that is irretrievable, the action may be reversible. Irreversible and irretrievable commitments of resources are primarily related to construction activities.

For the proposed project, resources consumed during construction of the project, including labor, fossil fuels and construction materials, would be committed for the life of the project. Nonrenewable fossil fuels would be irretrievably lost through the use of gasoline- and diesel-powered construction equipment during construction. Approximately 70 acres of land would be irreversibly committed during the functional life of the project.

3.4 Unavoidable Adverse Impacts

Unavoidable adverse impacts associated with the proposed project include:

- Long-term loss of approximately 70 acres of agricultural land resulting from the construction of the solar panels, substation, and access roads
- An increase in noise levels during construction and operation

These impacts are both temporary, in the case of the construction noise, and long-term in regard to the loss of agricultural land. Overall, impacts of the proposed project on the environment and human health are minimal as described in the relevant sections in Chapter 3.

3.5 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

Short-term use of the environment, as used here, is that used during the life of the project, whereas long-term productivity refers to the period of time after the project has been decommissioned, the equipment removed, and the land reclaimed and stabilized. The short-term use of the project area for the proposed project would not affect the long-term productivity of the area. If it was decided at some time in the future that the project had reached its useful life, solar panels and foundations could be decommissioned and removed, and the site reclaimed and returned to agricultural production. The installation of solar panels at this site would not preclude using the land for purposes that were suitable prior to this project.

4. CUMULATIVE IMPACTS

Cumulative impacts are those potential environmental impacts that result "from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

Rockford Solar Partner's application to the DCEO was for the development of a 20MW solar facility. The DCEO's selection process and ultimate decision to provide $4 million dollars of Federal SEP funds to RSP was based on the 20 MW capacity analyzed in this EA. RSP has publicized their intent to develop an additional 42MW of solar production in the City of Rockford. RSP has stated this is their long-term production goal; however, there are no immediate activities towards this goal that could be analyzed in this EA. Currently, there is no Federal funding allocated for this future project or proposed use of airport property. DOE has determined that, at the present time, cumulative impacts cannot be analyzed for this potential future build-out and that any analysis would be purely speculative.

4.1 Reasonably Foreseeable Future Projects

DOE reviewed information on past, present, and reasonably foreseeable future projects and actions that could result in impacts to a particular resource over the same period and in the same general location as the proposed project. Past and present environmental impacts have already passed through the environment or are captured in existing baseline conditions, as identified in Section 3 of this EA. Because the proposed project would not have long-term air emissions or liquid discharges, most of the cumulative impacts would be confined to the solar facility and adjacent airport properties. Of primary importance would be planned airport operations and expansions. Reasonably foreseeable actions would be those that are in the process of being implemented, would likely receive acceptable funding levels, and have plans with sufficient detail and proposed schedules to move forward.

This section discusses several potential actions the airport includes in its 3-year Strategic Plan, as well as several other actions DOE identified through online research and personal interviews that are planned to occur in the vicinity. The following is a listing of reasonably foreseeable actions and a summary of the potential cumulative impacts.

- Falcon Road Upgrade: Work is in progress to upgrade Falcon Road on the east side of the airport. This work is expected to involve repaving of Falcon Road.

- Runway 1/19 Upgrade: The Airport has plans to upgrade Runway 1/19. A Categorical Exclusion for this project was approved by the FAA in 2010.

- International Cargo Center: Chicago Rockford International Airport offers build-to-suit and spec building opportunities on airport property. The International Cargo Center is a phased development of up to 33 acres of land located adjacent to the primary runway (7/25).

4.2 Summary of Cumulative Impacts

4.2.1 CUMULATIVE GREENHOUSE GAS IMPACTS

While the scientific understanding of climate change continues to evolve, the *Intergovernmental Panel on Climate Change Fourth Assessment Report* has stated that warming of the Earth's climate is unequivocal,

and that warming is very likely attributable to increases in atmospheric GHGs caused by human activities (anthropogenic) (IPCC 2007). The Panel's *Fourth Assessment Report* indicates that changes in many physical and biological systems, such as increases in global temperatures, more frequent heat waves, rising sea levels, coastal flooding, loss of wildlife habitat, spread of infectious disease, and other potential environmental impacts are linked to changes in the climate system, and that some changes may be irreversible (IPCC 2007).

The release of anthropogenic GHGs and their potential contribution to global warming are inherently cumulative phenomena. It was assumed that this energy project would displace fossil fuel electricity currently produced by conventional means, resulting in potential gross GHG reductions of 7 million tons of carbon dioxide over the life of the project. The proposed project would neither reduce the concentration of GHGs in the atmosphere nor reduce the absolute annual rate of GHG emissions; rather, it would potentially decrease the rate at which GHG emissions are increasing every year and contribute to efforts ongoing globally to reduce GHGs and slow climate change.

4.2.2 GEOLOGY AND SOILS

Impacts to geology and soils resulting from the proposed project would be minimal as BMPs would be used to minimize soil erosion. The Falcon Road and Runway 1/19 upgrade projects would also involve minimal disturbance of soil and subsurface materials. The airport property on which the planned development is to occur is not contiguous to the proposed project site. DOE has therefore determined these cumulative activities would not have a cumulative effect to geology and soils.

4.2.3 LAND USE

The conversion of 70 acres of farmland from agricultural uses to a solar farm would represent a minor decrease in farmland availability in the region. The listed reasonably foreseeable future projects in the vicinity of the proposed project site would not likely affect or be affected by the proposed project. Collectively, these projects would not likely affect land use or development patterns beyond the boundaries of the airport and the project site; therefore, DOE expects that cumulative effects on land use would be negligible.

4.2.4 AIR QUALITY

The Rockford Solar Energy Project is in an attainment area for all criteria air pollutants. Operational emissions from the proposed project would be limited to those from emergency and vehicular traffic to and from the site. By potentially displacing the use of natural gas and other fossil fuels to produce electricity, the proposed project could contribute to long-term beneficial cumulative impacts on air resources, specifically the reduced generation of carbon dioxide and other GHGs. Adverse cumulative impacts related to air quality, especially air emissions from construction equipment and vehicles, would be both minor and temporary. DOE concludes that the decrease in GHG emissions would result in a net beneficial cumulative impact related to air quality in the vicinity of the proposed project.

4.2.5 WATER RESOURCES

Neither the proposed project nor the listed reasonably foreseeable future projects would have a discernible effect on groundwater. Impacts to surface water by the proposed project would be minimal, and the other projects are separated from the proposed project site by the Kishwaukee River. The other projects would not likely affect floodways, floodplains, or wetlands. DOE concludes that the proposed and other projects would not likely have a cumulative effect on water resources.

4.2.6 BIOLOGICAL RESOURCES

There is little native vegetation or habitats that would be affected by development of the site, other than the potential Indiana bat breeding habitat, which is not contiguous with similar potential habitat. The proposed project would result in the minor loss of forage and cover habitats for the species that use the agricultural lands, and fencing would make the property inaccessible to larger species. The area that would be removed from agricultural production would be minor. Post-construction revegetation with low-growing, native species would provide habitat for many species of birds, insects, reptiles, amphibians, and small mammals; moreover, revegetation and the return of relative species would neither affect nor be affected by the other projects in the area. The Falcon Road and Runway 1/19 upgrade projects would not likely result in conditions substantially different from those that currently exist, and therefore are not expected to have any discernible cumulative impact on biological resources. Development associated with the International Cargo Center is of a relatively small size and physically separated from the proposed project location by the Kishwaukee River and associated wetlands. DOE concludes that the proposed project and the reasonably foreseeable future projects would not result in adverse cumulative impacts to biological resources.

4.2.7 HISTORIC AND CULTURAL RESOURCES

Neither the proposed project nor the listed reasonably foreseeable future projects would affect historic properties or archaeological resources. No cumulative impact to these resources is anticipated.

4.2.8 SOCIOECONOMICS

DOE expects a beneficial impact on socioeconomics from operational job creation for the proposed project. The planned Falcon Road and Runway 1/19 update projects and the International Cargo Center development also would contribute to ongoing construction jobs in the area. Cumulative impacts to the local construction industry, however, would be minor, as the contribution to employment in this sector would cease once that phase of the projects were completed. Further, the majority of the work associated with construction of the proposed project is substantially different in nature from the paving and building efforts associated with the other projects, so there would likely be little overlap in workforce needs. Similarly, employment increases that may result from PV manufacturing would not likely contribute to a cumulative effect when combined with those associated with the other projects. This is due in part to the temporary nature of the PV manufacturing effort and the different skill set required for a manufacturing workforce.

Some cumulative effects could result from the combination of the proposed project and the two future solar projects RSP is considering. Such effects would be largely dependent upon the timing of the projects. In the event that the projects were developed sequentially, a greater number of jobs could be retained; if project schedules result in overlapping production demand, a greater number of temporary jobs could be created and some increase in job retention might also result. Because the project schedules have not yet been developed, cumulative effects cannot be readily assessed at present; however, some overall increase in temporary and/or permanent employment would likely result.

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Anderson
environmental & engineering

July 8, 2010

Mr. Javier Marqués
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue NW #809
Washington, DC 20004

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Mr. Marqués :

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly Improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

This letter presents your agency with an early opportunity to comment on any issues or concerns related to the effects that the proposed development may have on the study area. Exhibit A presents the study area to be used for the EA. Please provide us with any comments on potential impacts and concerns that should be addressed in the EA. In addition, if your agency is a resource agency responsible for documentation and/or protection of any natural resources, we ask that you provide us with relevant information regarding the type of resource, location, importance, etc. as it relates to this project.

We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer K. Anderson

Jennifer Anderson
President

Attachments: Study Area

Anderson
environmental engineering

July 8, 2010

City of Rockford
Community Development Department
425 East State Street
Rockford, IL 61104

Re: **Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois**

To Whom It May Concern:

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Sincerely,

Jennifer R. Anderson

Jennifer Anderson
President

Attachments: Study Area

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Anderson
environmental & engineering

July 8, 2010

Ms. Janet M. Odeshoo
Federal Emergency Management Agency, Region 5
175 West Jackson Boulevard, 4th Floor
Chicago, IL 60604

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Ms. Odeshoo:

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Sincerely,

Jennifer Anderson
President

Attachments: Study Area

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July 8, 2010

Mr. Thomas Jennings
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State Fairgrounds, P.O. Box 19281
Springfield, IL 62794-9281

Re: **Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois**

Dear Mr. Jennings:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

This letter presents your agency with an early opportunity to comment on any issues or concerns related to the effects that the proposed development may have on the study area. Exhibit A presents the study area to be used for the EA. Please provide us with any comments on potential impacts and concerns that should be addressed in the EA. In addition, if your agency is a resource agency responsible for documentation and/or protection of any natural resources, we ask that you provide us with relevant information regarding the type of resource, location, importance, etc. as it relates to this project.

We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer K. Anderson

Jennifer Anderson
President

Attachments: Study Area

Anderson
environmental&engineering

Record of Communication

Date: 7/15/2010

AEE Representative: Jennifer Anderson

Regarding: Rockford Solar

Contact Person: Carrie Sauko

Company: IL Dept. of Ag - Bureau of Land + Water Resources

Phone: 217/785-4458

How Contact Initiated: Phone ☒

Summary:

Ms. Sauko indicated the project area is on property owned by the airport, therefore they will have no comments.

Recommended contacting Terry Schaddel at Dept. of Aeronautics

Illinois Department of Agriculture

Pat Quinn, Governor
Thomas E. Jennings, Director

Bureau of Land and Water Resources

State Fairgrounds • P.O. Box 19281 • Springfield, IL 62794-9281 • 217/782-6297 • TDD 217/524-6858 • Fax 217/557-0993

September 1, 2010

Ms. Jennifer Anderson
Anderson Environmental Engineering Company
124 N. Water Street, Suite 206
Rockford, Illinois 61107

Re: Proposed Solar Field on Chicago/Rockford International Airport
Rockford, Illinois
USDOT – Tiger II Discretionary Grant Program Funds

Dear Ms. Anderson:

The Illinois Department of Agriculture (IDOA) has examined the above-referenced project for its potential impact to agricultural land in order to determine its compliance with the Illinois Farmland Preservation Act (505 ILCS 75/1 et seq.). Our analysis also relates to the federal Farmland Protection Policy Act (7 USC 4201 et seq.) which specifies that federal actions affecting farmland conversion shall be consistent with state and local programs to protect farmland.

The project involves the construction of 20 MW solar power panels on the east side of the south approach to the North-South runway. The solar field will provide renewable energy to power residential, commercial and industrial customers in the Rockford area within the footprint of airport-owned property.

The panels and inverters will cover ±65 acres, which includes the space between the panels and the access road. All panels will be positioned east of the runway lights at a height of 16 feet above the ground. In addition, panels will not be located under the approach to the runway, nor will any be in the runway protection zone.

Because the project will be constructed on airport property and the site is zoned and planned for nonagricultural use, the IDOA has determined the project complies with the Illinois Farmland Preservation Act.

Sincerely,

Steven D. Chard

Steven D. Chard, Acting Chief
Bureau of Land and Water Resources

SDC:JL

cc: Terrence L. Schaddel, IDOT Division of Aeronautics
Dennis Anthony, Winnebago County SWCD
Agency Project File

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

Illinois Department of Conservation
Transportation Review Program
524 South Second Street
Springfield, IL 62701-1781

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

To Whom It May Concern:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

This letter presents your agency with an early opportunity to comment on any issues or concerns related to the effects that the proposed development may have on the study area. Exhibit A presents the study area to be used for the EA. Please provide us with any comments on potential impacts and concerns that should be addressed in the EA. In addition, if your agency is a resource agency responsible for documentation and/or protection of any natural resources, we ask that you provide us with relevant information regarding the type of resource, location, importance, etc. as it relates to this project.

We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer Anderson
President

Attachments: Study Area

Anderson
environmental engineering

July 8, 2010

Illinois Department of Conservation
Endangered Species Project Manager
524 South Second Street
Springfield, IL 62701

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

To Whom It May Concern:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer R. Anderson

Jennifer Anderson
President

Attachments: Study Area

Illinois Department of
Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

Pat Quinn, Governor
Marc Miller, Director

March 09, 2010

Alyson Grady
Illinois Department of Commerce and Economic Opportunity
620 East Adams
Springfield, IL 62701

Re: Rockford Solar Partners ARRA REPP
Project Number(s): 1006012
County: Winnebago

Dear Applicant:

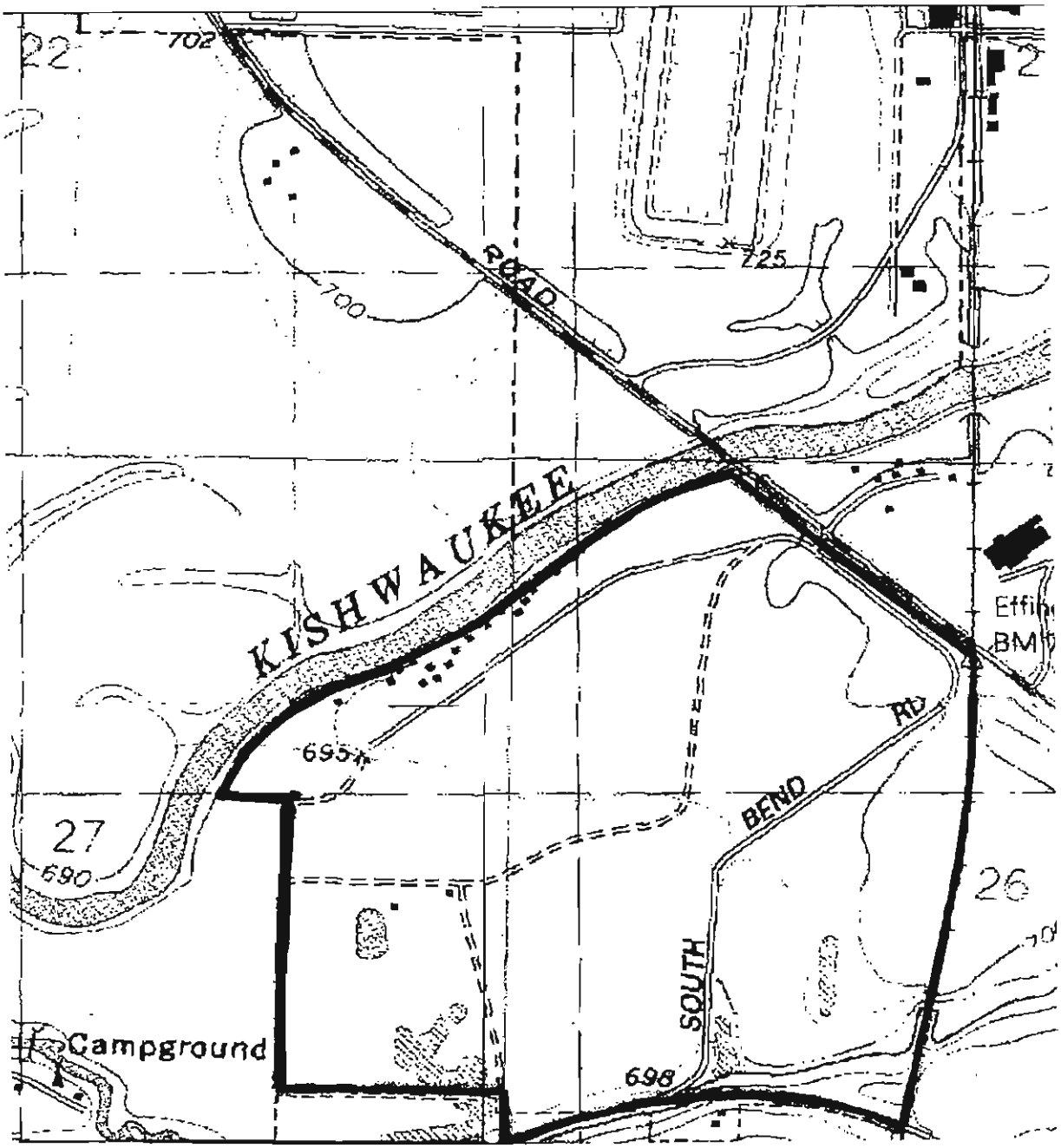
This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 and 1090 is terminated.

Consultation for Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Consultation for Part 1090 (Interagency Wetland Policy Act) is valid for three years.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database and the Illinois Wetlands Inventory at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Michael Branham
Division of Ecosystems and Environment
217-785-5500


22
702
ROAD
700
725
KISHWAUKEE
695
27
690
BEND
RD
SOUTH
26
Campground
698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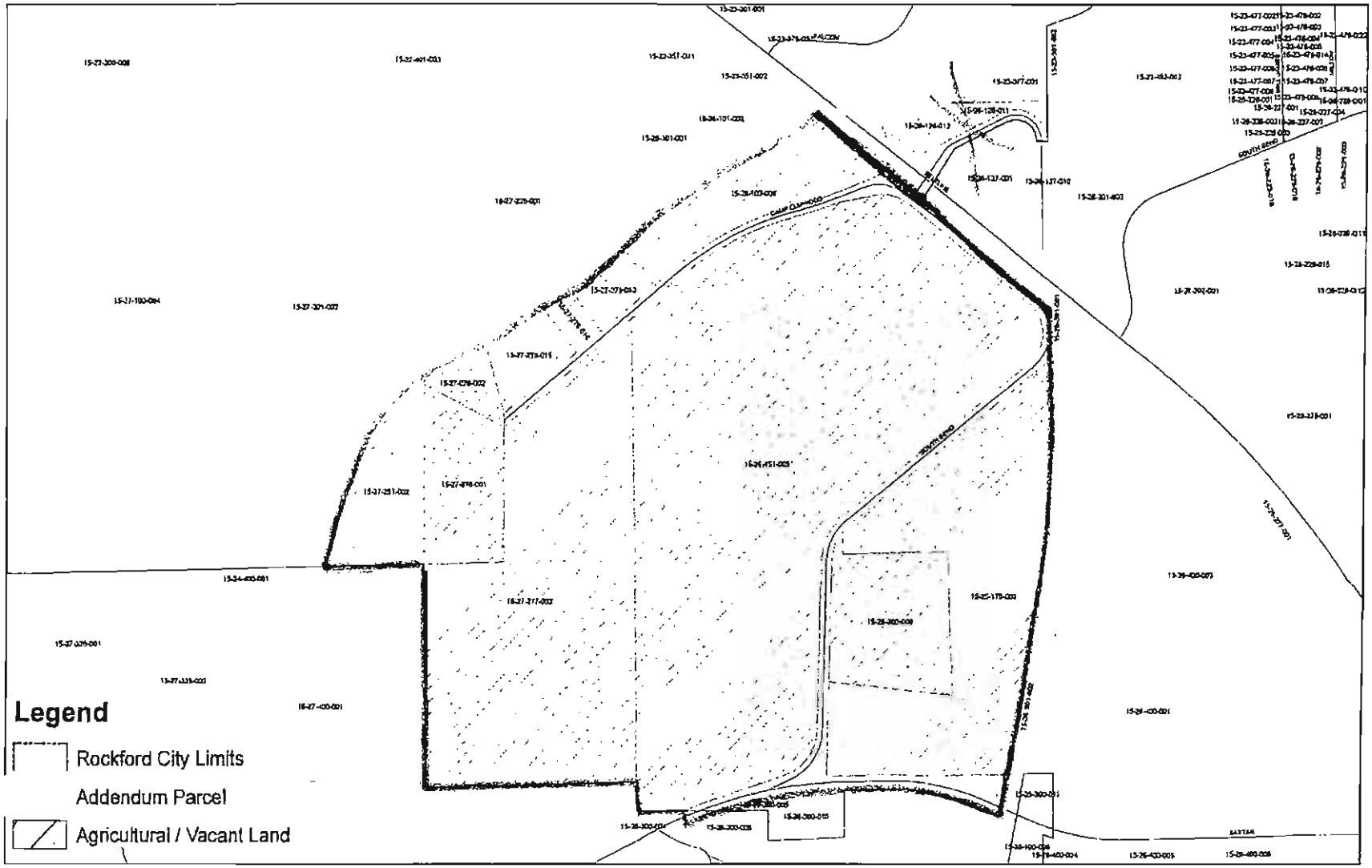
Redevelopment Project Area #1
Addendum Parcel
Current Land Use



EcoCAT
Ecological Compliance Assessment Tool

Applicant:	Illinois Department of Commerce and Economic Opportunity	*IDNR Project #:*	1006012
Contact:	Alyson Grady	Date:	02/08/2010
Address:	620 East Adams Springfield, IL 62701		

Project: Rockford Solar Partners ARRA REPP
Address: 5985 Logistics Parkway, Rockford

Description: The project will construct a 20 MW solar farm on approximately 100 acres of land.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)
The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

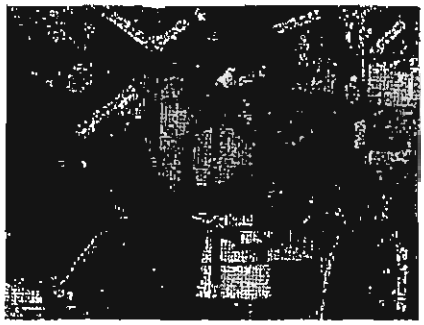
Bell Bowl Prairie INAI Site
Kishwaukee River INAI Site
Upland Sandpiper *(Bartramia longicauda)*

Wetland Review (Part 1090)
The National Wetlands Inventory shows wetlands within 250 feet of the project location.

An IDNR staff member will evaluate this information and contact you within 30 days to request additional information or to terminate consultation if adverse effects are unlikely.

Location
The applicant is responsible for the accuracy of the location submitted for the project.

County: Winnebago
Township, Range, Section:
43N, 1E, 26



IL Department of Natural Resources Contact
Michael Branham
217-785-5500
Division of Ecosystems & Environment

Local or State Government Jurisdiction
IL Department of Commerce and Economic Opportunity
Alyson Grady
620 East Adams
Springfield, Illinois 62701

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law. Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

andersonenveng.com | 815.962.9000 124 N. Water St., Suite 206 | Rockford, IL 61107 | fax 815.962.7978

Anderson
environmental&engineering

July 8, 2010

Ms. Susan Shea
Illinois DOT
One Langhorn Bond Drive, Capital Airport
Springfield, IL 62707-8415

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Ms. Shea:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer R. Anderson

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000 124 N. Water St., Suite 206 | Rockford, IL 61107 | fax 815.962.7978

Anderson
environmental engineering

July 8, 2010

Mr. George F. Ryan
Illinois Department of Transportation
819 Depot Avenue
Dixon, IL 61021

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Mr. Ryan:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000 124 N. Water St., Suite 206 | Rockford, IL 61107 | fax 815.962.7978

Anderson
environmental & engineering

July 8, 2010

Intergovernmental Liaison
Illinois Environmental Protection Agency
P.O. Box 19276
Springfield, IL 62794-9276

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Intergovernmental Liaison:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer Anderson
President

Attachments: Study Area

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

July 13, 2010

Ms. Jennifer Anderson
President
Anderson Environmental & Engineering
124 N. Water St., Ste 206
Rockford, IL 61107

Dear Ms. Anderson:

We have had an opportunity to review the proposed project for the solar field on Chicago/Rockford International Airport property.

The Agency has no objections to the project as described in your letter received in our office on July 12, 2010. If more than one acre is disturbed during construction, a construction site activity stormwater NPDES permit will be required from the Division of Water Pollution Control. You may contact Al Keller, 217-782-0610, with questions on NPDES permits.

Solid and hazardous waste must be properly disposed of or recycled.

Normal response time is between 2-4 weeks for engineers to review and comment on your proposed project . If you have need for an Environmental Review in the future, please submit your information to:
Illinois Environmental Protection Agency, Deputy Director's Office/MC #1,
PO Box 19276, Springfield, Illinois 62794-9276, **ATTN: DiAnne Schuerman**

Sincerely,

Lisa Bonnett

Lisa Bonnett
Acting Deputy Director

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

Ms. Anne Haaker
Illinois Historic Preservation Agency
1 Old State Capital Plaza
Springfield, IL 62701

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Ms. Haaker:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

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Sincerely,

Jennifer K. Anderson

Jennifer Anderson
President

Attachments: Study Area

Illinois Historic Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Winnebago County PLEASE REFER TO: IHPA LOG #043071210
Rockford
Chicago/Rockford International Airport, South Bend/Baxter Roads

DOE
Solar Field/Rockford Solar Environmental Assessment

September 27, 2010

Jennifer Anderson
Anderson Environmental & Engineering Company
124 N. Water St., Suite 206
Rockford, IL 61107

Dear Ms. Anderson:

Acres: 200 Sites: 2 Archaeological Contractor: ARI/Keene and Parish

Thank you for submitting the results of the archaeological reconnaissance. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the archaeological Phase I reconnaissance report performed for the project referenced above. The Phase I survey and assessment of the archaeological resources appear to be adequate. Accordingly, we have determined, based upon this report, that no significant historic, architectural, and archaeological resources are located in the project area.

Please submit a copy of this letter with your application to the state or federal agency from which you obtain any permit, license, grant, or other assistance. Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Sincerely,

Anne E. Haaker

Anne E. Haaker
Deputy State Historic
Preservation Officer
AEH:DJH

cc: David Keene, Archaeological Research, Incorporated

NEW GENERATION POWER
39 SOUTH LASALLE STREET
SUITE 600
CHICAGO, ILLINOIS 60603

March 20, 2010

Anne E. Haaker
Deputy State Historic Preservation Officer
Preservation Services Division
Illinois Historic Preservation Agency
1 Old State Capitol Plaza
Springfield, Illinois 62701-1507

RE:**Documentation Required for IHPA Review**

We are requesting the comments of the State Historic Preservation Officer concerning possible project effects on cultural resources (both structural and archaeological) for purposes of the National Historic Preservation Act or the Illinois State Agency Historic Resources Protection Act for the Rockford Solar Partners solar power plant located in Rockford, Illinois.

The names of all funding, licensing or permitting agencies are DOE, DNR, IEPA, City of Rockford.

Complete description of all elements of the proposed undertaking is as follows:

Rockford Solar Partners LLC ("Rockford Solar") is pleased and excited to introduce the Rockford Solar Project ("The Project") in Rockford IL. Rockford Solar has designed and will construct and operate a solar power generating facility in the City of Rockford. The Project's proposed location and size renders it one of the largest solar generating facilities in the country. The Project design allows for the development of approximately 40 MW of solar power capacity. The initial development will consist of 103 acres, which will generate up to 20 MW of environmentally conscious energy.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The

Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

The Project consists of two parcels of land. The 1st parcel consists of 103 acres and the 2nd parcel consists of additional 102 acres. The initial development of the Project will consist of the 1st parcel located on the west of the 2nd parcel. Preliminary analysis of the property from plat surveys' and site observation renders the property suitable for the development of a solar energy facility. The site is generally flat farmland, which is designated for agriculture use. The site, although mostly flat, has gentle rolling terrain (1' –2' swales). Furthermore, the land consists of a black loamy top soil. Preliminary soil reports indicate the sub surface soils as a mix of top soils, sand and gravel. This would require some excavation and grading. For instance, leveling of the ground will be required and drainage to south west. The site also contains timber on the south and west parameters of the property. . There is also an abandoned road traverse on the site, this road will need to be removed. Furthermore, weather patterns in the area indicate that the site gets sufficient rain and snowfall and there appears to be no standing water on the property. The 1st parcel is located on a floodplain which we have a conditional approval from the City of Rockford, we have also submitted for the Department of Natural Resources (DNR) approval for the 2nd parcel.

The site is leveled at an elevation of 698 ft. The maximum required by the State for 100yr flood height is 700 ft. Hence, a State ordinance requires all structures on a flood plain to be a minimum of 1 ft above maximum flood stage. As the ordinance is a minimum requirement, the Rockford Project will place all panels and structures above at least 4ft above grade to avoid any flood and soil related issues.

The Rockford Solar Project is committed to working with all state and local government officials to ensure that the project is developed in coordination with all of their requirements. There are several permits and licenses required to move this Project to the next phase. Local permits are required for tree removal. State and local permits are required for water mitigation. Local permits are required for building and electrical. Permits are required for property fencing and gate installation as well as signage on the property (i.e. electrical hazard signs). Rockford Solar has conducted extensive due diligence to ensure that the Project design conforms to the state and local ordinances and adheres to all of the requirements of all state and local government requirements. As the project enters the next stage, we will remain acutely aware of all state and local requirements and modify our design plan accordingly

A more detailed description of the site indicates that the two irregular shaped parcels numbered 1st parcel and 2nd parcel each measuring over 100 acres. The two parcels are split in the middle by the Rockford Airport Authority flight path which is considered the 3rd parcel. The Rockford Project will consist of the 1st and 2nd parcel not the 3rd parcel. The parcels are bordered on the north by Beltline Road, on the east by the Illinois Railway lines, on the northwest by the Kishwaukee River and on the

south by Baxter Road. The total area is over 300 acres including the flight path located in the middle of parcel 1 and 2.

Legal Description:

Parcel #1, 2, 3

1. West Parcel: 15-26-151-005	Sec: 26 Twp.: 43 Rge.: 1
2. East Outer Parcel: 15-26-176-003	Sec: 26 Twp.: 43 Rge.: 1
3. East Inner Parcel: 15-26-300-009	Sec: 26 Twp.: 43 Rge.: 1

The site is currently owned by the Rockford Airport Authority, they have agreed to lease the land to the City of Rockford, who in turn will sublease the parcels to **Wanxiang Corporation**, which will then sublease the land to The Rockford Solar Partners; for a lease term of 30 years, with the option to renew for an additional 30 years.

The project is expected to break ground the 3rd quarter of 2010. The project will take approximately 1 year to construct the first 100 acres on west side. It will take an additional year to construct the 2nd parcel on the east side.

Renewable Energy System:

The Project lends itself to developing a solar power facility that would generate approximately 1 MW power for about 4-5 acres of land. Solar power systems are very low in maintenance and perform clean, silent and safely without moving parts, pollution, or radiation. Photovoltaics Solar Panels (PV) have a long proven track record of being a highly durable technology, powering everything from calculators to the Mars Rovers; typically supplying 40 years or more of dependable electricity. Solar power systems never need refueling and are beneficial to on-site worker's environmental conditions.

The Project's conceptual design proposal consists of the use of locally manufactured Wanxiang Solar Modules. Wanxiang Solar Modules are made from crystalline-silicon cells, the mondules encapsulated and protected by and anodized aluminum alloy and low-iron tempered glass. The Wanxiang Solar Modules are highly climate resistant and anti-aging. The Project is designed for 5940 Wanxiang WXS185W mono silicon modules per Mega Watt. The Project will use 118,800 Wanxiang WXS185W mono silicon modules per 20 MW. Each Wanxiang solar panel produces approximately 185 Watts DC. The 20 MW solar facility using 118,800 modules will produce 21,978,000 watts of DC power. The DC power will be circuited through Inverters and will have peak production of 20,0000 kwatts of AC power. A 20 MW facility operating an average of 5 hrs per day 365 days a year will produce an average of 37,000 kWh of energy per year.

The Project's 20 MW Photovoltiac Solar Modules will each be mounted on aluminum racks with 2 legs. There will be 297 such racks installed in rows on each 20MW field. The PV racking system will have to be placed on an elevated steel or aluminum superstructure with concrete frost foundations, to keep the system out of spring runoff and flood waters. Once the modules are mounted each string will be wired with USE type MC-IV Cable (not in conduit) to a NEMA 3R fusible combiner box. Each combined circuit will be installed in conduit and run to a transition box in one of the area inverter houses where the circuits will be re-combined into array circuits and connected to the inverter.

Each inverter house will include several sub out conduits and cables to the adjacent

(Within 50') utility owned transformer / substation / electrical switchgear. The 500kW Inverters will be placed in "inverter houses" which are 12' tall 20' wide and 30' long. Each Inverter house will contain 8-500kW inverters or 4-1000kW inverters pending design decisions. The 5 bunker style inverter houses are to be constructed of concrete tip up panels with concrete floors and roofs and will be placed strategically throughout the array field. Each inverter house will include several stub out conduits to the adjacent (within 50') utility owned transformer / substation / electrical switchgear. The PPA and Interconnect agreements will determine the routing of the utility owned conduits cables and substations. The project will also include a complete Internet based inverter monitoring system and several weather stations for site data collection.

There are no other relevant permit, project or previous IHPA log numbers. Maps and project plans are provided at the end of this correspondence. NO Existing Structures are in the project.

The existing site condition is a plowed agricultural field . The is no documentation of any prior non-agricultural disturbance at project site.

Please review and comment and address correspondence to Michael Pontarelli at 455 Auburn Woods Court, Palatine, Illinois 60067. Phone# 773-370-4026. Fax # 312-284-6400. Email: paceamerica@aol.com.

Thank You,

NEW GENERATION POWER, INC.

ROCKFORD SOLAR PARTNERS, LLC.

Michael R. Pontarelli

Illinois Historic
Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Winnebago County PLEASE REFER TO: IHPA LOG #043071210
Rockford
Chicago/Rockford International Airport, South Bend/Baxter Roads
Solar Field/Rockford Solar Environmental Assessment

July 15, 2010

Ms. Jennifer Anderson
Anderson Environmental & Engineering Company
President
124 North Water Street, Suite 206
Rockford, Illinois 61107

Dear Madam:

Thank you for requesting comments from our office concerning the possible effects of the project referenced above on cultural resources. Our comments are required by Section 106 of the National Historic Preservation Act of 1966 (16 USC 470), as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

The project area has not been surveyed and may contain prehistoric/historic archaeological resources. Accordingly, a Phase I archaeological reconnaissance survey to locate, identify, and record all archaeological resources within the project area will be required. This decision is based upon our understanding that there has not been any large scale disturbance of the ground surface (excluding agricultural activities) such as major construction activity within the project area which would have destroyed existing cultural resources prior to your project. If the area has been heavily disturbed prior to your project, please contact our office with the appropriate written and/or photographic evidence.

The area(s) that need(s) to be surveyed include(s) all area(s) that will be developed as a result of the issuance of the federal agency permit(s) or the granting of the federal grants, funds, or loan guarantees that have prompted this review.

Enclosed you will find an attachment briefly describing Phase I surveys and a list of archaeological contracting services. THE IHPA LOG NUMBER OR A COPY OF THIS LETTER SHOULD BE PROVIDED TO THE SELECTED PROFESSIONAL ARCHAEOLOGICAL CONTRACTOR TO ENSURE THAT THE SURVEY RESULTS ARE CONNECTED TO YOUR PROJECT PAPERWORK.

If you have further questions, please contact David J. Halpin, Staff Archaeologist at 217/785-4998.

Sincerely,

Anne E. Haaker

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH

Enclosure

Illinois Historic
Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

PROTECTING ILLINOIS' CULTURAL RESOURCES

An Introduction to Archaeological Surveys

Prepared by
ILLINOIS STATE HISTORIC PRESERVATION OFFICE

When you read the accompanying letter, you were notified that your Federal or State permitted, funded, or licensed project will require an archaeological survey. We also review projects that use public land. The purpose of this survey will be to determine if prehistoric or historic resources are present within the project area. If you are the average applicant you have had little or no experience with such surveys – this short introduction is designed to help you fulfill the Federal/State requirements and complete the process.

WHY PROTECT HISTORIC RESOURCES? Historic preservation legislation grew out of the public concern for the rapid loss of our prehistoric and historic heritage in the wake of increasingly large-scale Federal/State and private development. The legislation is an attempt to protect our heritage while at the same time allowing economic development to go forward.

WHAT IS THE LEGAL BASIS? The basis for all subsequent historic preservation legislation lies within the national Historic Preservation Act of 1966 (NHPA). Section 106 of NHPA requires all Federal Agencies "undertakings" to "take into account" their effect on historic properties. As of January 1, 1990, the State Agency Historic Resources Preservation Act (Public Act 86-707) requires the same for all private or public undertakings involving state agencies. An "undertaking" is defined to cover a wide range of Federal or State permitting, funding, and licensing activities. It is the responsibility of Federal/State Agencies to ensure the protection of historic resources and the State Historic Preservation Office (SHPO) regulates this effort. In Illinois the SHPO is part of the Illinois Historic Preservation Agency (IHPA).

WHAT IS AN ARCHAEOLOGICAL SURVEY? An archaeological survey includes both (1) an examination of the written records, such as county plat books, published and unpublished archaeological reports, state site files, and (2) a field investigation of the project area to determine if prehistoric or historic resources are present. This process of resource identification is called a Phase I survey.

WHAT DOES A PHASE I SURVEY REQUIRE? Archaeological evidence is normally buried beneath the surface of the ground. To determine if an archaeological site is present it is necessary to get below this surface. The most efficient way is by plowing. If the project area is or can be plowed then the artifactual evidence will be brought to the surface and systematic pedestrian surveys (walkovers) will determine if a site is present. These walkovers are best done when the vegetation is low in the fall or spring. If the project area is covered with vegetation then small shovel probes (1' sq.) are excavated on a systematic grid pattern (usually 50' intervals) to sample the subsurface deposits. Where deeply buried sites may be present, such as in floodplains, deep coring or machine trenching may be required.

WHO DOES ARCHAEOLOGICAL SURVEYS? Professional archaeologists who meet the Federal standards set forth in the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9) may conduct Federal surveys, while those meeting the State standards set forth in the Archaeological and Paleontological Resources Protection Act (20 ILCS 3435) may conduct surveys on public land in the State (see the other side of this sheet for information on obtaining the services of a contract archaeologist). The applicant is responsible for obtaining and paying for such services.

AFTER THE SURVEY – WHAT NEXT? When the field investigations are completed the archaeologist will submit a report of their findings and recommendations to the applicant. **IT IS THE RESPONSIBILITY OF THE APPLICANT TO FORWARD TWO (2) PAPER COPIES AND ONE (1) CD WITH THE REPORT IN PDF FORMAT TO THE SHPO FOR EVALUATION AND FINDINGS.** If no sites were found or the sites found are not eligible for the National Register the project may proceed. Occasionally, a significant archaeological site may be encountered. In such a case the SHPO and the Federal or State Agency will work with the applicant to protect both the cultural resources and to facilitate the completion of your project.

NEED FURTHER ASSISTANCE? The IHPA is here to assist you and the Federal/State agencies in complying with the mandates of the historic preservation legislation. If you have questions or need assistance with archaeological resources protection or Federal/State compliance, please contact the Archaeology Section, Preservation Services Division, Illinois Historic Preservation Agency, One Old State Capitol Plaza, Springfield, Illinois 62701 (217-782-4836).

OVER

Illinois Historic
Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Illinois Historic Preservation Agency – Archaeology Section
Information for Developers and Agencies about general procedures for Phase 2 archaeology projects

Anyone notified of an archaeological site subject to Phase 2 testing in their project area, has several options:

1 Preserve the site by planning your project to avoid or greenspace the site, a deed covenant maybe necessary depending on the land ownership and the law the project is being reviewed under.
2. Hire an archaeologieal firm to conduct a Phase 2 projeet on the site.
3. Choose a different location for the project (generally means starting review process over from scratch, but there will be rare occasions when this is actually the fastest and cheapest option). This is something you may wish to consider if there are burials in the project area, or an extremely large or dense site in the project area.

Phase 2 archaeological projects consist of fieldwork, analysis, and report by the archaeological firm, and then review of the report by the IHPA and sometimes also by the funding or permitting agency, with additional work required part of time depending on the significance of the site(s). However, if a project has no signifieant sites after a Phase 2 project has been completed and reviewed, then the arehaeology is eompleted as soon as IHPA accepts the report. If a project area has more than 1 site, each one is reviewed independently, in other words, one eould be determined not significant and while another one is determined significant or potentially signifieant.

Phase 2 field work generally consists of obtaining good artifact type and loeation data from the site surface by methods sueh as grid collections, piece plotting, etc., this is followed by a small scale excavation. In some cases the fieldwork (commonly called test units) can be done with assistance of machines like backhoes or oceasionally even large equipment like belly scrapers (plowed or partially disturbed sites), but sometimes it is necessary to dig by hand (mounds, unplowed sites, or inaccessible locations). The test units are excavated to the base of the plowzone or topsoil, and then the base of the unit is cheeked for presence of archaeological features (foundations, pits, hearths, burials, middens, ete.) If features are present, a small number (generally not more than 5-10) of them are excavated to provide information about the site's age, function, integrity, etc. Samples of soil from each feature for botanical and zoological analysis are usually taken. Also on floodplains of large rivers, several additional "deep" trenches are usually necessary to check for buried sites. The amount of time required for fieldwork is highly dependent on the size of a site, on whether machines can be used, and on the density of features, as well as the weather.

Analysis at Phase 2 consists of identifying and inventorying all of the artifacts recovered and preparing data recorded in the field for a report. The length of time needed is again highly variable based on the faetors listed above. The report describes the field and lab information, provides a preliminary interpretation of the site, and makes recommendations concerning the significance of the site.

The archaeology staff at thc State Historic Preservation Office (IHPA in Illinois) and sometimes the archaeologists at the lead funding or permitting ageney review the report. Based on the report and their knowledge of regional archaeological, they determine (following criteria outlined in the appropriate law and regulations for each project) if the work done was acceptable, and whether the site(s) are not significant and need no further investigation or are significant. If a site is significant (meets the eligibility criteria for the National Register of Historic Places), the choices are mitigation (generally by complete excavation) or preservation.

Joseph S. Phillippe, Chief Archaeologist (1-1-2005)

ILLINOIS-BASED CONSULTING SERVICES WITH PROFESSIONAL ARCHAEOLOGISTS (by zip code order, 3/22/2010 update)
In order to assist agencies, engineering firms, and others who require professional archaeological services the Illinois Historic Preservation Agency (IHPA) has listed below Illinois-based firms with professional archaeologists currently performing contract archaeological compliance work. Based on documentation supplied by them these individuals appear to meet current Federal qualifications. This list is provided for your assistance, however, you may use any archaeologist who meets the minimum qualifications as set forth in Secretary of the Interior's Professional Qualifications Standards (36 CFR 61). Federal and state regulations require a completed graduate degree with an emphasis in archaeology and 16 months of professional archaeological experience (**BOLD names** below). If you have any questions please contact IHPA at 217-785-4512. THE INCLUSION OF INDIVIDUALS OR ORGANIZATIONS ON THIS LIST DOES NOT CONSTITUTE ANY RECOMMENDATION OR ENDORSEMENT OF THEIR PROFESSIONAL EXPERTISE OR PERFORMANCE RECORD BY THE IHPA.

CHICAGO METRO REGION

Dr. Kevin P. McGowan
Public Service Archaeology Prgm
Chicagoland Office (UI-UC)
Post Office Box 7085
Grayslake, Illinois 60030
847-548-7961 (fax same)

Dr. Leslie B. Kirchler, RPA
Environmental Resources Management
1701 Golf Road, Suite 1-1000
Rolling Meadows, Illinois 60008-4242
847-258-8921 / 8901 (fax)
leslie.kirchler@erm.com
www.erm.com

Mr. Steve Parrish
Archaeological Research, Inc.
1005 Greta Avenue
Woodstock, Illinois 60098
815-334-8077 / 0530 (fax)
Arch-res.com

Dr. Mark W. Mehrer
Northern Illinois University
Contract Archaeology Program
Department of Anthropology
102 Stevens Building
DeKalb, Illinois 60115
815-753-7544 / 7027 (fax)
mmehrer@niu.edu

Dr. Thomas E. Berres
OurHeritage Archaeological Srvs, Inc.
983 Quail Run
DeKalb, Illinois 60115-6117
815-754-9611 / 758-5692 (fax)
bearus1@aol.com

Dr. Rochelle Lurie
Dr. M. Catherine Bird
Midwestern Archaeological
Research Services, Inc.
505 North State Street
Marengo, Illinois 60152
815-568-0680 / 0681 (fax)

CHICAGO METRO REGION
CON'T

Dr. Cynthia L. Balek
Archaeology & Geomorphology Services
2220 Mayfair Avenue
Westchester, Illinois 60154
708-531-1445 / 562-7314 (fax)
cbalek@msn.com

Mr. Jeff Schuh
Patrick Engineering, Inc.
4970 Varsity Drive
Lisle, Illinois 60532
630-795-7200 / 434-8400 (fax)

Ms. Lynn M. Gierek
ENSR International
27755 Diehl Road
Warrenville, Illinois 60555-3998
630-839-5332 / 836-1711 (fax)
lgierek@ensr.com

Dr. Thomas J. Loebel
CAGIS Archaeological Consulting Srvs.
University of Illinois at Chicago
Department of Anthropology
1007 West Harrison (m/c 027)
Chicago, Illinois 60607
312-413-8247 / 3573 (fax)
tloebel@uic.edu

Dr. David Keene
Archaeological Research, Inc.
4147 North Ravenswood Ave., Suite 301
Chicago, Illinois 60613-1830
773-975-1753 / 8286 (fax)
arch-res.com

Mr. Phil Millhouse
ITARP Northern Illinois Survey Division
6810 Forest Hills Road
Loves Park, Illinois 61111
815-282-0762 / 0754 (fax)

CENTRAL REGION

Ms. Karen A. Atwell
Farmland Archaeological Services
10475 N 2300 Avenue
Geneseo, Illinois 61254
309-507-1330
Karen@karenatwell.com

Mr. Keith L. Barr
Archaeological & Architectural Surveys
Old Inn Farm
Rural Route 1
Fairview, Illinois 61432
309-778-2536

Mr. Lawrence A. Conrad
Western Illinois University
Archaeology Lab
201 Tillman Hall
Macomb, Illinois 61455
309-298-1188

Dr. Michael D. Wiant
Dickson Mounds Museum
10956 North Dickson Mounds Road
Lewistown, Illinois 61542
309-547-3721

Dr. Charles L. Rohrbaugh
Archaeological Consultants
302 Kelly Drive
Normal, Illinois 61761
309-454-6590

Dr. Brian Adams
University of Illinois
Anthropology Department
Public Service Archaeology Program
109 Davenport Hall
607 South Matthews Avenue
Urbana, Illinois 61801
217-333-1636 / 217-244-1911 (fax)

Mr. Dale McElrath
University of Illinois Champaign-Urbana
UIUC-ITARP Statewide Office
23 East Stadium Drive
209 Nuclear Physics Lab (MC 571)
Champaign, Illinois 61820
217-333-0667 / 244-7458 (fax)
More Central Listings – Over

CENTRAL REGION CON'T

Mr. Mark C. Branstner
Great Lakes Research, Inc.
Post Office Box 2341
Champaign, Illinois 61825-2341
517-927-4556
mark.branstner@branstner.com

Dr. Fred A. Finney
Upper Midwest Archaeology
Post Office Box 106
St. Joseph, Illinois 61873-0106
217-469-0106 (voice/fax same)
cell 217-778-0348
FAFinney@aol.com

Center for American Archeology
(Kampsville Archeological Center)
Post Office Box 22
Kampsville, Illinois 62053
618-653-4316 / 4232 (fax)
gail@caa-archeology.org

Mr. David J. Nolan
ITARP Western Illinois Survey Division
604 East Vandalia
Jacksonville, Illinois 62650
217-243-9491 / 7991 (fax)
Macomb Lab
309-833-3097
Springfield Lab
217-522-4295 / 4395 (fax)

Dr. Terry Martin
Illinois State Museum Society
1011 East Ash Street
Springfield, Illinois 62703
217-785-0037 / 2857 (fax)

Mr. Floyd Mansberger
Fever River Research
Post Office Box 5234
Springfield, Illinois 62705
217-525-9002 / 6093 (fax)

Mr. Joseph Craig
Prairie Archaeology & Research
Environmental Compliance Consultants
Post Office Box 5603
Springfield, Illinois 62705-5603
217-544-4881 / 4988 (fax)
jcraig@prairiearchaeology.com
jcraig@eccinc.org

METRO EAST REGION

Mr. Don Booth
2610 Sidney Street
Alton, Illinois 62002
618-462-5152 / 618-465-9548 (fax)
dnbooth@charter.net

Dr. Steve Dasovich
SCI Engineering, Inc.
15 Executive Drive
Fairview Heights, Illinois 62208
636-949-8200 / 8269 (fax)

Dr. Joseph M. Galloy
Coordinator, American Bottom Field Sta
Illinois State Archaeological Survey
Institute Natural Resource Sustainability
University of IL at Urbana-Champaign
Wood River Laboratory
144C East Ferguson Avenue
Wood River, Illinois 62095
618-251-3922 / 3943 (fax)
galloy@illinois.edu

Dr. John Kelly
Central Mississippi Valley
Archaeological Research Institute
Post Office Box 413
Columbia, Illinois 62236
618-540-8109

Archaeological Research Center of
St. Louis, Inc.
140 North Main Street
Post Office Box 241
Hecker, Illinois 62248
314-426-2577 / 2599 (fax)
archcen@sbcglobal.net

SOUTHERN REGION

Mr. Steve Titus
American Resources Group, Ltd.
127 North Washington Street
Carbondale, Illinois 62901
618-529-2741 / 457-5070 (fax)

Dr. Brian M. Butler
Southern Illinois University
Center for Archaeological Investigations
Mail Code 4527
Carbondale, Illinois 62901
618-453-5031 / 8467 (fax)

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

Illinois State Clearinghouse
Office of the Governor
207 State House
Springfield, IL 62706

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

To Whom It May Concern:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

This letter presents your agency with an early opportunity to comment on any issues or concerns related to the effects that the proposed development may have on the study area. Exhibit A presents the study area to be used for the EA. Please provide us with any comments on potential impacts and concerns that should be addressed in the EA. In addition, if your agency is a resource agency responsible for documentation and/or protection of any natural resources, we ask that you provide us with relevant information regarding the type of resource, location, importance, etc. as it relates to this project.

We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer L. Anderson

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

Mr. Micheal Reibel
Ogle County Illinois/ Zoning Administrator
Oregon, IL 61016

Re: **Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois**

Dear Mr. Reibel:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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Sincerely,

Jennifer R. Anderson

Jennifer Anderson
President

Attachments: Study Area

Anderson
environmental engineering

July 8, 2010

Rock River Reclamation District
3501 Kishwaukee Street
Rockford, IL 61109

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

To Whom It May Concern:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer Anderson
President

Attachments: Study Area

Rock River Water Reclamation District
3501 Kishwaukee Street
P.O. Box 7480
Rockford, IL 61126-7480

Tel: 815.387.7660
Fax: 815.387.7665

July 22, 2010

Mrs. Jennifer Anderson
Anderson Environmental & Engineering
124 N. Water St, Suite 206
Rockford, IL 61107

RE: Rockford Solar Environmental Assessment, South Bend & Baxter Road

Dear Mrs. Anderson:

The Rock River Water Reclamation District acknowledges the request for a review of our utility location for the site of the Rockford Solar Field on the south side of the Chicago/Rockford International Airport. The District does not have any existing facilities that would be impacted by your development. A map of our existing sewers and manholes is enclosed for your use.

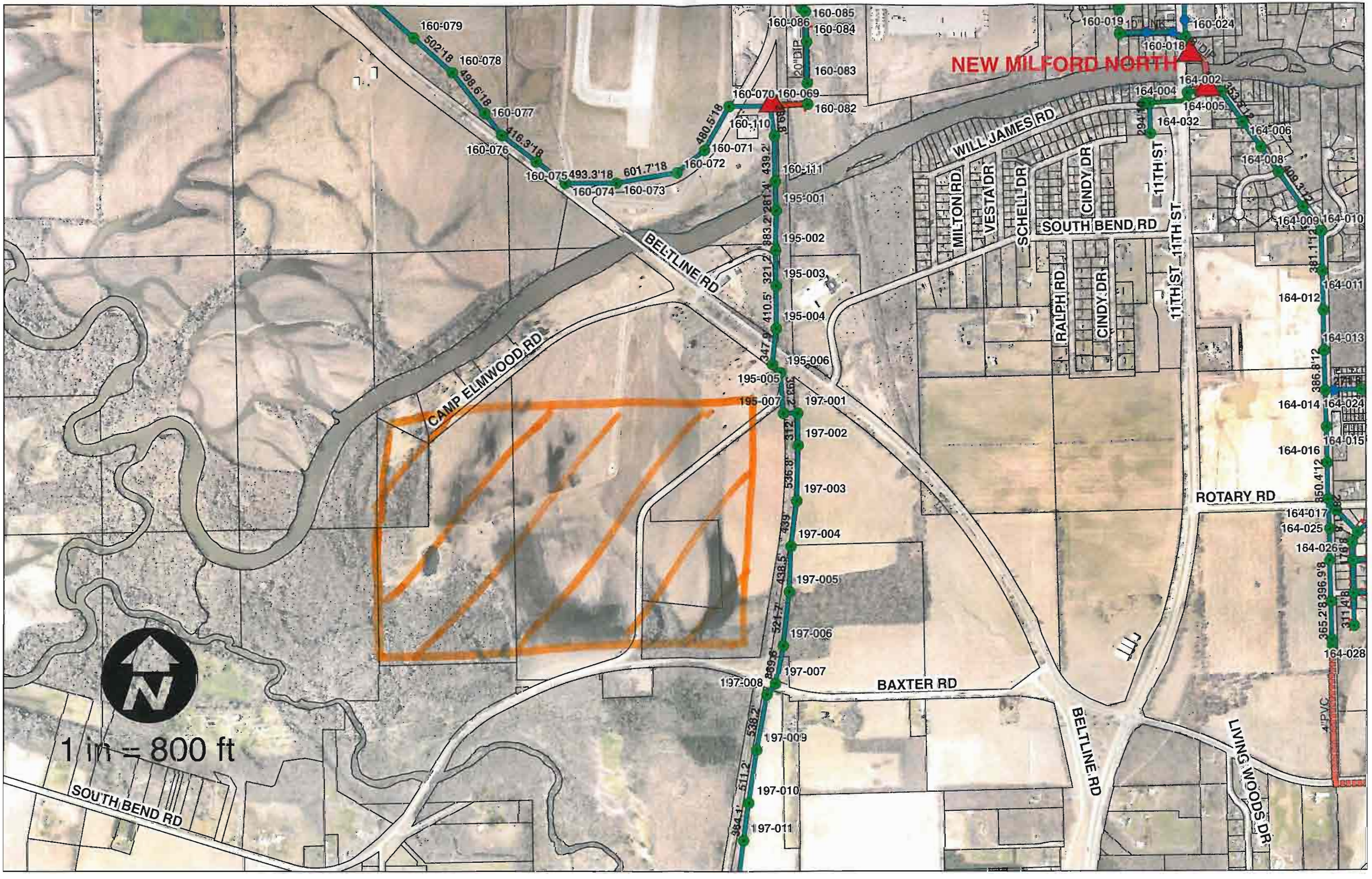
Should your proposed development require sanitary sewer service and connection to the District's collection system we would request that you complete a Sewer Inquiry Form which is available on our web site at rrwrd.dst.il.us.

Should you have any questions regarding these comments, please contact Mike Rieger at (815) 387-7684.

Sincerely,

Dana L. Carroll, P.E.
Engineering Manager

Enc: GIS excerpt
cc: M. Rieger, M. Weber, Jon Hollander (C.O.R.), File
mr\word\sav\2010\rockford solar.doc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195-004
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439'
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384.1'
312'
160-019
10" INK
160-024
160-018
8"DIP
164-002
353.8'12"
164-004
164-005
164-032
294'12"
164-006
164-008
409.3'12"
164-009
164-010
381.1'12"
164-011
164-012
164-013
386.8'12"
164-014
164-024
164-015
164-016
850.4'12"
164-017
164-025
164-026
365.2'8
396.9'8
311.4'8
164-028
4"PVC
WILL JAMES RD
MILTON RD
VESTA DR
SCHELL DR
CINDY DR
SOUTH BEND RD
11TH ST
RALPH RD
CINDY DR
BELTLINE RD
CAMP ELMWOOD RD
ROTARY RD
BAXTER RD
BELTLINE RD
LIVING WOODS DR
SOUTH BEND RD
N
1 in = 800 ft

Anderson
environmental engineering

July 8, 2010

Rockford Park District
1401 North 2nd
Rockford, IL 61107

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

To Whom It May Concern:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000 | 2th N. Water St., Suite 206 | Rockford, IL 61107 | fax 815.962.9776

Anderson
environmental&engineering

July 8, 2010

Mr. Gary R. Meden
Corps of Engineers/ Rock Island District
Clock Tower Building, P.O. Box 2004
Rock Island, IL 61204-2004

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Mr. Meden:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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Sincerely,

Jennifer L. Anderson

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000 124 N. Water St., Suite 206 | Rockford, IL 61107 | fax 815.962.7978

Anderson
environmental & engineering

July 8, 2010

Commanding Officer
USCG Marine Safety Office
215 W. 83rd Street, Suite D
Burr Ridge, IL 60521

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Commanding Officer :

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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Sincerely,

Jennifer L. Anderson

Jennifer Anderson
President

Attachments: Study Area

Anderson
environmental&engineering

Record of Communication

Date: 7/12/2010

AEE Representative: Jennifer Anderson

Regarding: Rockford Solar

Contact Person: Brendan Otjen

Company: US Coast Guard

Phone: 630/986-2150

How Contact Initiated: Phone ☒

Summary:

Brendon otjen received inquiry letter dated 7/5/2010. No navigable waterways are expected to be impacted by this project. Nearby Kishwaukee River would be only possible consideration, and it is not a navigable waterway. The U.S. Coast Guard offers no comments on this project

andersonenveng.com | 815.962.9000 124 N. Water St., Suite 206 | Rockford, IL 61107 | fax 815.962.7978

Anderson
environmental & engineering

July 8, 2010

Ms. Paige Buck
U.S. Department of Agriculture
2118 West Park Court
Champaign, IL 61821

Re: **Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois**

Dear Ms. Buck :

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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Sincerely,

Jennifer R. Anderson

Jennifer Anderson
President

Attachments: Study Area

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
4833 Owen Center Road
Rockford, IL 61101
(815) 965-2392 x3
Fax (815) 965-2447

www.il.nrcs.usda.gov

July 19, 2010

Jennifer Anderson
Anderson Environmental and Engineering
124 N. Water St.
Ste. 206
Rockford, IL 61107

Dear Ms. Anderson,

Thank you for the opportunity to review and make comment on the Rockford Solar Environmental Assessment at South Bend/Baxter Roads. Looking at the existing natural resources within the proposed project area there are a number of concerns that should be noted.

- A majority of the area is in the 100-year flood plain with approximately 64% of the site being listed as floodway. According to FEMA, a "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations.

- Frequent flooding, ponding, deposition of sediment and flood debris may be hazards that this project will need to address. It is not uncommon for fields adjacent to the Kishwaukee River and Kilbuck Creek during flood events to transport debris such as logs, tree limbs, branches, corn stalks, other organic debris, along with manmade materials such as tires and construction waste.

- 87 plus acres of the project site are considered hydric soil types. The Natural Resource Conservation Service (NRCS) defines a hydric soil as a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil horizon. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric. Some series, designated as hydric, have phases that are not hydric depending on water table, flooding, and ponding characteristics.

- Soil mapping units 3082A and 3776A are prime farmland and soil mapping unit 354A is listed as important farmland.

- All soil disturbances within the project area will need to have a sediment and erosion control plan developed and implemented in accordance with IEPA permitting and inspection regulations. Due to the sensitive location of the project area and the close proximity to high value waterways (Kishwaukee River) special measures will need to be taken.

- Soil and Water Features
    - 3082A Flooding frequency is frequent; duration is brief from April through June. High water table depth 0 to 2.0 feet is apparent from March through July.
    - 3776A Flooding frequency is common; duration is brief to long from April through July. High water table depth 0 to 1.0 feet is apparent from April through July.

- Upon our site inspection we observed that a Wetland Delineation had been completed for the project area. We would recommend no disturbance occur in those areas. The project area contains multiple wetland types that are critical to native plant and wildlife species. The Illinois Natural Heritage Data base shows the following protected resources may be in the vicinity of the project location:
    - Bell Bowl Prairie INAI Site
    - Kishwaukee River INAI Site
    - Upland Sandpiper (Endangered species)
    - Close proximity to Kilbuck Bluffs Forest Preserve
    - Local reports reference sightings of Bald Eagle and other unique bird species that utilize the habitat types on and adjacent to your project area.

- The Kishwaukee River Ecosystem Partnership (KREP) at http://krep.bios.niu.edu/index.htm maybe a good source for additional natural resources information regarding your project area.

In closing your project area poses many interesting challenges; floodway and floodplain management, wetlands, soil limitations, endangered species and potential limited access during frequent flooding. Our office in conjunction with the Winnebago County Soil and Water Conservation District has staff available to review site development plans and sediment and erosion control plans if you reach that phase of the project. We also have available for review historic photos and slides that you and the developer of the project may find beneficial. If you have any question please feel free to call me at 815-965-2392 x 3.

Sincerely,

Ed Johnston
District Conservationist
Ed.Johnston@il.usda.gov

andersonenveng.com | 815.962.9000 124 N. Water St., Suite 20o | Rockford, IL 61107 | fax 815.962.7970

Anderson
environmental engineering

July 8, 2010

Regional Director
U.S. Department of Interior
National Park Service, Midwest Regional Office
601 Riverfront Drive
Omaha, NE 68102-2571

Re: **Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois**

Dear Regional Director:

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer R. Anderson

Jennifer Anderson
President

Attachments: Study Area

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Rock Island Field Office
1511 47th Avenue
Moline, Illinois 61265
Phone: (309) 757-5800 Fax: (309) 757-5807

IN REPLY REFER TO.

FWS/RIFO

October 19, 2010

Mr. Daniel Godec
Civil & Environmental Consultants, Inc.
4274 Glendale Milford Road
Cincinnati, Ohio 45242

Dear Mr. Godec:

This is in response to your letter of July 30, 2010, revised August 20, 2010, requesting comments on the footprint of the proposed Rockford Solar Field Project County, Illinois. According to the information provided in the August 20, 2010 revision and our telephone conversation of September 14, 2010, the area that will be disturbed by the project consists of agricultural ground and old field adjacent to an abandoned farmstead, which includes a few scattered living trees that may be removed in conjunction with the project. The old field area with scattered trees is approximately 12 acres and contains tree species (with the exception of red elm) that typically are not associated with primary Indiana bat summer roosting habitat. A review of project documentation and aerial photography also indicates that a substantial tract of unfragmented forested habitat exists within one-half mile of the proposed project within the boundaries of the Kilbuck Bluffs County Forest Preserve.

Based on the information provided, it appears that the proposed tree removal and project siting will not appreciably change the character of the Indiana bat habitat within a one-half mile radius of the project area. Therefore. we concur with your determination that the proposed siting of the Rockford Solar Field, as presented, is not likely to adversely affect federally threatened or endangered species, provided that tree clearing is conducted outside of the maternity season for the Indiana bat, which occurs between April 1 and September 30 in Illinois. This precludes the need for further action on this portion of the project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should the project be modified or new information indicate endangered species may be affected, consultation should be initiated.

Please note that the above statement of concurrence applies to vegetation disturbance within the spatial footprint delineated in Figure 2 of the correspondence dated August 20, 2010. U.S. Fish and Wildlife Service review of potential impacts related to project construction, operation, and

maintenance can be conducted if the Department of Energy Environmental Assessment for the project is provided to this office.

This letter provides comments under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.); and the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq). If you have any questions regarding our comments or would like to arrange a meeting, please contact Amber Andress of my staff at (309) 757-5800, extension 222.

Sincerely,

Richard C. Nelson
Field Supervisor

S:\Office Users\Amber\Concurrence\FY2010\Rockford Solar Field, 9-14-2010.docx

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

U.S. Department of Interior
Office of Environmental Affairs
230 South Dearborn Street, Suite 3422
Chicago, IL 60604

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

To Whom It May Concern:

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We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

U.S. Department of Interior, Bureau of Mines
Intermountain Field Operations Center
Denver Federal Center
P.O. Box 25086, Building 20
Denver, CO 80225

Re: **Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois**

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Sincerely,

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000 | 120 N. Water St., Suite 205 | Rockford, IL 61107 | fax 815.962.7979

Anderson
environmental & engineering

July 8, 2010

Ms. Virginia Laszewski
USEPA - Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Ms. Laszewski :

Anderson Environmental & Engineering, Co. has been contracted by Rockford Solar to conduct an Environmental Assessment (EA) for the proposed solar field on Chicago/Rockford International Airport property.

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Sincerely,

Jennifer L. Anderson

Jennifer Anderson
President

Attachments: Study Area

Rockford Solar EA, Rockford, IL

Kamke.Sherry@epamail.epa.gov [Kamke.Sherry@epamail.epa.gov]

Sent: Wednesday, July 21, 2010 1:45 PM

To: Jennifer Anderson

Jennifer,

We received the coordination letter on the Rockford Solar EA. This is the first time that we have seen a proposal for solar facilities in close proximity to the end of a runway. We contacted FAA to share this letter with them. I am interested in the feedback that you get from them and resource agencies. We have no comments at this time. Please continue to send us information on the project as it develops.

Sherry A. Kamke
Environmental Scientist
NEPA Implementation (Mailcode: E-19J)
Office of Enforcement and Compliance Assurance
U.S. EPA Region 5
77 W. Jackson Blvd.
Chicago, Illinois 60604-3590
Phone: 312-353-5794
Fax: 312-408-2215

Anderson
environmental engineering

July 8, 2010

Winnebago County Forest Preserve District
5500 Northrock Drive
Rockford, IL 61101

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

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Sincerely,

Jennifer A. Anderson

Jennifer Anderson
President

Attachments: Study Area

WINNEBAGO COUNTY FOREST PRESERVE DISTRICT

5500 Northrock Drive
Rockford, IL 61103
•
815-877-6100
FAX-877-6124
•
wcfpd@wcfpd.org
www.wcfpd.org

July 14, 2010

Jennifer Anderson
Anderson Environmental & Engineering
124 N. Water St., Suite 206
Rockford, IL 61107

RE: Rockford solar assessment

Dear Jennifer:

Thank you for the opportunity to respond to the proposed development. We hope that it goes well and that it is a benefit for our community.

The plan provided does not show much detail so we will keep our comments general. The Forest Preserve District owns and manages the property west and south of this site (Kilbuck Bluffs Forest Preserve). The Kishwaukee River and Kilbuck Creek travel past our property. We, therefore, have the following comments.

1. That the water quality of Kilbuck Creek and Kishwaukee River will not be reduced as a result of development, either by erosion or chemical pollutants.
2. No additional run off be diverted onto Forest Preserve District property. The site is low and does hold water during wet periods. Last year excessive water was diverted to our property via the South Bend Road ditch because of nearby construction.
3. We ask that existing trees along the western property edge be preserved. The map showing the solar field area includes a forested section that appears as if it might be cleared.

We would welcome a discussion with those concerned with the solar field proposal to talk in detail about how the development may affect the adjacent forest preserve. We do have a desire to manage the floodplain forest portion of the site and did make such a request to the airport management in 2008. We are still interested in the possibility.

Thank you again for being included in the development plans.

Sincerely,

Tom Hartley
Director of Land & Development

cc: Thomas M. Kalousek, Executive Director

ew

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

Ms. Sue Mroz
Winnebago County Planning Department
400 West State Street
Rockford, IL 61101

Re: Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois

Dear Ms. Mroz

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Sincerely,

Jennifer Anderson
President

Attachments: Study Area

andersonenveng.com | 815.962.9000

Anderson
environmental engineering

July 8, 2010

Winnebago County Soil and Water Conservation
3820 Auburn Street
Rockford, IL 61103
Springfield, IL 62794-9276

Re: **Rockford Solar Environmental Assessment, South Bend/Baxter Roads, Rockford, Illinois**

To Whom It May Concern:

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The Project's goals and objectives are to efficiently produce and deliver affordable and renewable energy to power residential, commercial and industrial customers in the Rockford area and beyond. Rockford Solar's mission is to create a solar facility that will not only provide customers with clean and affordable energy but will reduce Illinois's dependence on fossil fuels and nuclear power. The Project will have significant positive impact on our environment. For instance, a 20MW solar facility will drastically reduce Carbon Dioxide Emissions (CO2), at a rate of approximately 37,000 tones annually. It will also reduce ultra fine particle emissions at a rate of approximately 37,000 lbs annually. Solar Energy will also significantly improve our fresh water conservation efforts, we can expect that approximately 32 million gallons will be saved annually. It is clear that renewable solar energy as proposed by Rockford Solar will have a profound positive impact on our environment.

This letter presents your agency with an early opportunity to comment on any issues or concerns related to the effects that the proposed development may have on the study area. Exhibit A presents the study area to be used for the EA. Please provide us with any comments on potential impacts and concerns that should be addressed in the EA. In addition, if your agency is a resource agency responsible for documentation and/or protection of any natural resources, we ask that you provide us with relevant information regarding the type of resource, location, importance, etc. as it relates to this project.

We request your comments be returned to Anderson Environmental & Engineering Co. by July 20, 2010. If you have any questions, please do not hesitate to contact me at your earliest convenience. Thank you for your assistance in this important planning effort.

Sincerely,

Jennifer Anderson
President

Attachments: Study Area

DOE/EA-1823D

Floodplain and Wetland Assessment for the Installation of a 20MW Solar Facility at Chicago Rockford International Airport, City of Rockford, Winnebago, Illinois

September 21, 2011

Prepared by
U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
1000 Independence Avenue, SW
Washington, D.C. 20585

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TABLE OF CONTENTS

FIGURES (EMBEDDED)

1.0 INTRODUCTION

This Floodplain and Wetland assessment has been prepared in accordance with 10 *Code of Federal Regulations* (*CFR*) *1022*, "Compliance with Floodplain/Wetlands Environmental Review Requirements" which were promulgated to implement the requirements of the U.S. Department of Energy's (DOE's) responsibilities under Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Wetlands Protection*. These regulations and Executive Orders encourage measures to preserve and enhance the natural and beneficial functions of floodplains and wetlands. It also requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and the occupancy and modification of floodplains. Direct and indirect support of floodplain development and the direct and indirect support of new construction in wetlands are to be avoided whenever there is a practicable alternative.

According to 10 CFR 1022, a floodplain is defined as the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a 1 percent or greater chance flood in any given year (the "100-year floodplain"). Pursuant to 10 CFR 1022, a wetland is defined as an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas.

As reflected on the *Rockford Solar Energy Project – Proposed Location of the Solar Farm* (Figure 1), this assessment evaluates the potential effects to floodplains and wetlands associated with the installation of the proposed Solar Energy Project at the Chicago Rockford International Airport, Rockford, Illinois (Winnebago County). The proposed project was redesigned to avoid any potential impacts to wetlands and would not impact the floodway.

The proposed Solar Energy Project would be located on the Chicago Rockford International Airport property, in Rockford, Illinois. Four other potential on-airport sites for proposed Solar Energy Project were evaluated during preliminary site assessment; however only the south site (proposed site) is considered the preferred and proposed alternative. A detailed discussion of the four sites evaluated is provided in Section 5.0 of this document.

RSP provided agencies with an early notice letter on July 8th, 2010. Those agencies and stakeholders that received the letter include: Illinois State Historical Preservation Office, Illinois Department of Natural Resources: Water Resources Office, the Federal Aviation Administration, Bureau of Land Management Planning and NEPA Division, US Environmental Protection Agency, U.S. Army Corps of Engineers, USDA Natural Resources Conservation Service, U.S. Fish and Wildlife Service.

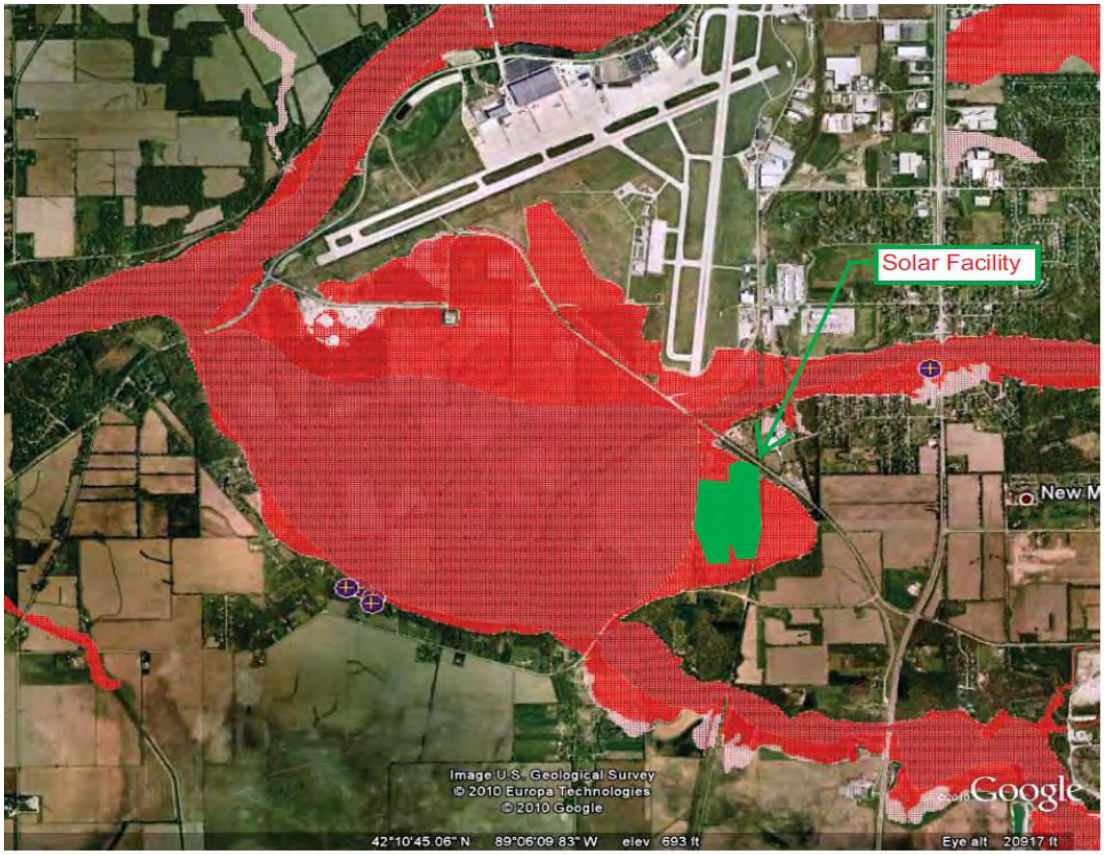
Figure 1 –Proposed Location of the Solar Farm

2.0 FLOODPLAIN AND WETLAND DESCRIPTION IN THE PROJECT AREA

2.1 Description of Floodplains

Pursuant to 10 CFR Part 1022, DOE reviewed the Federal Emergency Management Agency (FEMA) Flood Rate Insurance Map (FIRM). The 100-year floodplain occurs within the entire proposed project area; however the proposed project would not be located within the designated floodway of the Kishwaukee River. The regulatory floodway is defined as the channel of a river or other watercourse and the adjacent land areas that must be restored to previous grade in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. These features are depicted on Figure 2. To the west of the proposed project the Kishwaukee River begins to meander as it meets the low-lying areas that precede the confluence between the Kishwaukee and Rock River. These areas to the west are consistent of alluvial deposits from the Kishwaukee River and are comprised entirely of Forested and Emergent Wetlands.

Figure 2, Rockford Solar Floodplain Map (National Flood Hazard Layer Web Map Service (WMS) in Google Earth™)



2.2 Description of Wetlands

Also pursuant to 10 CFR Part 1022, DOE reviewed the USFWS National Wetlands Inventory (NWI) map. According to the USFWS NWI Map (Below), there are no wetlands located in the immediate proximity of the proposed project area. However, Rockford Solar Partners prepared a Jurisdictional Waters Delineation Report for the Proposed Rockford Solar Energy Project. Although the US Army Corps of Engineers (USACOE) has not concurred on their findings, RSP concluded that approximately 30.6 acres of both Forest and Emergent wetlands exist within the property boundaries, of which 21.9 were interpreted through field reconnaissance. Based on the review of this report, DOE has concluded that no wetlands are located within the proposed limits of disturbance associated with the proposed project. However, based on aerial imagery, there appears to be a emergent wetland in the vicinity. Figures 2 and 3 provide the results of the wetlands inventory.

Figure 3, Rockford Solar Wetlands Map (USFWS National Wetlands Inventory-Wetlands Mapper)

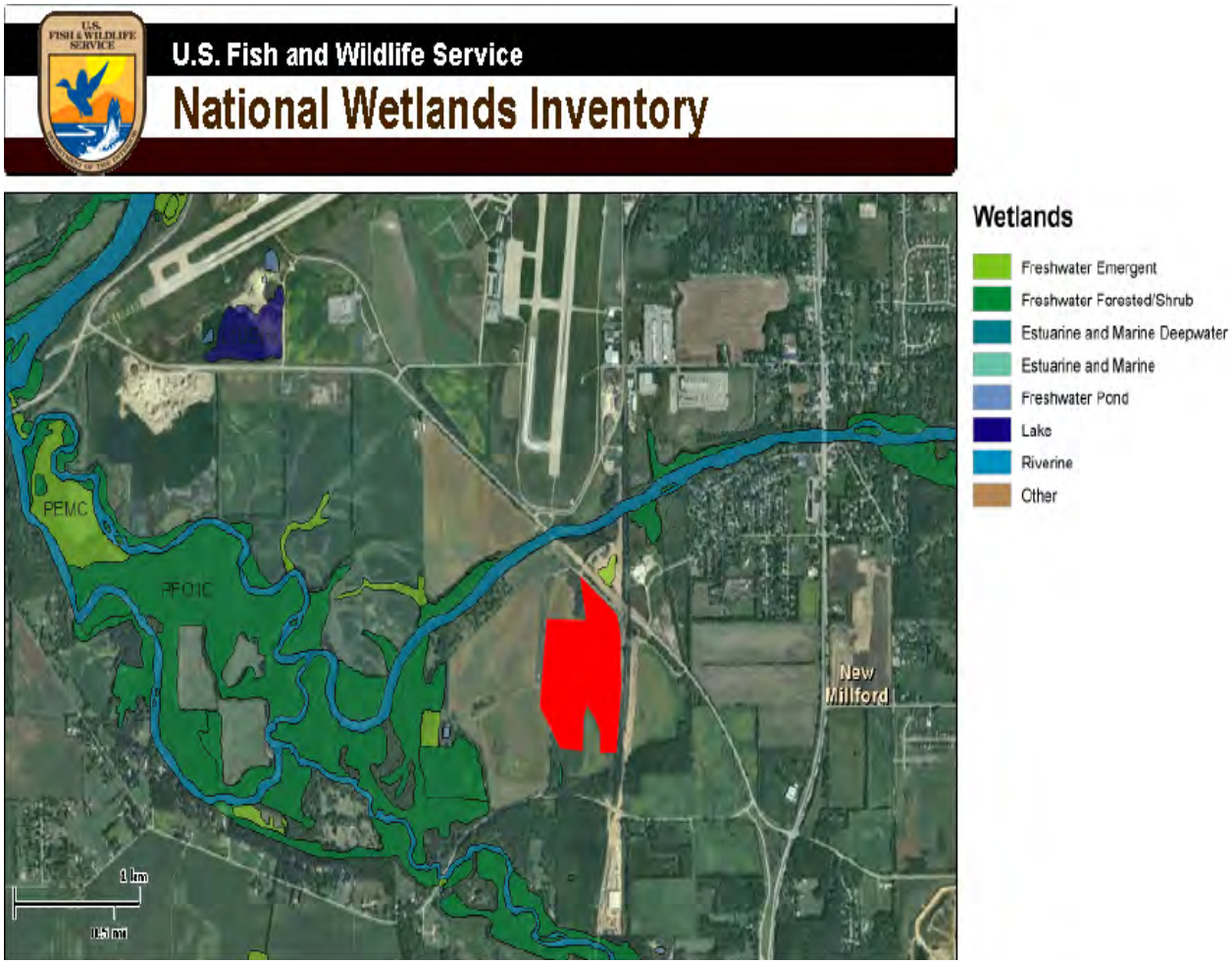


Figure 4, Rockford Solar Wetlands Map (Civil & Environmental Consultants, Inc.- Jurisdictional Waters Delineation Report)

3.0 PROJECT DESCRIPTION AND ALTERNATIVES

During preliminary site evaluations, alternative sites for the Solar Energy Project were considered and dismissed in Section 2.3 of the Draft EA. These alternatives were identified by the Greater Rockford Airport Authority (GRAA) and Rockford Solar Partners.

DOE's proposed action would be to authorize the use of approximately $4 million in funding to design, permit, and construct the proposed 20 megawatt Solar Energy Project. The proposed project would be located on land owned by the GRAA at the Chicago Rockford International Airport in the City of Rockford, Winnebago County, Illinois. The proposed location is adjacent to Baxter and South Bend Road, with an approximate center point of 42°10'26.07" N, 89° 5'23.74" W (NAD-83). Title to the land is held in a fixed-term leasehold estate. GRAA is the landowner, the City of Rockford is the lessee, and Rockford Solar Partners (RSP) is the sub-lessee. The lease term is for 30 years and stipulates that RSP is fully permitted to use the land for the "development and operation of a solar farm". The lease provides an option which could be exercised by RSP to extend the lease term with the same terms and conditions.

The Solar Energy Project would utilize 280 watt multi-silicon solar cells. They would be mounted in groups of 4 panels using a fixed Ground Mount PV System. The 4 panels would be attached to a rack mounted on 2 support posts approximately 13 feet apart. The posts would be driven into the ground with approximately 2 to 5 feet exposed aboveground. The elevation of the posts would be carefully calculated so at least 2 feet of clearance exists above the established Base Flood Elevation (BFE).

The majority of the proposed project site is at or near the 700' BFE which delineates the floodway from the floodplain. No fill material would be brought onto the proposed project site and no fill material would be generated from the proposed construction. Tree removal would occur along the Northeast of the site's boundary as necessary (Figure 1). Limited quantities of hazardous materials would be used and stored on-site for Operations & Maintenance. These materials may include lubricants, solvents, janitorial supplies, office supplies, paints, degreasers, gasoline, hydraulic fluid, propane, and welding rods. These materials would be stored, used, and disposed of in accordance with all applicable local, state, and Federal laws and regulations. All flammable materials (ie. paints and solvents) would be stored consistent with state and federal regulations.

This project would be specifically located on a portion of the property that has been previously disturbed (agricultural use). The ground disturbing activities for this project would consist of an approximate 70 acre portion of the property that is currently being leased and cultivated for corn and soybean production.

4.0 ESTIMATED IMPACTS OF THE PROPOSED ACTION AND NO-ACTION ALTERNATIVE TO FLOODPLAINS AND WETLANDS

Construction activities associated with the installation of the solar arrays and associated infrastructure would involve work to be performed within the 100-year floodplain. The existing elevations and flow paths of the area within the floodplain of the Kankakee River are not expected to change with any significance. The nature and extent of the flood hazard caused by the proposed action is not expected to change from the present conditions.

No long-term negative direct or indirect impacts to the beneficial values of the 100-year floodplain of the Kankakee River or the wetlands adjacent to the proposed site would be expected under the proposed action. No effects to lives or property associated with floodplain disturbance are anticipated. The survival, quality and function of the wetlands would not be expected to be impacted. The construction period would occur over a short duration, and all construction would be carried out in accordance with an approved storm water pollution prevention plan, associated National Pollutant Discharge Elimination System (NPDES) permit and utilize Best Management Practices (BMPs) for sedimentation and erosion. All of which would minimize the potential impacts to adjacent wetlands and any potential floodwaters down slope of the proposed project site.

Short-term direct impacts to the floodplain would result from the temporary disturbance of the area during the limited amount of earth moving required for the proposed project. The potential does exist for sediment run-off as a result of a large storm event during the construction/installation period. The erosion has the potential to result in a temporary localized reduction in the water quality of the Kankakee River. However, sediment and erosion controls such as silt fencing, silt dikes, and other requirements of the NPDES permit would prevent disturbance to adjacent areas of the floodplain and would protect the Kankakee River from the influx of silt contained in runoff. Spill control measures would be utilized when necessary and spill control kits would be readily available for use at all field locations where heavy equipment would be utilized. After construction activities are completed, the affected floodplain areas would be graded, seeded, and restored to their previous condition using native vegetation.

Under the No Action Alternative, conditions would remain unchanged and operations at the Chicago Rockford International Airport would continue as otherwise planned but without the use and benefit of the proposed Solar Energy Project. Without the use of the solar generated energy, the surrounding area would not reduce its reliance on commercially generated power from carbon based facilities.

Under the No Action Alternative, environmental conditions and site characteristics of the preferred would be unchanged. There would be no potential impacts to floodplains and wetlands other then what may naturally occur.

5.0 CONCLUSION

The proposed action is not expected to result in adverse impacts to the Kishwaukee River 100-year floodplain associated or impact the wetlands located on the property. Temporary disturbance within the floodplain would cease following completion of construction and excavating/trenching activities associated with the proposed action. Any temporary disturbance would require erosion and sediment controls during construction. Site restoration would follow.

In accordance with 10 CFR Part 1022, a Statement of Findings based on the information in this document would be published as part of a potential FONSI. The statement of findings would include a brief description of the proposed action and an explanation indicating why it is in the floodplain, the alternatives considered, a statement indicating if the action conforms to State and local floodplain requirements and a brief description of the steps to be taken to minimize potential harm within the floodplain.

August 20, 2010

Mr. Brad Brown
Anderson Environmental & Engineering, Co.
124 N. Water St., Ste. 206
Rockford, IL 61107

Dear Mr. Brown:

Subject: Jurisdictional Waters Delineation Report
Proposed Rockford Solar Field Project
Rockford, Winnebago County, Illinois
CEC Project No. 101-114

Civil & Environmental Consultants, Inc. (CEC) is pleased to present the attached revised jurisdictional waters delineation report for the Proposed Rockford Solar Field Project, located in Rockford, Winnebago County, Illinois.

We appreciate the opportunity to be of service to Anderson Environmental & Engineering, Co. on this project. Please call us if you have any questions or need further assistance.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Maggie Vuturo Bosiljevac
Assistant Project Manager

James E. Zentmeyer, P.E.
Principal

JURISDICTIONAL WATERS DELINEATION REPORT

PROPOSED ROCKFORD SOLAR FIELD PROJECT

ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

PREPARED FOR:

ANDERSON ENVIRONMENTAL & ENGINEERING, CO.

PREPARED BY:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
CINCINNATI, OHIO

CEC Project No. 101-114

July 28, 2010 (Revised August 20, 2010)

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

1.1 GENERAL INFORMATION

This report presents the findings of a jurisdictional waters delineation study conducted at the proposed Rockford Solar Field Project (the Project Area), located in Rockford, Winnebago County, Illinois. The proposed Rockford Solar Field Project will consist of a solar power generating facility constructed to provide affordable and renewable energy to residential, commercial, and industrial customers within the Rockford Area. The Project Area consists of two irregularly-shaped parcels of land, totaling approximately 205 acres, located south of the Chicago Rockford International Airport (RFD), south of Runway 19, and the Kishwaukee River (Figure 1).

The jurisdictional waters delineation is associated with a U.S. Department of Energy (DOE) Environmental Assessment of the Project Area. Civil & Environmental Consultants, Inc. (CEC) conducted the field reconnaissance portion of the jurisdictional waters delineation on July 6th and 7th, 2010. Our services were provided in accordance with our proposal submitted to Anderson Environmental & Engineering, Co.

1.2 METHODOLOGY

This report identifies delineated wetlands, streams (ephemeral, intermittent, and perennial), and other waters within the Project Area. The methodology for conducting the wetland and stream delineation is presented below.

1.2.1 Wetlands

The wetland delineation was conducted using the routine on-site determination method described in the United States Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (Corps Manual) and the *Interim Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Midwest Supplement), and supplemented by the *National List of*

Plant Species That Occur in Wetlands: North Central Region (Region 3) (Reed 1988) and the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey (USDA 2010). Additionally, in areas where disturbance had occurred, CEC made assumptions based upon current site conditions. CEC completed the following scope of services to identify and delineate interpreted jurisdictional wetlands within the Project Area:

1. Office Data Review: CEC personnel reviewed the U.S. Geological Survey (USGS) topographic map (Figure 1), the USDA-NRCS Web Soil Survey, (USDA 2010; Figure 2), and the U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) Map (Figure 3). These resources were used to establish site characteristics that aided in the identification of potential wetland areas.

2. Site Reconnaissance: CEC performed the wetland delineation using the routine on-site determination method on July 6th and 7th, 2010. First, plant communities present within the Project Area were identified. The dominant plant species within each community were identified and an assessment was made on whether or not the plant community was dominated by hydrophytic (wetland) plants. Next, a representative test site was located within the plant community and soils were sampled using a spade shovel to assess the presence of hydric soil indicators. Lastly, the test site was observed for indicators of wetland hydrology (ponding, soil saturation, etc.). If areas having wetland vegetation, hydric soils, and wetland hydrology were found, a test site was located outside the wetland to delineate where the wetland boundary could be located. Additionally, wetlands were marked in the field with consecutively numbered surveyor's ribbon flags and subsequently mapped onto the Rockford, Illinois quadrangle of the USGS 7.5-minute topographic map using data generated from a Trimble GeoXT Global Positioning System (GPS) unit. Other potential jurisdictional waters, such as ephemeral, intermittent or perennial streams located within the Project Area, were also identified, where applicable (Section 1.2.2).

3. Data Collection: Midwest Supplement wetland determination data forms for the routine on-site determination method were completed at twelve representative locations within the Project Area (see Figure 4 for location and Appendix I for the Midwest Supplement wetland determination data forms). The data sheets provide a record of the vegetation, soils, and hydrology observations used in making the wetland determination. Photographs of the wetland determination test sites are included in Appendix II.

1.2.2 Streams

In addition to the identification of wetlands, CEC identified streams within the Project Area that would likely be considered jurisdictional by the USACE. Using professional judgment and field indicators such as flow, substrate composition, embeddedness, defined bed and bank, vegetation,

and benthic macroinvertebrates, CEC classified on-site stream segments, if found, into three stream types: ephemeral, intermittent, and perennial. The following descriptions are provided to clarify the different stream classifications.

- Ephemeral Stream – An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.
- Intermittent Stream – An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.
- Perennial Stream – A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

As background, the uppermost limit of an ephemeral stream is determined at the point where the stream loses its defined "bed and bank" or ordinary high water mark (OHWM) and a predominance of upland vegetation occurs in the channel. Under natural, undisturbed conditions, streams generally originate as headwater ephemeral drainages along the tops of ridges or higher elevations within the landscape, transition into intermittent stream systems, and eventually transition into perennial stream systems.

2.0 FINDINGS

2.1 NATIONAL WETLANDS INVENTORY MAP

NWI maps have been prepared by the USFWS based on high altitude infrared aerial photography and limited ground truthing. Wetlands and deep-water habitats are identified on these maps and classified according to the system developed by Cowardin and co-workers (1979). The aerial photographs reflect conditions during the specific year and season the data were acquired and all wetlands may not be indicated.

The NWI map for the Rockford, Illinois quadrangle identifies the following wetlands within the Project Area (Figure 3):

- One wetland, classified as palustrine, scrub-shrub, broad-leaved deciduous, and temporarily flooded (PSS1A), within the southeastern portion of the Project Area.
- One wetland complex, consisting of palustrine emergent, temporarily flooded (PEMA) wetland; palustrine, forested, broad-leaved deciduous seasonally flooded (PFO1C) wetland; and palustrine, scrub-shrub/forested broad-leaved deciduous seasonally flooded (PSS/FO1C) wetland within the western portion of the Project Area.

As noted in the following sections of this report, the NWI map does not accurately depict the current wetland conditions observed by CEC within the Project Area.

2.2 SOILS

Soil maps obtained from the USDA-NRCS Web Soil Survey show eight soil types mapped within the Project Area (Table 1; Figure 2). Two of the eight soil types within the Project Area have been identified by the NRCS as hydric (USDA 2010).

TABLE 1 SOILS INFORMATION Rockford Solar Field Project Area Rockford, Winnebago County, Illinois			
Soil Mapping Unit Name (Symbol)	**Taxonomy**	**Drainage Class**	**Hydric Soil List Designation**
Hoopeston sandy loam, 0 to 2 percent slopes (172A)	Aquic Hapludolls	Somewhat Poorly Drained	Non-Hydric
Hononegah loamy coarse sand, 0 to 2 percent slopes (354A)	Entic Hapludolls	Excessively drained	Non-Hydric
Hononegah loamy coarse sand, 2 to 6 percent slopes (354B)	Entic Hapludolls	Excessively drained	Non-Hydric
Orthents, loamy, undulating (802B)	Typic Udorthents	Well Drained	Non-Hydric
Rodman and Warsaw complex, 4 to 6 percent slopes, eroded (939C2)	Typic Hapludolls/ Typic Argiudolls	Excessively drained	Non-Hydric
Millington silt loam, 0 to 2 percent slopes, frequently flooded (3082A)	Cumulic Endoaquolls	Poorly Drained	Hydric
Comfrey loam, 0 to 2 percent slopes, frequently flooded (3776A)	Cumulic Endoaquolls	Poorly Drained	Hydric
Psamments, 0 to 2 percent slopes, frequently flooded (3800A)	Udipsamments	Well Drained	Non-Hydric

2.3 PLANT COMMUNITIES

The plant communities present within the Project Area consist of agricultural land, old field vegetation, old field vegetation with scattered trees, upland deciduous forest, palustrine forested wetland, and palustrine emergent wetland. Dominant plant species comprising these plant communities were identified and the USFWS wetland plant indicator status was determined according to Reed (1988). The USFWS has defined five wetland plant indicator categories, which include:

- Obligate wetland (OBL – has >99% probability of occurring in wetlands);
- Facultative wetland (FACW – has 66 to 99% chance of occurring in wetlands);
- Facultative (FAC – has 33 to 66% chance of occurring in wetlands);
- Facultative upland (FACU – has 1 to 33% chance of occurring in wetlands); and
- Upland (UPL – has <1% chance of occurring in wetlands).

Plants classified as OBL, FACW or FAC are considered to be wetland plants (hydrophytes) by the USFWS and USACE.

Agricultural land within the Project Area consisted of soybean (*Glycine max*) fields located within the central portion of the Project Area and a corn (*Zea mays*) field located within the eastern portion of the Project Area.

One area of old field vegetation was located within the northwest portion of the Project Area. Areas of old field with scattered trees were located within the northeastern portion and the western portion of the Project Area. These areas were dominated by smooth brome (*Bromus inermis*), whorled milkweed (*Asclepias verticillata),* common milkweed (*Asclepias syracia*), goatsbeard (*Aruncus dioicus*), white vervain (*Verbena urticifolia*), black-eyed susan (*Rudbeckia hirta*), summer grape (*Vitis aestivalis*), common plantain (*Plantago major*), yarrow (*Achillea millefolium*), tall fescue (*Schedonorus phoenix*), tall goldenrod (*Solidago altissima*), poison ivy (*Toxicodendron radicans*), spotted knapweed (*Centaurea stoebe*), Queen Anne's lace (*Daucus carota*), common mullein (*Verbascum thapsus*), annual sunflower (*Helianthus annuus*), bouncingbet (*Saponaria officinalis*), red clover (*Trifolium pratense*), evening primrose (*Oenothera biennis*), dotted smartweed (*Polygonum punctatum*), daisy fleabane (*Erigeron annuus*), and Virginia creeper (*Parthenocissus quinquefolia*). Scattered tree species observed within the old field areas included eastern red cedar (*Juniperus virginiana*), red elm (*Ulmus rubra*), boxelder (*Acer negundo*), honey locust (*Gleditsia triacanthos*), eastern cottonwood (*Populus deltoides*), red mulberry (*Morus rubra*), staghorn sumac (*Rhus typhina*), green ash (*Fraxinus pennsylvanica*), and spruce (*Picea pungens*).

Upland deciduous forest was located within the western portion of the Project Area. Dominant canopy species included swamp white oak (*Quercus bicolor*), honey locust, black walnut (*Juglans nigra*), and red elm. Dominant understory vegetation included Amur honeysuckle (*Lonicera maackii*), silky dogwood (*Cornus amomum*), red mulberry, hawthorn (*Crataegus* sp.), Virginia creeper, common blue violet (*Viola sororia*), summer grape, Virginia wild rye (*Elymus virginicus*), hairy pagoda-plant (*Blephilia hirsuta*), garlic mustard (*Alliaria petiolata*), currant (*Ribes* sp.), wild ginger (*Asarum canadense*), poison ivy, tall goldenrod, stinging nettle (*Urtica*

dioica), greenbrier (*Smilax* sp.), jumpseed (*Polygonum virginianum*), wingstem (*Verbesina alternifolia*), and white avens (*Geum canadense*).

Palustrine forested wetlands were located within the southern and western portions of the Project Area. Dominant canopy species included silver maple (*Acer saccharinum*), green ash, eastern cottonwood, boxelder, American elm (*Ulmus americana)*, common hackberry (*Celtis occidentalis*), and swamp white oak. Dominant understory vegetation included buttonbush (*Cephalanthus occidentalis*) and spicebush (*Lindera benzoin*). Herbaceous species included moneywort (*Lysimachia nummularia*), stinging nettle, reed canary grass (*Phalaris arundinacea*), and poison ivy.

One palustrine emergent wetland was located within the southeastern portion of the Project Area. This wetland was dominated by ditch stonecrop (*Penthorum sedoides*), softstem bulrush (*Schoenoplectus tabernaemontani*), American water plantain (*Alisma subcordatum*), rice cut grass (*Leersia oryzoides*), narrowleaf cattail (*Typha angustifolia*), Pennsylvania smartweed (*Polygonum pensylvanicum*), river bulrush (*Schoenoplectus fluviatilis*), poison hemlock (*Conium maculatum*), and blunt spikerush (*Eleocharis obtusa*).

2.4 HYDROLOGY

The Project Area primarily consisted of a relatively level area. Elevations within the Project Area are mapped to range from approximately 690 feet to 720 feet above mean sea level (AMSL). As depicted in Figure 4, hydrologic features within the Project Area include four wetlands and one open water area. No streams were identified within the Project Area. Northern portions of the Project Area drain generally north towards the Kishwaukee River; southern portions of the Project Area drain generally south towards Kilbuck Creek and an intermittent stream that appears to be hydrologically isolated from other waters of the United States.

2.5 WETLANDS

Four wetlands (Wetland A through Wetland D) were identified in the Project Area (Figure 4). The Midwest Supplement wetland determination data forms are provided in Appendix I and photographs of the wetlands are presented in Appendix II. The wetland identifier, acreage within the Project Area, interpreted classification, and hydrological status are summarized for each wetland in Table 2. Following Table 2 are narrative summaries of each wetland.

TABLE 2
WETLAND CHARACTERISTICS
Rockford Solar Field Project Area
Rockford, Winnebago County, Illinois

Wetland Identifier	Approximate Acreage Within Project Area	Classification	Hydrologic Status[1]
Wetland A	15.5	PFO/PSS	Connected/Adjacent
Wetland B	6.4	PFO	Connected/Adjacent
Wetland C	4.0	PFO/PSS	Isolated
Wetland D	4.7	PEM	Isolated
TOTAL	**30.6**	---	--

[1]The determinations of hydrologically connected/adjacent and isolated wetlands outlined in this report are preliminary, based on the boundary delineation, and have not been formally approved by the USACE.

Wetland A is a palustrine forested/scrub-shrub wetland located in the southwestern portion of the Project Area that extends outside of the boundary of the Project Area to the south and west. Approximately 15.5 acres of Wetland A are located within the Project boundary. The wetland vegetation is dominated by green ash, silver maple, moneywort, stinging nettle, reed canarygrass, and poison ivy. Wetland A is located in an area identified on the NWI map as PSS/FO1C. Although the portion of Wetland A within the Project boundary does not appear to maintain a direct hydrologic connection to a water of the United States, the NWI map shows Wetland A as a large wetland complex that also encompasses Wetland B and is hydrologically connected to the Kishwaukee River.

Wetland B is a palustrine forested wetland located in the northwestern portion of the Project Area that extends outside of the boundary of the Project Area to the north and west.

Approximately 6.4 acres of Wetland B are located within the Project boundary. The wetland vegetation is dominated by eastern cottonwood, common hackberry, American elm, boxelder, silver maple, moneywort, stinging nettle, and poison ivy. Wetland B is located in an area identified on the NWI map as PFO1C. Although the portion of Wetland B within the Project boundary does not appear to maintain a direct hydrologic connection to a water of the United States, the NWI map shows Wetland B as a large wetland complex that also encompasses Wetland A and is hydrologically connected to the Kishwaukee River.

Wetland C is a palustrine forested/scrub-shrub wetland located in the southeastern portion of the Project Area that extends outside of the boundary of the Project Area to the south. Approximately 4.0 acres of Wetland C are located within the Project boundary. The wetland vegetation is dominated by common hackberry, American elm, boxelder, silver maple, green ash, honey locust, buttonbush, and moneywort. Wetland C encompasses an area identified on the NWI map as PSS1A, although Wetland C is larger than the mapped NWI feature. The portion of Wetland C within the Project boundary does not appear to maintain a direct hydrologic connection to a water of the United States. The USGS topographic map shows an unnamed intermittent stream south of the Project Area adjacent to Wetland C which also appears to be hydrologically isolated from other waters of the United States. Therefore, Wetland C appears to be hydrologically isolated from other waters of the United States.

Wetland D is a palustrine emergent wetland located in the southeastern portion of the Project Area that extends outside of the boundary of the Project Area to the south. Approximately 4.7 acres of Wetland D are located within the Project boundary. The wetland vegetation is dominated by ditch stonecrop, softstem bulrush, American water plantain, rice cut grass, narrowleaf cattail, Pennsylvania smartweed, river bulrush, poison hemlock, and blunt spikerush. An NWI wetland is not mapped in the vicinity of Wetland D. The portion of Wetland D within the Project boundary does not appear to maintain a direct hydrologic connection to a water of the United States. Similar to Wetland C, the USGS topographic map shows an unnamed intermittent stream south of the Project Area adjacent to Wetland D, which also appears to be hydrologically isolated from other waters of the United States. Therefore, Wetland D appears to be hydrologically isolated from other waters of the United States.

2.6 OTHER WATERS

No streams were identified within the Project Area. CEC identified one open water area (OW-1), a small pond, within the southwestern portion of the Project Area north of Wetland A. OW-1 is approximately 1.1 acres in size (Figure 4; Attachment II).

3.0 REGULATORY CONSIDERATIONS

3.1 MEETINGS WITH REGULATORY AGENCIES

No meetings between regulatory agencies and CEC have taken place at the time this report was prepared. The delineation findings presented in this document were developed based upon CEC's professional training and experience, and the results of the July 6th and 7th, 2010, site visits.

3.2 REGULATORY ISSUES

Based on the results of the jurisdictional waters delineation, CEC identified approximately 30.6 acres of wetlands within the Project Area, which includes approximately 21.9 acres of interpreted jurisdictional wetlands and approximately 8.7 acres of interpreted isolated wetlands. Additionally, CEC identified one approximate 1.1 acre open water area within the Project Area. As shown on Figure 4, no wetlands are within the proposed limits of disturbance. Therefore, this wetland acreage is "all inclusive" and appears to include waterbodies that will not be impacted as part of planned site development activities.

If planned site development activities change and impacts to wetlands within the Project Area cannot be avoided, a formal jurisdictional determination (JD) conducted by the USACE would be required to verify CEC's jurisdictional waters delineation findings, prior to permit issuance. The JD may require a site visit by the USACE.

Impacts to jurisdictional wetlands are regulated in Winnebago County, Illinois by the Rock Island District of the USACE, the Illinois Environmental Protection Agency (IEPA), and the Illinois Department of Natural Resources (IDNR). Discharges of dredged or fill material into waters of the United States, as well as relocation of waters of the United States, requires permits from the USACE under the provisions of Section 404 of the Clean Water Act (CWA), as well as Section 401 Water Quality Certification (WQC) from the IEPA Division of Surface Water, and approval from the IDNR Office of Water Resources for construction within a floodway.

To obtain CWA Section 404 and 401 permits, a Joint Application Form must be submitted to the Rock Island District of the USACE, IEPA, and IDNR, which includes owner/applicant information, a project description, adjacent property information, lists of other permits approvals required for the proposed project, a vicinity map, plan view drawings, and cross section drawings. Each agency completes a review of the project concurrently and provides an agency determination to the applicant. The compensatory mitigation for impacts to jurisdictional waters, including wetlands, is also outlined in the permit application documents and then governed by the permits, including following mitigation monitoring and reporting, if required.

4.0 CONCLUSIONS

Four wetlands, totaling approximately 30.6 acres, were identified within the Project Area, which includes approximately 21.9 acres of interpreted jurisdictional wetlands and approximately 8.7 acres of interpreted isolated wetlands. The delineated wetland boundaries were flagged in the field and subsequently located by CEC using Trimble GeoXT GPS survey equipment. Wetland boundaries are shown on Figure 4. No streams were identified within the Project Area. One approximate 1.1 acre open water area was also identified within the Project Area.

As shown on Figure 4, no wetlands are within the proposed limits of disturbance. Therefore, it appears at this time that no Clean Water Act Section 404/401 permits will not be necessary for construction of the Rockford Solar Field. If planned site development activities change and impacts to wetlands within the Project Area cannot be avoided, a formal JD would be required to be conducted by the USACE to verify CEC's jurisdictional waters delineation findings prior to permit issuance.

5.0 LEVEL OF CARE

The jurisdictional waters delineation services performed by CEC were conducted in a manner consistent with the criteria contained in the 1987 Wetland Delineation Manual and the Interim Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region and with the level of care and skill ordinarily exercised by members of the environmental consulting profession practicing contemporaneously under similar conditions in the locality of the project. It must be recognized that the jurisdictional waters delineation was based on field observations and CEC's professional interpretation of the criteria in the 1987 Corps Manual and the Interim Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region at the time of our fieldwork. Jurisdictional waters determinations may change subsequent to CEC's delineation based on changes in the regulatory criteria, seasonal variations in hydrology, alterations to drainage patterns and other human activities and/or land disturbances. Therefore, the findings and opinions are relevant to the dates of our site visits and should not be relied on to represent conditions at substantially later dates. References herein to interpreted jurisdictional waters on the Project Area are the opinion of CEC and are subject to change pending formal review by the USACE, IEPA, and/or IDNR. The actual regulated extent and limits of jurisdictional waters are not established until formally sanctioned by the USACE as part of a Jurisdictional Determination.

This report is intended for the use of Anderson Environmental & Engineering, Co. and the United States Department of Energy (DOE), consistent with the qualifications outlined herein, and terms and conditions of CEC's proposal. Our services have been performed under mutually agreed upon terms and conditions. If other parties wish to rely on this report, please have them contact us so that a mutual understanding and agreement of the terms and conditions for our services can be established prior to their use of this information.

6.0 REFERENCES

Cowardin, L. M., V. Carter, and F. C. Golet. 1979. Classification of Wetlands and Deep Water Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service. Washington D. C. FWS/OBS-79/31.

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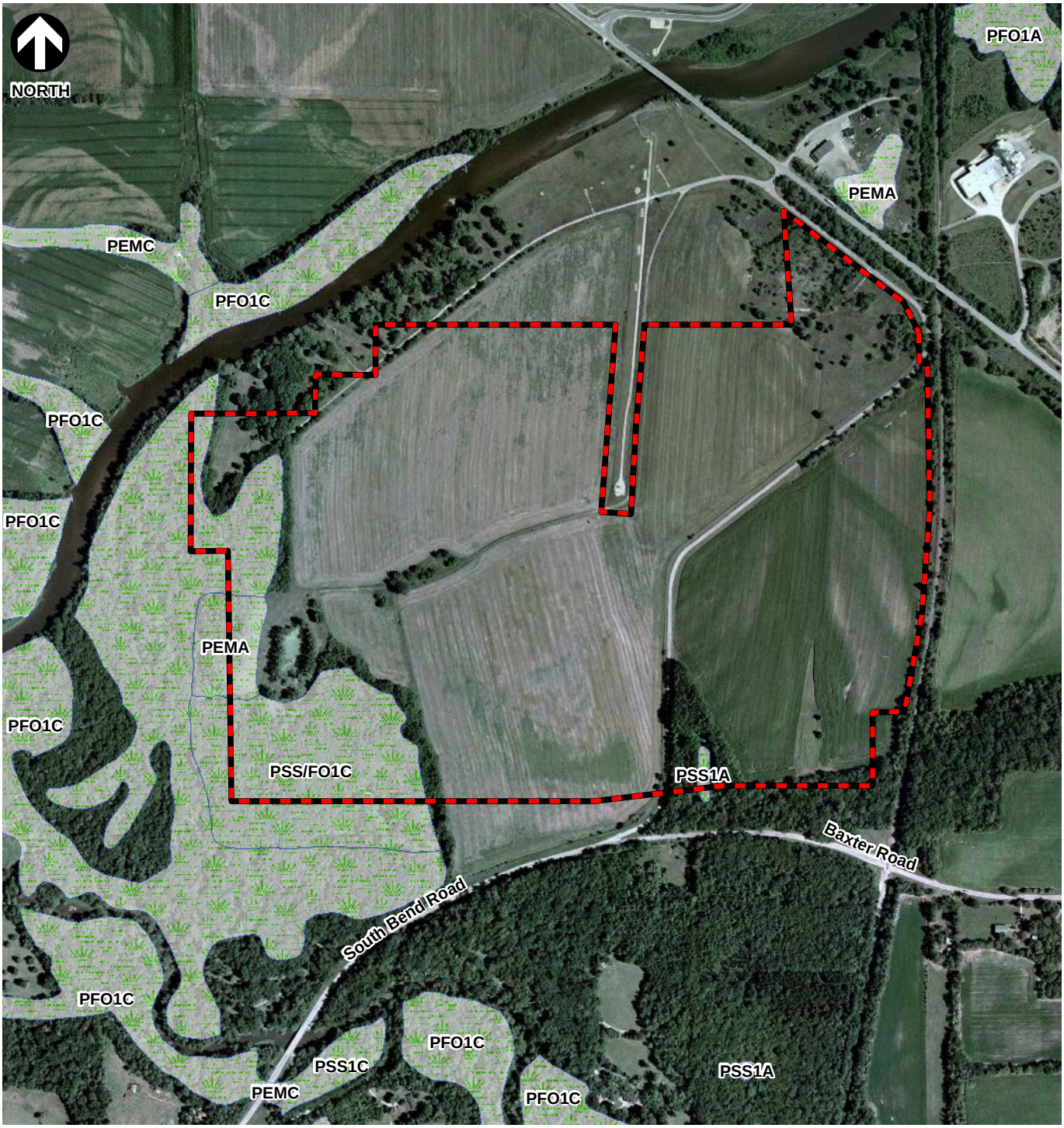
FIGURES



SOURCE:
WETLANDS DATA OBTAINED FROM THE USFWS WEBSITE (http://wetlandsfws.er.usgs.gov/imf/imf.jsp?site=extract_tool), 2010.
PORTION OF A THE ESRI IMAGE WEBSERVICE - "WORLD_IMAGERY" - "AERIALS EXPRESS CHICAGO 2007."

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Export, PA Indianapolis, IN Nashville, TN St. Louis, MO

National Wetlands Inventory Map

ROCKFORD SOLAR FIELD PROJECT

South Bend Road & Baxter Road
Rockford, Winnebago County, Illinois

DWN. BY: MJB	SCALE:	DATE:	PROJECT NO:	FIGURE NO:
CHKD. BY: MAVB	1 " = 800 '	08/20/2010	101-114	3

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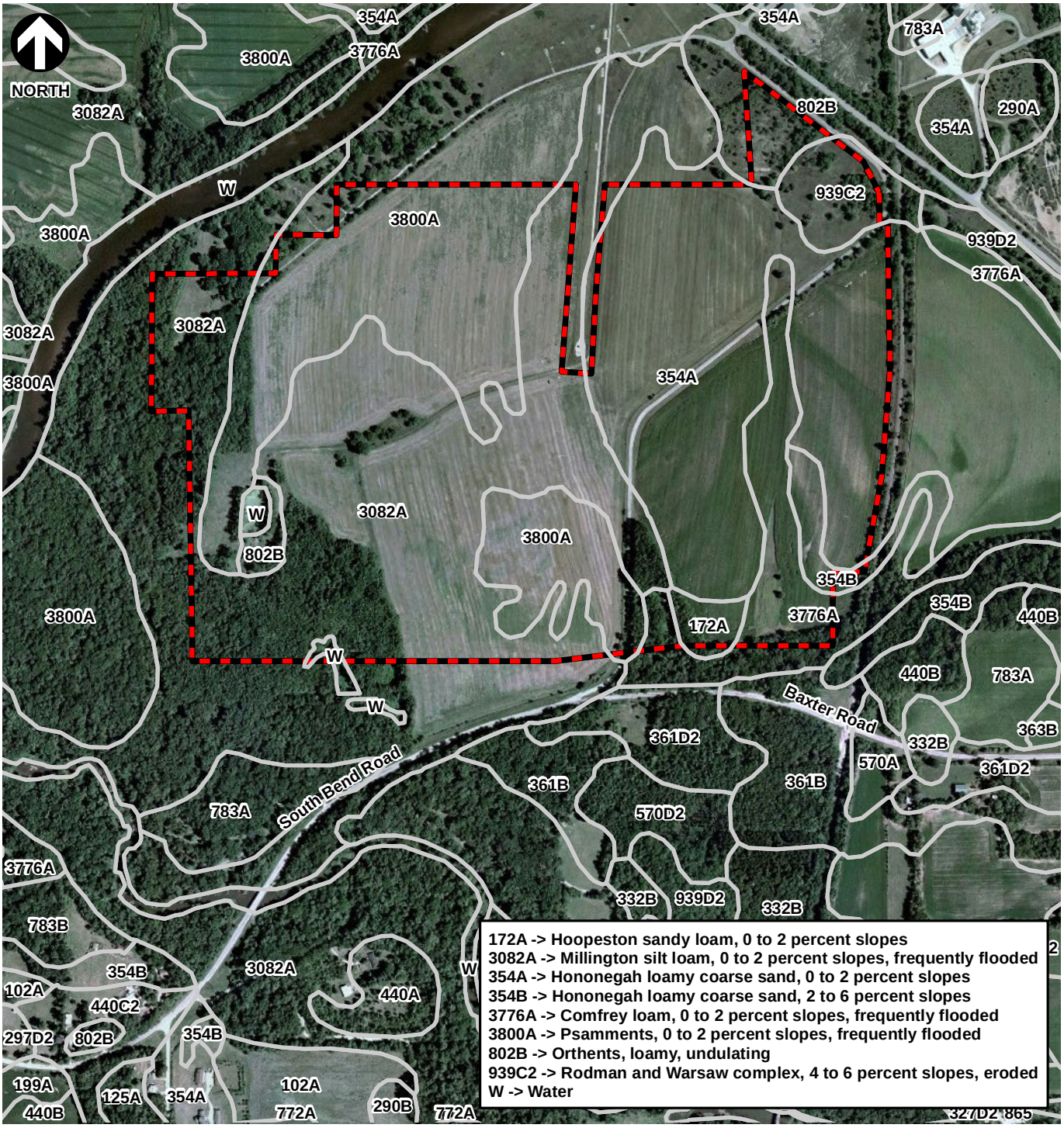

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Export, PA Indianapolis, IN Nashville, TN St. Louis, MO Phoenix, AZ

USDA Soil Survey Map

ROCKFORD SOLAR FIELD PROJECT

South Bend Road & Baxter Road
Rockford, Winnebago County, Illinois

DWN. BY:	SCALE:	DATE:	PROJECT NO:	FIGURE NO:
MJB	1 " = 800 '	08/20/2010	101-114	2
CHKD. BY: MAVB				

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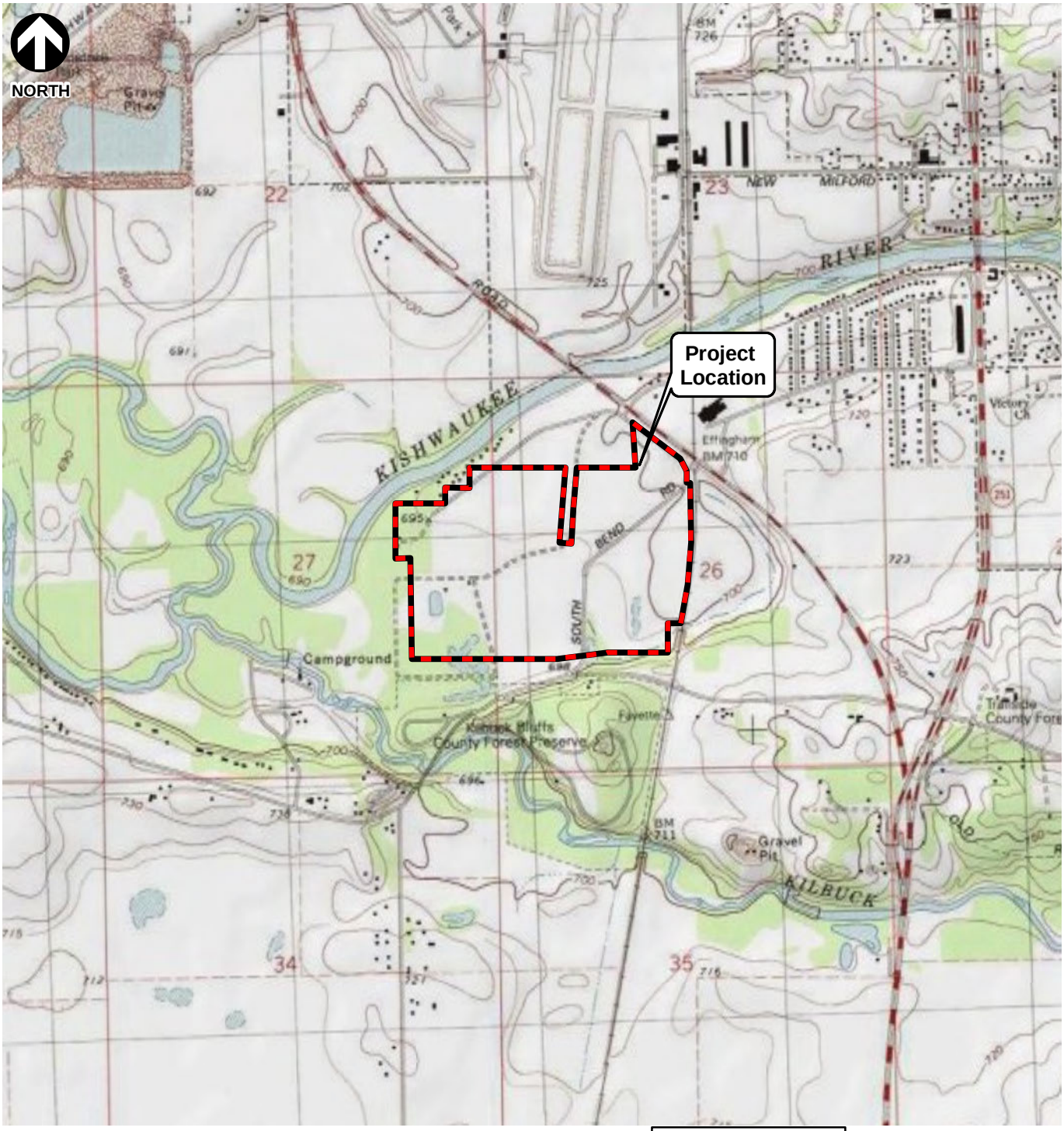
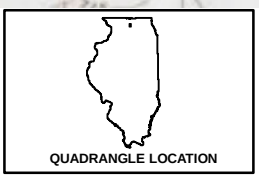


1,000 0 1,000 2,000 Feet



SOURCE: PORTION OF THE USGS 7.5-MINUTE SERIES TOPOGRAPHIC QUADRANGLE MAP - ROCKFORD, ILL 1977.

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Site Location Map

ROCKFORD SOLAR FIELD PROJECT

South Bend Road & Baxter Road
Rockford, Winnebago County, Illinois

DWN. BY: MJB	SCALE: 1 " = 2,000 '	DATE: 08/20/2010	PROJECT NO: 101-114	FIGURE NO: 1
CHKD. BY: MAVB				

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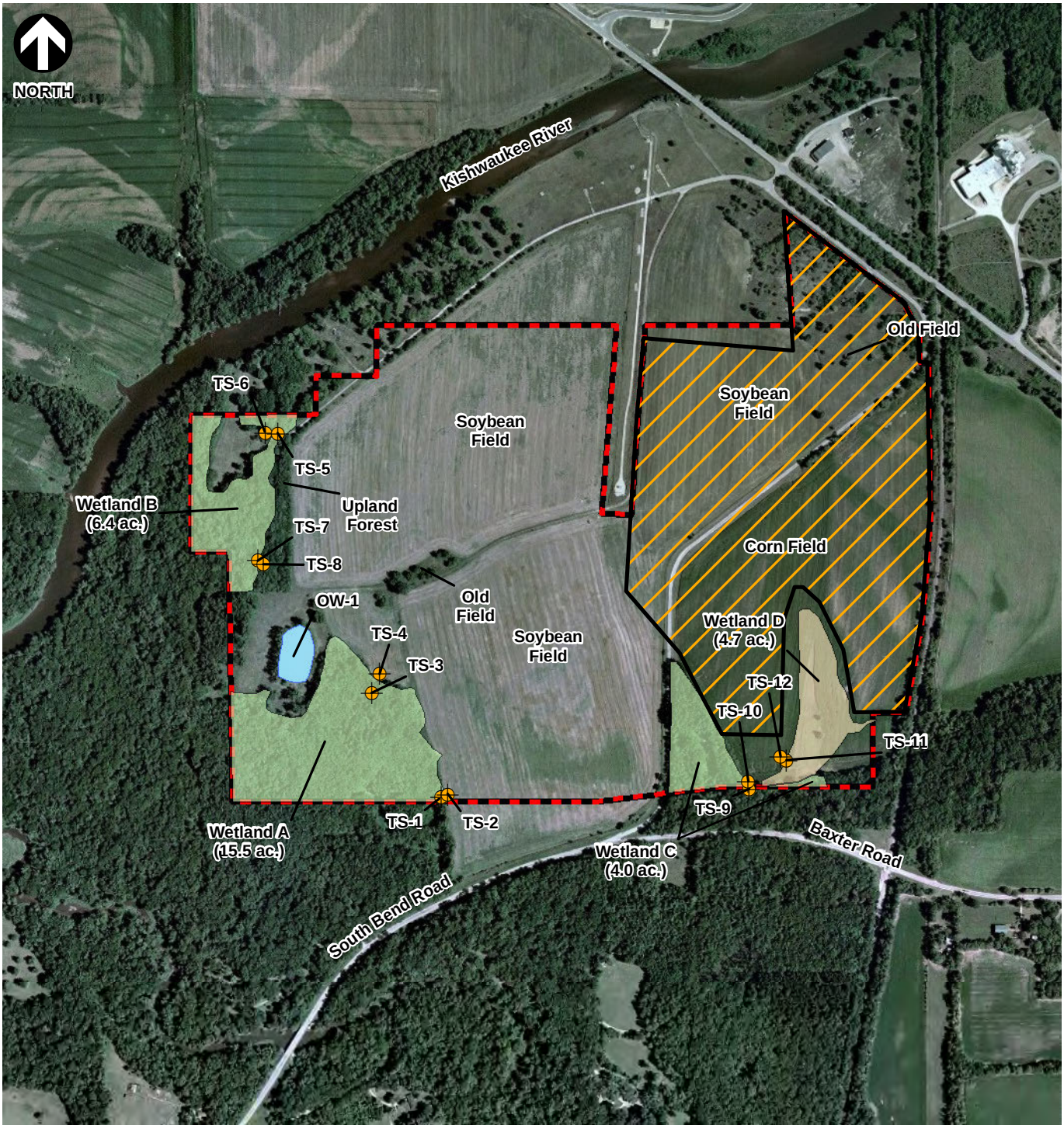

400 0 400 800 Feet

- Wetland Determination Test Pit
- Approximate Open Water Boundary
- Proposed Limits of Disturbance
- Approximate Site Boundary

Approximate Wetland Boundary
- Emergent Wetland
- Forested Wetland

SOURCE:
WETLANDS DATA OBTAINED FROM CEC WETLAND SURVEY CONDUCTED ON JULY 6 & 7, 2010.
PORTION OF A THE ESRI IMAGE WEBSERVICE - "WORLD_IMAGERY" - "AERIALS EXPRESS CHICAGO 2007."

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Export, PA Indianapolis, IN Nashville, TN St. Louis, MO Phoenix, AZ

Jurisdictional Waters Delineation Map

ROCKFORD SOLAR FIELD PROJECT

South Bend Road & Baxter Road
Rockford, Winnebago County, Illinois

DWN. BY:	SCALE:	DATE:	PROJECT NO:	FIGURE NO:
MJB	1 " = 800 '	08/20/2010	101-114	4
CHKD. BY: MAVB				

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APPENDIX I

MIDWEST SUPPLEMENT WETLAND DETERMINATION DATA FORMS

wetland A point 12

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford/Winnebago Sampling Date: 7 6 2010
Applicant/Owner: Rockford Sola Partners LLC State: IL Sampling Point: TS-1
Investigator(s): GJG/PJS Section, Township, Range: 26&27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42 1691 Long: -89 0926 Datum:
Soil Map Unit Name: Millington silt loam, 0-2% slopes, freq. Flooded (330BLAS) NWI classification: adjacent to PSS/F01C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:
debris piled in wetlands

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 x 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer saccharinum	50	Y	FACW
2. Fraxinus pennsylvanica	10	N	FACW
3. Robinia pseudoacacia	1	N	FACU
4. Populus deltoides	35	Y	FAC
5. Acer negundo	4	N	FACW
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 x 15)			
1. Cephalanthus occidentalis	25	Y	OBL
2. Photinia floribunda	1	N	FACW
3. Lindera benzoin	25	Y	FACW
4.			
5.			
	51	= Total Cover	

Herb Stratum (Plot size: 5 x 5)			
1. Toxicodendron radicans	25	Y	FAC
2. Urtica dioica	30	Y	FAC
3. Lysimachia nummularia	10	N	FACW
4. Carex grayi	1	N	FACW
5. Phalaris arundinacea	30	Y	FACW
6. Iris versicolor	1	N	OBL
7. Glyceria striata	2	N	OBL
8. Lemna minor	1	N	OBL
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 3/1	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

refusal @ 8"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0-12

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland A point out

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7.6.2010
Applicant/Owner: Rockford Solar Partners, LLC State: IL Sampling Point: TP-2
Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): Concave
Slope (%): 0 Lat: 42.16915 Long: -89 09608 Datum:
Soil Map Unit Name: Millington silt loam, 0-2% slopes, Freq. Flooded (3982A) NWI classification: adjacent to PSS/FOIC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5x5)			
1. Glycine max	80	Y	NI
2. Bromus inermis	20	Y	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					Silt loam	gravel in soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

likely artificial drainage

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrologic indicators observed

Wetland A point 1A

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Sola Field City/County: Rockford / Winnebago Sampling Date: 7.6.2010

Applicant/Owner: Rockford Sola Partners LLC State: IL Sampling Point: TS-3

Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E

Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave

Slope (%): 0 Lat: 42.17093 Long: -89.09756 Datum:

Soil Map Unit Name: Millington silt loam, 0-2% slopes, freq flooded (3082A) NWI classification: adjacent to PSS1F0IC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Fraxinus pennsylvanica	50	Y	FACW
2. Acer saccharinum	40	Y	FACW
3. Salix nigra	3	N	OBL
4. Celtis occidentalis	4	N	FAC
5. Quercus bicolor	3	N	FACW
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Lindera benzoin	10	Y	FACW
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5x5)			
1. Lysimachia nummularia	20	Y	FACW
2. Urtica dioica	30	Y	FAC
3. Iris versicolor	10	N	OBL
4. Toxicodendron radicans	20	Y	FAC
5. Phalaris arundinacea	20	Y	FACW
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30x30)			
1. Vitis aestivalis	10	Y	FACW
2. Smilax sp	1	N	
	11	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	90	10YR 3/3	10			Loam	
8-12	10YR 2/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): 0-4

Water Table Present? Yes ✓ No _____ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

wetland A point out

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7.6 2010
Applicant/Owner: Rockford Solar Partners, LLC State: IL Sampling Point: TS-1
Investigator(s): GJG/PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42 17120 Long: -89 0973 Datum:
Soil Map Unit Name: Millington silt loam, 0-2% slopes, freq. flooded (3082A) NWI classification: adjacent to PSS/FOIC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5 x 5)			
1. Glycine max	80	Y	NI
2. Bromus inermis	20	Y	NI
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 01 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/1	100					silt loam	gravel in soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

Likely artificial drainage

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrologic indicators observed

wetland B point 1

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7.6.2010
Applicant/Owner: Rockford Solar Partners LLC State: IL Sampling Point: TS-S
Investigator(s): GJG | PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42.17476 Long: -89.09935 Datum:
Soil Map Unit Name: Millington silt loam, 0-2% slopes, freq flooded (3082A) NWI classification: adjacent to PFO1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	25	Y	FAC
2. Celtis occidentalis	25	Y	FAC
3. Ulmus americana	25	Y	FACW
4. Acer negundo	25	Y	FACW
5.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	= Total Cover	

Herb Stratum (Plot size: 5x5)			
1. Toxicodendron radicans	50	Y	FAC
2. Lysimachia nummularia	1	N	FACW
3. Symphyotrichum lanceolatum	5	N	NI
4. Urtica dioica	40	Y	FAC
5. Phalaris arundinacea	4	N	FACW
6.			
7.			
8.			
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: 30x30)			
1. Vitis aestivalis	5	Y	FACU
2. Smilax sp	5	Y	–
	10	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DS-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 2/1						Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 1

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

wetland B point out

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7.6.2016
Applicant/Owner: Rockford Solar Partners LLC State: IL Sampling Point: TS-6
Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42 17483 Long: -89 09941 Datum:
Soil Map Unit Name: Millington silt loam, 0-2% slopes, freq flooded (307A) NWI classification: adjacent to PFOIC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juglans nigra	25	Y	FACU
2.			
3.			
4.			
5.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Lonicera maackii	90	Y	NI
2. Acer negundo	5	N	FACW
3.			
4.			
5.			
	95 = Total Cover		
Herb Stratum (Plot size: 5x5)			
1. Urtic dioica	50	Y	FAC
2. Viola sororia	5	N	FAC
3. Geum Canadense	5	N	FAC
4. Toxicodendron radicans	20	Y	FAC
5. Verbesina alternifolia	20	Y	FACW
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: 30x30)			
1. Smilax sp	5	Y	—
2.			
	5 = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10 YR 2/1	100					Silt loam	
5-12	10 YR 3/3	60	10 YR 3/1	40			sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no hydrologic indicators present

Wetland B point 1N

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7 6 2010
Applicant/Owner: Rockford Sola Partners, LLC State: IL Sampling Point: TS-7
Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42 17299 Long: - 89 09927 Datum:
Soil Map Unit Name: Psamments, 0-2 / slopes, freq flooded (3800A) NWI classification: PFO1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus bicolor	10	N	FACW
2. Celtis occidentalis	10	N	FAC
3. Populus deltoides	10	N	FAC
4. Acer saccharinum	50	Y	FACW
5.			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Lysimachia nummularia	50	Y	FACW
2. Dulichium arundinaceum	9	Y	OBL
3. Carex stricta	9	Y	OBL
4. Polygonum virginianum	9	Y	FAC
5. Scirpus atrovirens	9	Y	OBL
6. Glyceria striata	9	Y	OBL
7. Lemna minor	5	N	OBL
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)
Total Number of Dominant Species Across All Strata: 7 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10 YR 2/1	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ✓ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ____ Depth (inches): 1-4

Water Table Present? Yes ____ No ✓ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

wetland B point out

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7.6.2016
Applicant/Owner: Rockford Solar Partners, LLC State: IL Sampling Point: TS-8
Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42.17283 Long: -89.0996 Datum:
Soil Map Unit Name: Psamments, 0-2% slopes, Freq. Flooded (3800A) NWI classification: PFOIC
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30x30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis laevigata	30	Y	FACW
2. Juglans nigra	60	Y	FACW
3. Quercus bicolor	10	N	FACW
4.			
5.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15x15)			
1. Lonicera maackii	40	Y	NI
2. Rubus sp.	20	Y	—
3.			
4.			
5.			
	60	= Total Cover	

Herb Stratum (Plot size: 5x5)			
1. Parthenocissus quinquefolia	16	Y	FAC
2. Asarum canadense	16	Y	NI
3. Polygonum virginianum	16	Y	FAC
4. Urtica dioica	16	Y	FAC
5. Blephilia hirsuta	16	Y	FACW
6. Verbesina alternifolia	20	Y	FACW
7.			
8.			
9.			
10.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
		= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 10 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

no hydrologic indicators observed

wetland C point in

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar field City/County: Rockford / Winnebago Sampling Date: 7.6.2016
Applicant/Owner: Rockford Solar Partners, LLC State: IL Sampling Point: TS-9
Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42.16944 Long: -89.09010 Datum:
Soil Map Unit Name: Hoopeston sandy loam, 0-2% slopes (172A) NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 x 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	20	Y	FACW
2. Ulmus americana	20	Y	FACW
3. Acer saccharinum	20	Y	FACW
4. Fraxinus pennsylvanica	21	Y	FACW
5. Gleditsia triacanthos	20	Y	FAC
	100	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15x15)			
1. Photinia floribunda	5	Y	FACW
2. Cephalanthus occidentalis	5	Y	OBL
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5x5)			
1. Lysimachia nummularia	60	Y	FACW
2. Symphyotrichum lanceolatum	5	N	NI
3. Dulichium arundinaceum	2	N	OBL
4. Carex gravi	2	N	FACW
5. Polygonum virginianum	2	N	FAC
6. Phalaris arundinacea	5	N	FACW
7. Carex lupulina	5	N	OBL
8.			
9.			
10.			
	81	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)
Total Number of Dominant Species Across All Strata: 8 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ✓ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✓ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 1-4

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (Includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland C point out

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7 6 2010
Applicant/Owner: Rockford Solar Partners LLC State: IL Sampling Point: TS-10
Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42.16955 Long: -89.09012 Datum:
Soil Map Unit Name: Hoopeston sandy loam, 0-2% slopes (172A) NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	**Is the Sampled Area within a Wetland?** Yes ____ No ✓
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5x5)			
1. Zea mays	100	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 3/1						silty sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no hydrologic indicators present

Wetland D point in

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford/Winnebago Sampling Date: 7.6.2010
Applicant/Owner: Rockford Solar Partners, LLC State: IL Sampling Point: TS-11
Investigator(s): GJG / PJS Section, Township, Range: 26 & 27 / 43N / 1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42.16986 Long: -89.08936 Datum:
Soil Map Unit Name: Confrey loam, 0-2% slopes, freq. flooded (3776A) NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5x5)			
1. Penthorum sedoides	10	Y	OBL
2. Schoenoplectus tabernaemontani	10	Y	OBL
3. Alisma subcordatum	10	Y	OBL
4. Leersia oryzoides	10	Y	OBL
5. Typha angustifolia	10	Y	OBL
6. Polygonum pensylvanicum	10	Y	FACW
7. Schoenoplectus fluviatilis	10	Y	OBL
8. Conium maculatum	10	Y	FACW
9. Eleocharis obtusa	10	Y	OBL
10. Cyperus sp	11	Y	–
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)
Total Number of Dominant Species Across All Strata: 9 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 2/1	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ✓ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No _____ Depth (inches): 1

Water Table Present? Yes ✓ No _____ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland D point out

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Rockford Solar Field City/County: Rockford / Winnebago Sampling Date: 7.7.2016
Applicant/Owner: Rockford Solar Partners, LLC State: IL Sampling Point: TS-12
Investigator(s): GJG/PJS Section, Township, Range: 26027/43N/1E
Landform (hillslope, terrace, etc.): depressional Local relief (concave, convex, none): concave
Slope (%): 0 Lat: 42.16991 Long: -89.08948 Datum:
Soil Map Unit Name: Comfrey loan, 0-2% slopes, freq flooded (3776A) NWI classification: NA
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No ✓
Hydric Soil Present? Yes _____ No ✓
Wetland Hydrology Present? Yes _____ No ✓

Is the Sampled Area within a Wetland? Yes _____ No ✓

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5x5)			
1. Zea mays	100	Y	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: TS-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10 4e 2/2	100					sandy loam	gravel in soil

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no hydrologic indicators present

APPENDIX II

SITE PHOTOGRAPHS

Photographic Record

Photo 1 – View of TS-1.

Photo 2 – Representative view of Wetland A. Photo taken facing west.

Photo 3 – Representative view of Wetland A. Photo taken facing north from TS-3.

Photo 4 – View of TS-3.

Photo 5 – View of TS-5.

Photo 6 – Representative view of Wetland B. Photo taken facing south.

Photo 7 – Representative view of Wetland B. Photo taken facing south.

Photo 8 – View of TS-7.

Photo 9 – View of TS-9.

Photo 10 – Representative view of Wetland C. Photo taken facing west.

Photo 11 – Representative view of Wetland C. Photo taken facing north.

Photo 12 – View of TS-11.

Photo 13 – Representative view of Wetland D. Photo taken facing south.

Photo 14 – Representative view of Wetland D. Photo taken facing east.

Photo 15 – Representative view of OW-1.

Photo 16 – View of TS-2.

Photo 17 – View of TS-4.

Photo 18 – View of TS-6.

Photo 19 – View of TS-8.

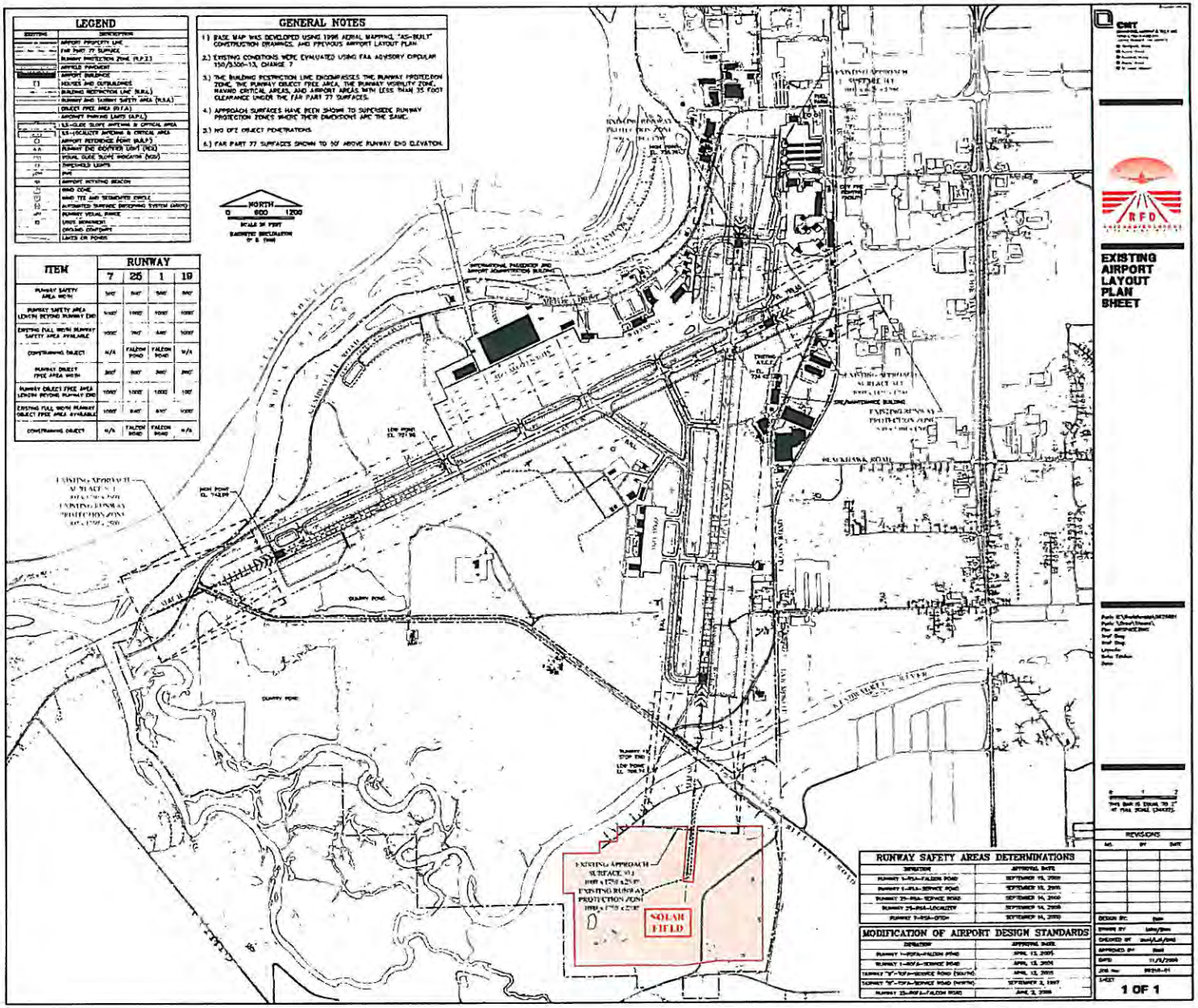
Photo 20 – Representative view of agricultural land. Photo taken facing west.

Photo 21 – View of TS-10.

Photo 22 – View of TS-12.

Photo 23 – Representative view of upland forest. Photo taken facing north.

Photo 24 – Representative view of old field vegetation. Photo taken facing northwest.


LEGEND
GENERAL NOTES
1.) BASE MAP WAS DEVELOPED USING 1996 AERIAL MAPPING, "AS-BUILT" CONSTRUCTION DRAWINGS, AND PREVIOUS AIRPORT LAYOUT PLAN.
2.) EXISTING CONDITIONS WERE EVALUATED USING FAA ADVISORY CIRCULAR 150/5300-13, CHANGE 7.
3.) THE BUILDING RESTRICTION LINE ENCOMPASSES THE RUNWAY PROTECTION ZONE, THE RUNWAY OBJECT FREE AREA, THE RUNWAY VISIBILITY ZONE, HAZARD CRITICAL AREAS, AND AIRPORT AREAS WITH LESS THAN 35 FOOT CLEARANCE UNDER THE FAR PART 77 SURFACES.
4.) APPROACH SURFACES HAVE BEEN SHOWN TO SUPERSEDE RUNWAY PROTECTION ZONES WHERE THEIR DIMENSIONS ARE THE SAME.
5.) NO OFE OBJECT PENETRATIONS.
6.) FAR PART 77 SURFACES SHOWN TO 50' ABOVE RUNWAY END ELEVATION.
NORTH
0 600 1200
SCALE IN FEET
MAGNETIC DECLINATION
ITEM
RUNWAY
7
25
1
19
SOLAR FIELD
RUNWAY SAFETY AREAS DETERMINATIONS
MODIFICATION OF AIRPORT DESIGN STANDARDS
EXISTING AIRPORT LAYOUT PLAN SHEET
REVISIONS
1 OF 1

Anderson
environmental&engineering

Record of Communication

Date: 7/15/2010
AEE Representative: Jennifer Anderson
Regarding: Rockford Solar

Contact Person: Carrie Sauko
Company: IL Dept. of Ag - Bureau of Land + Water Resources
Phone: 217/785-4458
How Contact Initiated: Phone ☒

Summary:
Ms. Sauko indicated the project area is on property owned by the airport, therefore they will have no comments.
Recommended contacting Terry Schaddel at Dept. of Aeronautics

Illinois Department of
Natural Resources
One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

Pat Quinn, Governor
Marc Miller, Director

March 09, 2010

Alyson Grady
Illinois Department of Commerce and Economic Opportunity
620 East Adams
Springfield, IL 62701

Re: Rockford Solar Partners ARRA REPP
Project Number(s): 1006012
County: Winnebago

Dear Applicant:

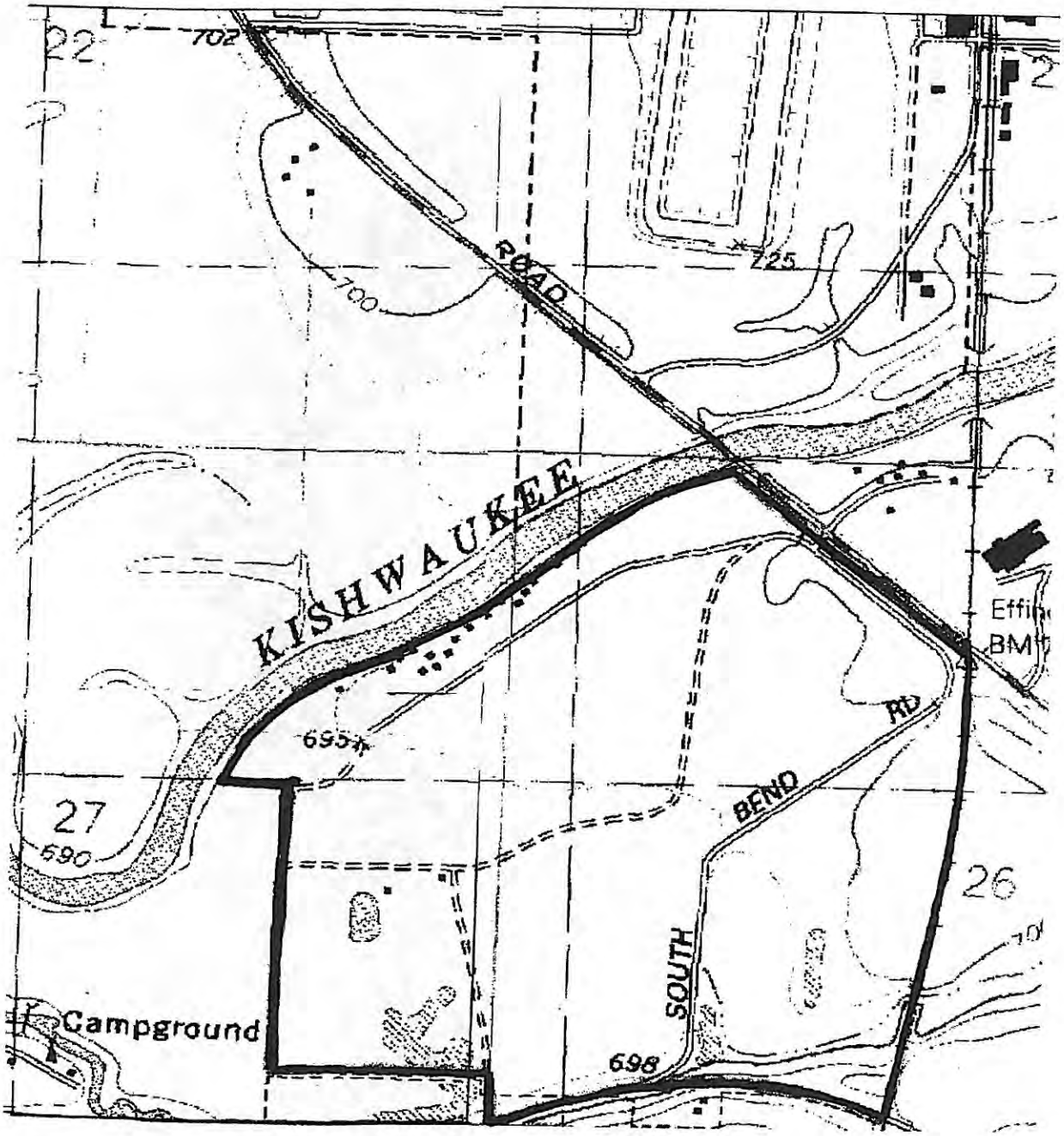
This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 and 1090 is terminated.

Consultation for Part 1075 is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Consultation for Part 1090 (Interagency Wetland Policy Act) is valid for three years.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database and the Illinois Wetlands Inventory at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

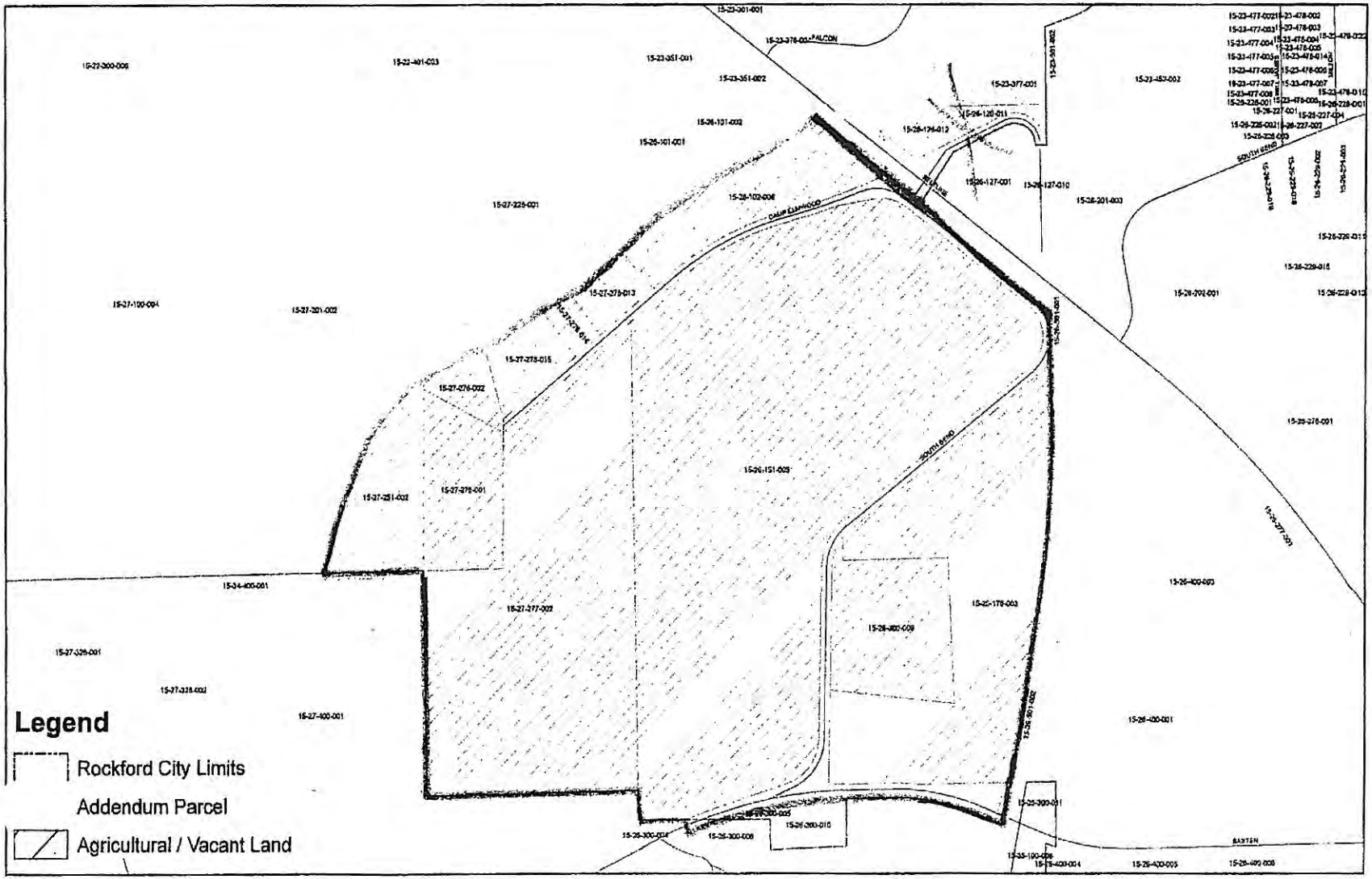
Please contact me if you have questions regarding this review.

Michael Branham
Division of Ecosystems and Environment
217-785-5500


22
702
ROAD
700
725
KISHWAUKEE
Effi
BM
RD
695
27
690
BEND
26
SOUTH
Campground
698

703
WILL JAMES
VESTA
MILTON
SOUTH BEND
702
700
700
103 ACRES
BAXTER
FALCON
BEALS
701
BELTLINE
CAMP ELMWOOD
SOUTH BEND
701
699
700

Redevelopment Project Area #1
Addendum Parcel
Current Land Use



EcoCAT
Ecological Compliance Assessment Tool

Applicant:	Illinois Department of Commerce and Economic Opportunity	*IDNR Project #:*	1006012
Contact:	Alyson Grady	Date:	02/08/2010
Address:	620 East Adams Springfield, IL 62701		
Project:	Rockford Solar Partners ARRA REPP		
Address:	5985 Logistics Parkway, Rockford		

Description: The project will construct a 20 MW solar farm on approximately 100 acres of land.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)
The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Bell Bowl Prairie INAI Site
Kishwaukee River INAI Site
Upland Sandpiper *(Bartramia longicauda)*

Wetland Review (Part 1090)
The National Wetlands Inventory shows wetlands within 250 feet of the project location.

An IDNR staff member will evaluate this information and contact you within 30 days to request additional information or to terminate consultation if adverse effects are unlikely.

Location
The applicant is responsible for the accuracy of the location submitted for the project.

County: Winnebago
Township, Range, Section:
43N, 1E, 26

IL Department of Natural Resources Contact
Michael Branham
217-785-5500
Division of Ecosystems & Environment

Local or State Government Jurisdiction
IL Department of Commerce and Economic Opportunity
Alyson Grady
620 East Adams
Springfield, Illinois 62701

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

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EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law. Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR DOUGLAS P. SCOTT, DIRECTOR

July 13, 2010

Ms. Jennifer Anderson
President
Anderson Environmental & Engineering
124 N. Water St., Ste 206
Rockford, IL 61107

Dear Ms. Anderson:

We have had an opportunity to review the proposed project for the solar field on Chicago/Rockford International Airport property.

The Agency has no objections to the project as described in your letter received in our office on July 12, 2010. If more than one acre is disturbed during construction, a construction site activity stormwater NPDES permit will be required from the Division of Water Pollution Control. You may contact Al Keller, 217-782-0610, with questions on NPDES permits.

Solid and hazardous waste must be properly disposed of or recycled.

Normal response time is between 2-4 weeks for engineers to review and comment on your proposed project . If you have need for an Environmental Review in the future, please submit your information to:
Illinois Environmental Protection Agency, Deputy Director's Office/MC #1,
PO Box 19276, Springfield, Illinois 62794-9276, **ATTN: DiAnne Schuerman**

Sincerely,

Lisa Bonnett

Lisa Bonnett
Acting Deputy Director

Rockford • 4302 N. Main St., Rockford, IL 61103 • (815) 987-7760
Elgin • 595 S. State, Elgin, IL 60123 • (847) 608-3131
Bureau of Land – Peoria • 7620 N. University St., Peoria, IL 61614 • (309) 693-5462
Collinsville • 2009 Mall Street, Collinsville, IL 62234 • (618) 346-5120
Des Plaines • 9511 W. Harrison St., Des Plaines, IL 60016 • (847) 294-4000
Peoria • 5415 N. University St., Peoria, IL 61614 • (309) 693-5463
Champaign • 2125 S. First St., Champaign, IL 61820 • (217) 278-5800
Marion • 2309 W. Main St., Suite 116, Marion, IL 62959 • (618) 993-7200

Illinois Historic
Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Winnebago County PLEASE REFER TO: IHPA LOG #043071210
Rockford
Chicago/Rockford International Airport, South Bend/Baxter Roads
Solar Field/Rockford Solar Environmental Assessment

July 15, 2010

Ms. Jennifer Anderson
Anderson Environmental & Engineering Company
President
124 North Water Street, Suite 206
Rockford, Illinois 61107

Dear Madam:

Thank you for requesting comments from our office concerning the possible effects of the project referenced above on cultural resources. Our comments are required by Section 106 of the National Historic Preservation Act of 1966 (16 USC 470), as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

The project area has not been surveyed and may contain prehistoric/historic archaeological resources. Accordingly, a Phase I archaeological reconnaissance survey to locate, identify, and record all archaeological resources within the project area will be required. This decision is based upon our understanding that there has not been any large scale disturbance of the ground surface (excluding agricultural activities) such as major construction activity within the project area which would have destroyed existing cultural resources prior to your project. If the area has been heavily disturbed prior to your project, please contact our office with the appropriate written and/or photographic evidence.

The area(s) that need(s) to be surveyed include(s) all area(s) that will be developed as a result of the issuance of the federal agency permit(s) or the granting of the federal grants, funds, or loan guarantees that have prompted this review.

Enclosed you will find an attachment briefly describing Phase I surveys and a list of archaeological contracting services. THE IHPA LOG NUMBER OR A COPY OF THIS LETTER SHOULD BE PROVIDED TO THE SELECTED PROFESSIONAL ARCHAEOLOGICAL CONTRACTOR TO ENSURE THAT THE SURVEY RESULTS ARE CONNECTED TO YOUR PROJECT PAPERWORK.

If you have further questions, please contact David J. Halpin, Staff Archaeologist at 217/785-4998.

Sincerely,

Anne E. Haaker

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH

Enclosure

Illinois Historic Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

PROTECTING ILLINOIS' CULTURAL RESOURCES

An Introduction to Archaeological Surveys

Prepared by
ILLINOIS STATE HISTORIC PRESERVATION OFFICE

When you read the accompanying letter, you were notified that your Federal or State permitted, funded, or licensed project will require an archaeological survey. We also review projects that use public land. The purpose of this survey will be to determine if prehistoric or historic resources are present within the project area. If you are the average applicant you have had little or no experience with such surveys – this short introduction is designed to help you fulfill the Federal/State requirements and complete the process.

WHY PROTECT HISTORIC RESOURCES? Historic preservation legislation grew out of the public concern for the rapid loss of our prehistoric and historic heritage in the wake of increasingly large-scale Federal/State and private development. The legislation is an attempt to protect our heritage while at the same time allowing economic development to go forward.

WHAT IS THE LEGAL BASIS? The basis for all subsequent historic preservation legislation lies within the national Historic Preservation Act of 1966 (NHPA). Section 106 of NHPA requires all Federal Agencies "undertakings" to "take into account" their effect on historic properties. As of January 1, 1990, the State Agency Historic Resources Preservation Act (Public Act 86-707) requires the same for all private or public undertakings involving state agencies. An "undertaking" is defined to cover a wide range of Federal or State permitting, funding, and licensing activities. It is the responsibility of Federal/State Agencies to ensure the protection of historic resources and the State Historic Preservation Office (SHPO) regulates this effort. In Illinois the SHPO is part of the Illinois Historic Preservation Agency (IHPA).

WHAT IS AN ARCHAEOLOGICAL SURVEY? An archaeological survey includes both (1) an examination of the written records, such as county plat books, published and unpublished archaeological reports, state site files, and (2) a field investigation of the project area to determine if prehistoric or historic resources are present. This process of resource identification is called a Phase I survey.

WHAT DOES A PHASE I SURVEY REQUIRE? Archaeological evidence is normally buried beneath the surface of the ground. To determine if an archaeological site is present it is necessary to get below this surface. The most efficient way is by plowing. If the project area is or can be plowed then the artifactual evidence will be brought to the surface and systematic pedestrian surveys (walkovers) will determine if a site is present. These walkovers are best done when the vegetation is low in the fall or spring. If the project area is covered with vegetation then small shovel probes (1' sq.) are excavated on a systematic grid pattern (usually 50' intervals) to sample the subsurface deposits. Where deeply buried sites may be present, such as in floodplains, deep coring or machine trenching may be required.

WHO DOES ARCHAEOLOGICAL SURVEYS? Professional archaeologists who meet the Federal standards set forth in the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9) may conduct Federal surveys, while those meeting the State standards set forth in the Archaeological and Paleontological Resources Protection Act (20 ILCS 3435) may conduct surveys on public land in the State (see the other side of this sheet for information on obtaining the services of a contract archaeologist). The applicant is responsible for obtaining and paying for such services.

AFTER THE SURVEY – WHAT NEXT? When the field investigations are completed the archaeologist will submit a report of their findings and recommendations to the applicant. **IT IS THE RESPONSIBILITY OF THE APPLICANT TO FORWARD TWO (2) PAPER COPIES AND ONE (1) CD WITH THE REPORT IN PDF FORMAT TO THE SHPO FOR EVALUATION AND FINDINGS.** If no sites were found or the sites found are not eligible for the National Register the project may proceed. Occasionally, a significant archaeological site may be encountered. In such a case the SHPO and the Federal or State Agency will work with the applicant to protect both the cultural resources and to facilitate the completion of your project.

NEED FURTHER ASSISTANCE? The IHPA is here to assist you and the Federal/State agencies in complying with the mandates of the historic preservation legislation. If you have questions or need assistance with archaeological resources protection or Federal/State compliance, please contact the Archaeology Section, Preservation Services Division, Illinois Historic Preservation Agency, One Old State Capitol Plaza, Springfield, Illinois 62701 (217-782-4836).

OVER

Illinois Historic
Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Illinois Historic Preservation Agency – Archaeology Section
Information for Developers and Agencies about general procedures for Phase 2 archaeology projects

Anyone notified of an archaeological site subject to Phase 2 testing in their project area, has several options:

1 Preserve the site by planning your project to avoid or greenspace the site, a deed covenant maybe necessary depending on the land ownership and the law the project is being reviewed under.
2. Hire an archaeological firm to conduct a Phase 2 project on the site.
3. Choose a different location for the project (generally means starting review process over from scratch, but there will be rare occasions when this is actually the fastest and cheapest option). This is something you may wish to consider if there are burials in the project area, or an extremely large or dense site in the project area.

Phase 2 archaeological projects consist of fieldwork, analysis, and report by the archaeological firm, and then review of the report by the IHPA and sometimes also by the funding or permitting agency, with additional work required part of time depending on the significance of the site(s). However, if a project has no significant sites after a Phase 2 project has been completed and reviewed, then the archaeology is completed as soon as IHPA accepts the report. If a project area has more than 1 site, each one is reviewed independently, in other words, one could be determined not significant and while another one is determined significant or potentially significant.

Phase 2 field work generally consists of obtaining good artifact type and location data from the site surface by methods such as grid collections, piece plotting, etc., this is followed by a small scale excavation. In some cases the fieldwork (commonly called test units) can be done with assistance of machines like backhoes or occasionally even large equipment like belly scrapers (plowed or partially disturbed sites), but sometimes it is necessary to dig by hand (mounds, unplowed sites, or inaccessible locations). The test units are excavated to the base of the plowzone or topsoil, and then the base of the unit is checked for presence of archaeological features (foundations, pits, hearths, burials, middens, etc.) If features are present, a small number (generally not more than 5-10) of them are excavated to provide information about the site's age, function, integrity, etc. Samples of soil from each feature for botanical and zoological analysis are usually taken. Also on floodplains of large rivers, several additional "deep" trenches are usually necessary to check for buried sites. The amount of time required for fieldwork is highly dependent on the size of a site, on whether machines can be used, and on the density of features, as well as the weather.

Analysis at Phase 2 consists of identifying and inventorying all of the artifacts recovered and preparing data recorded in the field for a report. The length of time needed is again highly variable based on the factors listed above. The report describes the field and lab information, provides a preliminary interpretation of the site, and makes recommendations concerning the significance of the site.

The archaeology staff at the State Historic Preservation Office (IHPA in Illinois) and sometimes the archaeologists at the lead funding or permitting agency review the report. Based on the report and their knowledge of regional archaeological, they determine (following criteria outlined in the appropriate law and regulations for each project) if the work done was acceptable, and whether the site(s) are not significant and need no further investigation or are significant. If a site is significant (meets the eligibility criteria for the National Register of Historic Places), the choices are mitigation (generally by complete excavation) or preservation.

Joseph S. Phillippe, Chief Archaeologist (1-1-2005)

CENTRAL REGION CON'T

Mr. Mark C. Branstner
Great Lakes Research, Inc.
Post Office Box 2341
Champaign, Illinois 61825-2341
517-927-4556
mark.branstner@branstner.com

Dr. Fred A. Finney
Upper Midwest Archaeology
Post Office Box 106
St. Joseph, Illinois 61873-0106
217-469-0106 (voice/fax same)
cell 217-778-0348
FAFinney@aol.com

Center for American Archeology
(Kampsville Archeological Center)
Post Office Box 22
Kampsville, Illinois 62053
618-653-4316 / 4232 (fax)
gail@caa-archeology.org

Mr. David J. Nolan
ITARP Western Illinois Survey Division
604 East Vandalia
Jacksonville, Illinois 62650
217-243-9491 / 7991 (fax)
Macomb Lab
309-833-3097
Springfield Lab
217-522-4295 / 4395 (fax)

Dr. Terry Martin
Illinois State Museum Society
1011 East Ash Street
Springfield, Illinois 62703
217-785-0037 / 2857 (fax)

Mr. Floyd Mansberger
Fever River Research
Post Office Box 5234
Springfield, Illinois 62705
217-525-9002 / 6093 (fax)

Mr. Joseph Craig
Prairie Archaeology & Research
Environmental Compliance Consultants
Post Office Box 5603
Springfield, Illinois 62705-5603
217-544-4881 / 4988 (fax)
jcraig@prairiearchaeology.com
jcraig@eccinc.org

METRO EAST REGION

Mr. Don Booth
2610 Sidney Street
Alton, Illinois 62002
618-462-5152 / 618-465-9548 (fax)
dnbooth@charter.net

Dr. Steve Dasovich
SCI Engineering, Inc.
15 Executive Drive
Fairview Heights, Illinois 62208
636-949-8200 / 8269 (fax)

Dr. Joseph M. Galloy
Coordinator, American Bottom Field Sta
Illinois State Archaeological Survey
Institute Natural Resource Sustainability
University of IL at Urbana-Champaign
Wood River Laboratory
144C East Ferguson Avenue
Wood River, Illinois 62095
618-251-3922 / 3943 (fax)
galloy@illinois.edu

Dr. John Kelly
Central Mississippi Valley
Archaeological Research Institute
Post Office Box 413
Columbia, Illinois 62236
618-540-8109

Archaeological Research Center of
St. Louis, Inc.
140 North Main Street
Post Office Box 241
Hecker, Illinois 62248
314-426-2577 / 2599 (fax)
archcen@sbcglobal.net

SOUTHERN REGION

Mr. Steve Titus
American Resources Group, Ltd.
127 North Washington Street
Carbondale, Illinois 62901
618-529-2741 / 457-5070 (fax)

Dr. Brian M. Butler
Southern Illinois University
Center for Archaeological Investigations
Mail Code 4527
Carbondale, Illinois 62901
618-453-5031 / 8467 (fax)

ILLINOIS-BASED CONSULTING SERVICES WITH PROFESSIONAL ARCHAEOLOGISTS (by zip code order, 3/22/2010 update)
In order to assist agencies, engineering firms, and others who require professional archaeological services the Illinois Historic Preservation Agency (IHPA) has listed below Illinois-based firms with professional archaeologists currently performing contract archaeological compliance work. Based on documentation supplied by them these individuals appear to meet current Federal qualifications. This list is provided for your assistance, however, you may use any archaeologist who meets the minimum qualifications as set forth in Secretary of the Interior's Professional Qualifications Standards (36 CFR 61). Federal and state regulations require a completed graduate degree with an emphasis in archaeology and 16 months of professional archaeological experience (**BOLD names** below). If you have any questions please contact IHPA at 217-785-4512. THE INCLUSION OF INDIVIDUALS OR ORGANIZATIONS ON THIS LIST DOES NOT CONSTITUTE ANY RECOMMENDATION OR ENDORSEMENT OF THEIR PROFESSIONAL EXPERTISE OR PERFORMANCE RECORD BY THE IHPA.

CHICAGO METRO REGION

Dr. Kevin P. McGowan
Public Service Archaeology Prgm
Chicagoland Office (UI-UC)
Post Office Box 7085
Grayslake, Illinois 60030
847-548-7961 (fax same)

Dr. Leslie B. Kirchler, RPA
Environmental Resources Management
1701 Golf Road, Suite 1-1000
Rolling Meadows, Illinois 60008-4242
847-258-8921 / 8901 (fax)
leslie.kirchler@erm.com
www.erm.com

Mr. Steve Parrish
Archaeological Research, Inc.
1005 Greta Avenue
Woodstock, Illinois 60098
815-334-8077 / 0530 (fax)
Arch-res.com

Dr. Mark W. Mehrer
Northern Illinois University
Contract Archaeology Program
Department of Anthropology
102 Stevens Building
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815-754-9611 / 758-5692 (fax)
bearus1@aol.com

Dr. Rochelle Lurie
Dr. M. Catherine Bird
Midwestern Archaeological
Research Services, Inc.
505 North State Street
Marengo, Illinois 60152
815-568-0680 / 0681 (fax)

CHICAGO METRO REGION
CON'T

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Archaeology & Geomorphology Services
2220 Mayfair Avenue
Westchester, Illinois 60154
708-531-1445 / 562-7314 (fax)
cbalek@msn.com

Mr. Jeff Schuh
Patrick Engineering, Inc.
4970 Varsity Drive
Lisle, Illinois 60532
630-795-7200 / 434-8400 (fax)

Ms. Lynn M. Gierek
ENSR International
27755 Diehl Road
Warrenville, Illinois 60555-3998
630-839-5332 / 836-1711 (fax)
lgierek@ensr.com

Dr. Thomas J. Loebel
CAGIS Archaeological Consulting Srvs.
University of Illinois at Chicago
Department of Anthropology
1007 West Harrison (m/c 027)
Chicago, Illinois 60607
312-413-8247 / 3573 (fax)
tloebel@uic.edu

Dr. David Keene
Archaeological Research, Inc.
4147 North Ravenswood Ave., Suite 301
Chicago, Illinois 60613-1830
773-975-1753 / 8286 (fax)
arch-res.com

Mr. Phil Millhouse
ITARP Northern Illinois Survey Division
6810 Forest Hills Road
Loves Park, Illinois 61111
815-282-0762 / 0754 (fax)

CENTRAL REGION

Ms. Karen A. Atwell
Farmland Archaeological Services
10475 N 2300 Avenue
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309-507-1330
Karen@karenatwell.com

Mr. Keith L. Barr
Archaeological & Architectural Surveys
Old Inn Farm
Rural Route 1
Fairview, Illinois 61432
309-778-2536

Mr. Lawrence A. Conrad
Western Illinois University
Archaeology Lab
201 Tillman Hall
Macomb, Illinois 61455
309-298-1188

Dr. Michael D. Wiant
Dickson Mounds Museum
10956 North Dickson Mounds Road
Lewistown, Illinois 61542
309-547-3721

Dr. Charles L. Rohrbaugh
Archaeological Consultants
302 Kelly Drive
Normal, Illinois 61761
309-454-6590

Dr. Brian Adams
University of Illinois
Anthropology Department
Public Service Archaeology Program
109 Davenport Hall
607 South Matthews Avenue
Urbana, Illinois 61801
217-333-1636 / 217-244-1911 (fax)

Mr. Dale McElrath
University of Illinois Champaign-Urbana
UIUC-ITARP Statewide Office
23 East Stadium Drive
209 Nuclear Physics Lab (MC 571)
Champaign, Illinois 61820
217-333-0667 / 244-7458 (fax)
More Central Listings – Over

Rock River Water Reclamation District
3501 Kishwaukee Street
P.O. Box 7480
Rockford, IL 61126-7480

Tel: 815.387.7660
Fax: 815.387.7665

July 22, 2010

Mrs. Jennifer Anderson
Anderson Environmental & Engineering
124 N. Water St, Suite 206
Rockford, IL 61107

RE: Rockford Solar Environmental Assessment, South Bend & Baxter Road

Dear Mrs. Anderson:

The Rock River Water Reclamation District acknowledges the request for a review of our utility location for the site of the Rockford Solar Field on the south side of the Chicago/Rockford International Airport. The District does not have any existing facilities that would be impacted by your development. A map of our existing sewers and manholes is enclosed for your use.

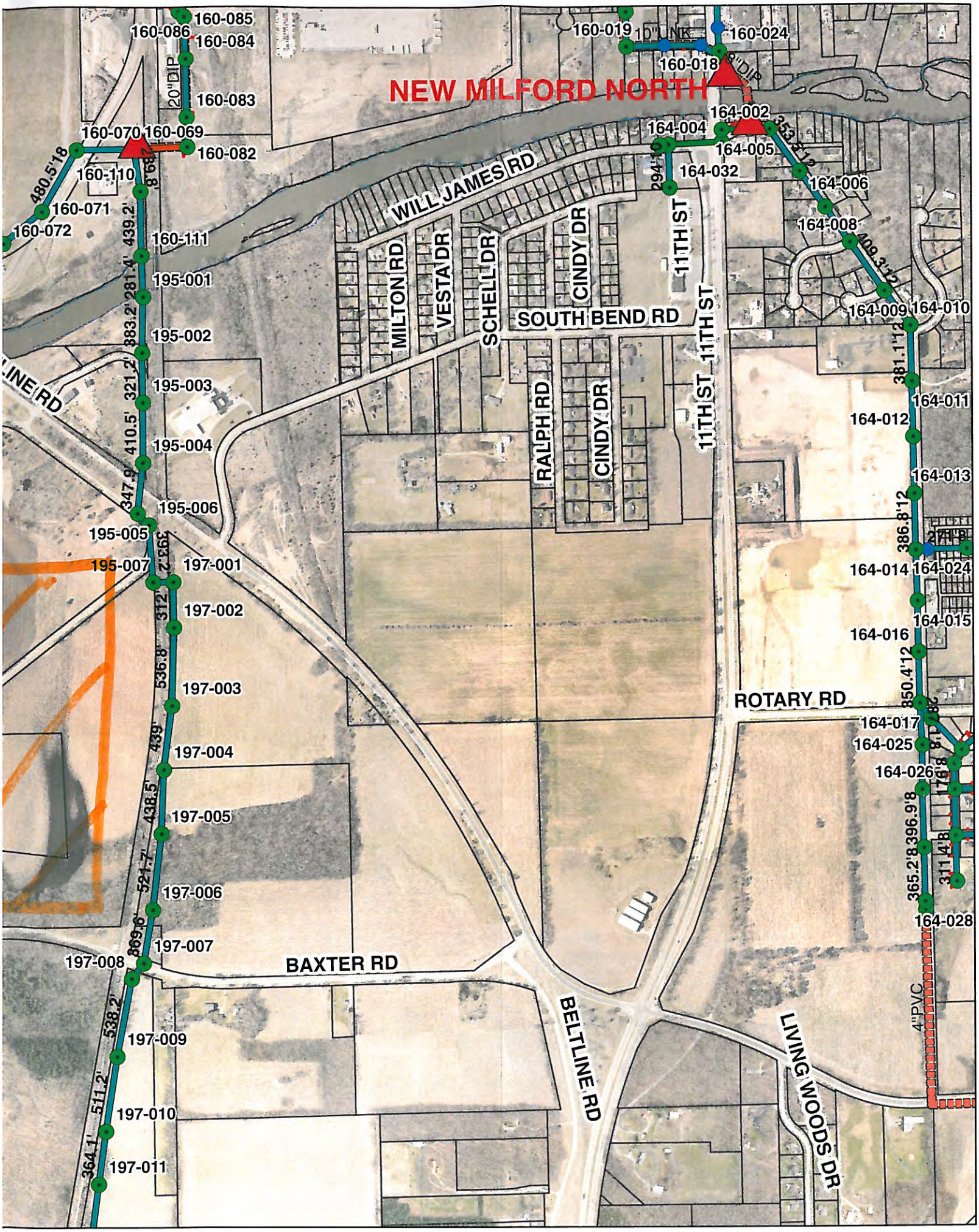
Should your proposed development require sanitary sewer service and connection to the District's collection system we would request that you complete a Sewer Inquiry Form which is available on our web site at rrwrd.dst.il.us.

Should you have any questions regarding these comments, please contact Mike Rieger at (815) 387-7684.

Sincerely,

Dana L. Carroll, P.E.
Engineering Manager

Enc: GIS excerpt
cc: M. Rieger, M. Weber, Jon Hollander (C.O.R.), File
mr\word\sav\2010\rockford solar.doc


NEW MILFORD NORTH
160-085
160-086
160-084
160-083
20"DIP
160-070
160-069
160-082
160-110
160-071
160-072
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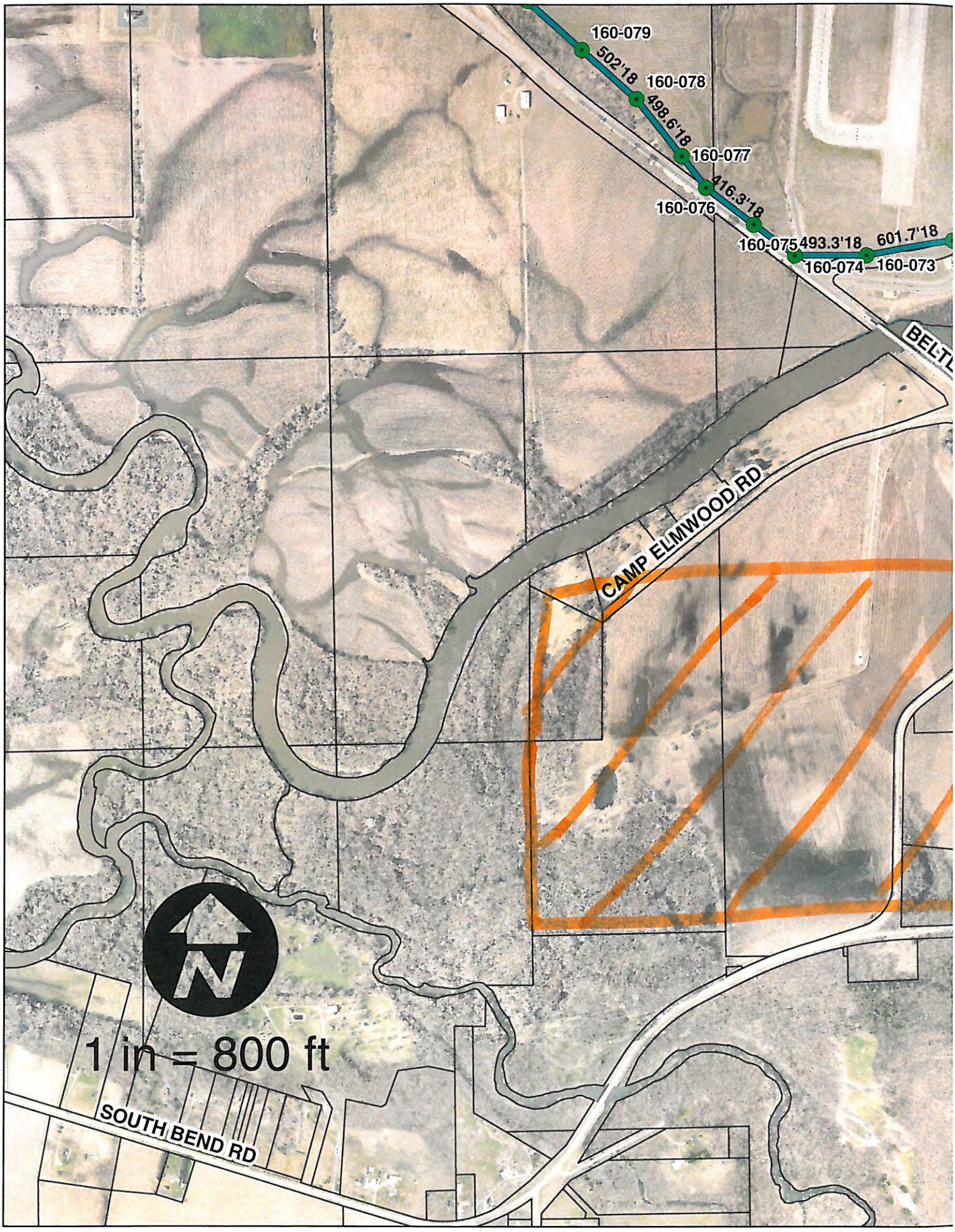
439.2'
160-111
195-001
281.4'
883.2'
195-002
321.2'
195-003
410.5'
195-004
347.9'
195-006
195-005
195-007
197-001
312'
197-002
536.8'
197-003
439'
197-004
438.5'
197-005
521.7'
197-006
869.6'
197-007
197-008
538.2'
197-009
511.2'
197-010
364.1'
197-011
160-019
10" UNK
160-024
160-018
8"DIP
164-002
164-004
164-005
164-032
294'
353.2'12
164-006
164-008
409.3'12
164-009
164-010
381.1'12
164-011
164-012
164-013
386.8'12
164-014
164-024
164-015
164-016
350.4'12
164-017
164-025
164-026
176'8
396.9'8
365.2'8
311.4'8
164-028
4"PVC
WILL JAMES RD
MILTON RD
VESTA DR
SCHELL DR
CINDY DR
SOUTH BEND RD
RALPH RD
CINDY DR
11TH ST
11TH ST
11TH ST
ROTARY RD
BAXTER RD
BELTLINE RD
LIVING WOODS DR
LINE RD


160-079
502'18
160-078
498.6'18
160-077
416.3'18
160-076
160-075
493.3'18
601.7'18
160-074
160-073
CAMP ELMWOOD RD
N
1 in = 800 ft
SOUTH BEND RD

Anderson
environmental&engineering

Record of Communication

Date: 7/12/2010

AEE Representative: Jennifer Anderson

Regarding: Rockford Solar

Contact Person: Brendan Otjen

Company: US Coast Guard

Phone: 630/986-2150

How Contact Initiated: Phone ☒

Summary:

Brendon Otjen received inquiry letter dated 7/8/2010. No navigable waterways are expected to be impacted by this project. Nearby Kishwaukee River would be only possible consideration, and it is not a navigable waterway. The U.S. Coast Guard offers no comments on this project

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
4833 Owen Center Road
Rockford, IL 61101
(815) 965-2392 x3
Fax (815) 965-2447

www.il.nrcs.usda.gov

July 19, 2010

Jennifer Anderson
Anderson Environmental and Engineering
124 N. Water St.
Ste. 206
Rockford, IL 61107

Dear Ms. Anderson,

Thank you for the opportunity to review and make comment on the Rockford Solar Environmental Assessment at South Bend/Baxter Roads. Looking at the existing natural resources within the proposed project area there are a number of concerns that should be noted.

- A majority of the area is in the 100-year flood plain with approximately 64% of the site being listed as floodway. According to FEMA, a "Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations.

- Frequent flooding, ponding, deposition of sediment and flood debris may be hazards that this project will need to address. It is not uncommon for fields adjacent to the Kishwaukee River and Kilbuck Creek during flood events to transport debris such as logs, tree limbs, branches, corn stalks, other organic debris, along with manmade materials such as tires and construction waste.

- 87 plus acres of the project site are considered hydric soil types. The Natural Resource Conservation Service (NRCS) defines a hydric soil as a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil horizon. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric. Some series, designated as hydric, have phases that are not hydric depending on water table, flooding, and ponding characteristics.

- Soil mapping units 3082A and 3776A are prime farmland and soil mapping unit 354A is listed as important farmland.

- All soil disturbances within the project area will need to have a sediment and erosion control plan developed and implemented in accordance with IEPA permitting and inspection regulations. Due to the sensitive location of the project area and the close proximity to high value waterways (Kishwaukee River) special measures will need to be taken.

- Soil and Water Features
  - 3082A Flooding frequency is frequent; duration is brief from April through June. High water table depth 0 to 2.0 feet is apparent from March through July.
  - 3776A Flooding frequency is common; duration is brief to long from April through July. High water table depth 0 to 1.0 feet is apparent from April through July.

- Upon our site inspection we observed that a Wetland Delineation had been completed for the project area. We would recommend no disturbance occur in those areas. The project area contains multiple wetland types that are critical to native plant and wildlife species. The Illinois Natural Heritage Data base shows the following protected resources may be in the vicinity of the project location:
  - Bell Bowl Prairie INAI Site
  - Kishwaukee River INAI Site
  - Upland Sandpiper (Endangered species)
  - Close proximity to Kilbuck Bluffs Forest Preserve
  - Local reports reference sightings of Bald Eagle and other unique bird species that utilize the habitat types on and adjacent to your project area.

- The Kishwaukee River Ecosystem Partnership (KREP) at http://krep.bios.niu.edu/index.htm maybe a good source for additional natural resources information regarding your project area.

In closing your project area poses many interesting challenges; floodway and floodplain management, wetlands, soil limitations, endangered species and potential limited access during frequent flooding. Our office in conjunction with the Winnebago County Soil and Water Conservation District has staff available to review site development plans and sediment and erosion control plans if you reach that phase of the project. We also have available for review historic photos and slides that you and the developer of the project may find beneficial. If you have any question please feel free to call me at 815-965-2392 x 3.

Sincerely,

Ed Johnston
District Conservationist
Ed.Johnston@il.usda.gov

Rockford Solar EA, Rockford, IL

Kamke.Sherry@epamail.epa.gov [Kamke.Sherry@epamail.epa.gov]

Sent: Wednesday, July 21, 2010 1:45 PM

To: Jennifer Anderson

Jennifer,

We received the coordination letter on the Rockford Solar EA. This is the first time that we have seen a proposal for solar facilities in close proximity to the end of a runway. We contacted FAA to share this letter with them. I am interested in the feedback that you get from them and resource agencies. We have no comments at this time. Please continue to send us information on the project as it develops.

Sherry A. Kamke
Environmental Scientist
NEPA Implementation (Mailcode: E-19J)
Office of Enforcement and Compliance Assurance
U.S. EPA Region 5
77 W. Jackson Blvd.
Chicago, Illinois 60604-3590
Phone: 312-353-5794
Fax: 312-408-2215

WINNEBAGO COUNTY FOREST PRESERVE DISTRICT

5500 Northrock Drive
Rockford, IL 61103

815-877-6100
FAX-877-6124

wcfpd@wcfpd.org
www.wcfpd.org

Since 1922, dedicated to the preservation of our heritage of forests and wildlife for the recreation and education of the people.

July 14, 2010

Jennifer Anderson
Anderson Environmental & Engineering
124 N. Water St., Suite 206
Rockford, IL 61107

RE: Rockford solar assessment

Dear Jennifer:

Thank you for the opportunity to respond to the proposed development. We hope that it goes well and that it is a benefit for our community.

The plan provided does not show much detail so we will keep our comments general. The Forest Preserve District owns and manages the property west and south of this site (Kilbuck Bluffs Forest Preserve). The Kishwaukee River and Kilbuck Creek travel past our property. We, therefore, have the following comments.

1. That the water quality of Kilbuck Creek and Kishwaukee River will not be reduced as a result of development, either by erosion or chemical pollutants.
2. No additional run off be diverted onto Forest Preserve District property. The site is low and does hold water during wet periods. Last year excessive water was diverted to our property via the South Bend Road ditch because of nearby construction.
3. We ask that existing trees along the western property edge be preserved. The map showing the solar field area includes a forested section that appears as if it might be cleared.

We would welcome a discussion with those concerned with the solar field proposal to talk in detail about how the development may affect the adjacent forest preserve. We do have a desire to manage the floodplain forest portion of the site and did make such a request to the airport management in 2008. We are still interested in the possibility.

Thank you again for being included in the development plans.

Sincerely,

Tom

Tom Hartley
Director of Land & Development

cc: Thomas M. Kalousek, Executive Director

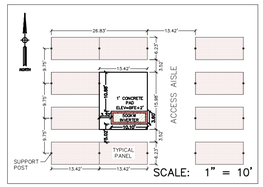
ew

SITE PLAN

RACKS: 20,713
PANELS: 82,852
WATTS: 23,198,560

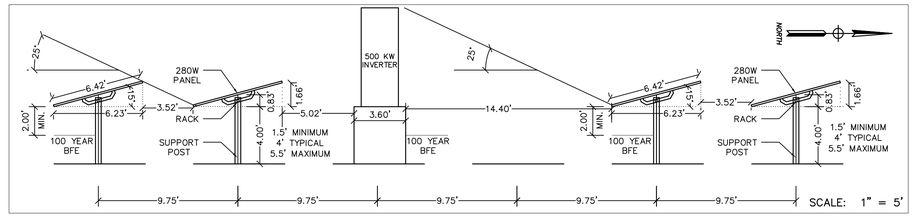
LEGEND:
- PROPOSED SOLAR FIELD BOUNDARY
- FLOODWAY PER FIRM
- RUNWAY PROTECTION ZONE
- 693 CONTOUR
- 695 CONTOUR
- 697 CONTOUR
- 699 CONTOUR
- CONTOURS
- OHW — OVERHEAD WIRE(S)
- FENCE, WIRE
- TREELINE
- PROPOSED 20' – 25' UTILITY POLE
- OHW — PROPOSED OVERHEAD WIRE(S)
- X — PROPOSED 6' CHAIN-LINK FENCE
- 700.0 — PROPOSED CONTOURS
- PROPOSED TOP OF POST ELEVATION
- PROPOSED INVERTER SPACE
- PROPOSED SOLAR PANEL

INVERTER SPACE ORIENTATION E/W:



SCALE: 1" = 10'

PANEL MOUNT CROSS SECTION:



SCALE: 1" = 5'

NORTH

RAILROAD RIGHT-OF-WAY

OHW

treeline

PROPOSED UTILITY POLE (TYPICAL)

PROPOSED ASPHALT

PROPOSED 10,000 SQ.FT. TRANSFORMER COMPOUND

ACCESS EASEMENT

BELTLINE ROAD

LOGAN-ELMWOOD ROAD

SOUTH BEND ROAD

ACCESS PATH

1,750'

697.0

695.0

699.0

700.0

705.0

REVISIONS

DATE	DESCRIPTION	DRAWN BY

CONSULTING, INC.
INFRACON & GEOCON
CONSULTING CIVIL ENGINEERS, PLANNERS & LAND SURVEYORS
300 MARQUARDT DRIVE WHEELING, ILLINOIS 60090 PH. (847) 215-1133 • FAX (847) 215-1177
e-mail: ig@igconsulting.net

SITE PLAN

DESIGN: K.C.L. | DRAFTING: J.H.
SCALE: 1" = 100' | DATE: 11/10/2010

ROCKFORD SOLAR SITE

ROCKFORD, ILLINOIS

PROJECT No. 10157

G:\IG\10\10157\eng\10157.dwg

February 28, 2011

Ms. Amber Andress
U.S. Fish & Wildlife Service
Rock Island Ecological Services Field Office
1511 47th Ave.
Moline, IL 61265

Dear Ms. Andress:

Subject: Potential Indiana Bat Roost Tree Survey
Proposed Rockford Solar Field Project
Rockford, Winnebago County, Illinois
CEC Project No. 110-269

On behalf of our client, Anderson Environmental and Engineering, Co. (AE&E), Civil & Environmental Consultants, Inc. (CEC) has prepared the following letter report documenting the results of a potential Indiana bat (*Myotis sodalis*) roost tree survey conducted within the Proposed Rockford Solar Field Project area (the Project Area), located in Winnebago County, Illinois (Figure 1). The Project Area is located south of Chicago Rockford International Airport and the Kishwaukee River, north of the intersection of the South Bend Road and Baxter Road (Figure 1). Opinions presented in this letter report were developed based upon the site observations made on February 16, 2011, and available information.

The proposed Rockford Solar Field Project will consist of the construction of a solar power generating facility to provide affordable and renewable energy to residential, commercial, and industrial customers within the Rockford area. The majority of the land that will be disturbed by the Project consists of active agricultural row crop fields. Additionally, one old field area with scattered trees, approximately 12 acres in size, is located within the proposed limits of disturbance.

To demonstrate compliance with the Endangered Species Act as part of a National Environmental Policy Act Environmental Assessment that was prepared by AE&E for the Project, CEC initially prepared a threatened and endangered species habitat assessment report for

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Export 800/899-3610
Indianapolis 877/746-0749
Nashville 800/763-2326
Phoenix 602/953-7705
St. Louis 866/250-3679

the Project Area and submitted it to your office on August 20, 2010. In this report, CEC stated that the proposed Project may affect, but would not adversely affect, the Indiana bat provided that tree clearing activities occur during the October 15 to March 31 time period. In a letter dated October 19, 2010, the U.S. Fish & Wildlife Service (USFWS) concurred with this effect determination for the Indiana bat and specified that tree clearing activities be conducted outside the maternity season for the Indiana bat, which occurs between April 1 and September 30 in Illinois.

CEC was recently contacted by AE&E and made aware that, because of delays in the implementation of Project construction activities, it may be necessary that trees be cleared within the Project Area between April 1 and September 30. CEC subsequently contacted you via telephone on February 14, 2011, in order to request concurrence that trees within the Project Area could be cleared between April 1 and September 30, provided that none of the trees were potential Indiana bat roost trees. During this telephone conversation, CEC proposed conducting a site visit to the Project Area in order to determine if potential Indiana bat roost trees are present within the limits of disturbance associated with the Project. You stated that this would be acceptable and that trees could be cleared between April 1 and September 30, provided that the results of the potential Indiana bat roost tree survey indicated that none of the trees were potentially suitable roost trees.

CEC conducted a site visit to the Project Area on February 16, 2011, in order to determine if potential Indiana bat roost trees were present within the proposed limits of disturbance and, if applicable, to record the locations of potentially suitable Indiana bat roost trees observed. Below, please find the results from our site visit.

Figure 2 shows the locations of forested areas within the Project Area. Two areas of forest are present within the Project Area and include early successional mixed hardwood forest habitat (Forest 1) and early successional fencerow habitat (Fencerow 1). Forested habitat data sheets for each of these forested areas within the Project Area are provided in Attachment II and contain a list of the dominant canopy, shrub and herbaceous species, as well as information about canopy cover and understory density. Representative photographs of each of these forested areas are provided in Attachment I.

Forest 1 is an open stand of deciduous woodland present within an old field area in the northeastern portion of the Project Area. The dominant tree species within Forest 1 include Eastern cottonwood (*Populus deltoids*), slippery elm (*Ulmus rubra*), hackberry (*Celtis occidentalis*), red maple (*Acer rubrum*), American elm (*Ulmus americana*), pin oak (*Quercus palustris*), and white ash (*Fraxinus americana*). Understory tree and shrub species common within Forest 1 include eastern red cedar (*Juniperus virginiana*), Amur honeysuckle (*Lonicera maackii*), staghorn sumac (*Rhus typhina*), hawthorn (*Crataegus* sp.), and saplings of tree species found in the canopy. Common understory species include Queen Ann's lace (*Daucus carota*), common mullein (*Verbascum thapsus*), poison ivy (*Toxicodendron radicans*), goldenrod (*Solidago* spp.), and vervain (*Verbena* sp.). The average canopy cover within Forest 1 is approximately 60 percent, while the understory density is variable, averaging 25 to 50 percent. Representative photographs of Forest 1 are provided in Attachment I.

Fencerow 1 is an early successional fencerow that is located along the eastern boundary of the Project Area. It is dominated by boxelder (*Acer negundo*), honey locust (*Gleditsia tricanthos*), hackberry, black cherry (*Prunus serotina*), red maple, and hawthorn in the overstory, with the understory being dominated by Amur honeysuckle, goldenrod, Queen Ann's lace, common mullein, poison ivy, and milkweed. The average canopy cover of Fencerow 1 is approximately 5 to 10 percent, while the average understory density is between 25 and 50 percent. Representative photographs of Fencerow 1 are provided in Attachment I.

CEC biologist Mary Gilmore conducted a pedestrian survey of forested areas within the Project Area on February 16, 2011, in order to record the locations of potentially suitable Indiana bat roost trees. Figure 2 shows the locations of potentially suitable roost trees identified during the survey. Table I contains information about each of the potential roost trees. Representative photographs of the potential roost trees are provided in Attachment I.

A total of two potential Indiana bat roost trees were identified within the Project Area. Both potential roost trees were identified as slippery elm and were present within Forest 1. These potential roost trees are of relatively low quality. Data forms completed for each of these trees are provided as Attachment III. The approximate locations of these trees are shown on Figure 2

and are based on GPS coordinates collected by CEC during the pedestrian survey using a handheld GPS unit (sub-meter accuracy).

As stated, the Project Area primarily consists of active agricultural row crop fields. No streams or rivers are present within the Project Area.

On behalf of our client, AE&E, CEC respectfully requests your concurrence that trees within the Project Area may be cleared during any time of year, including the April 1 to September 30 time period, with the exception of the two potential Indiana bat roost trees identified by CEC. Those potential Indiana bat roost trees will be cleared outside of the April 1 to September 30 time period, or during this time period if a two-night emergence count is conducted by a qualified bat biologist and no bats are observed exiting those two trees. If you have any questions or require additional information, please contact the undersigned at 513-985-0226.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

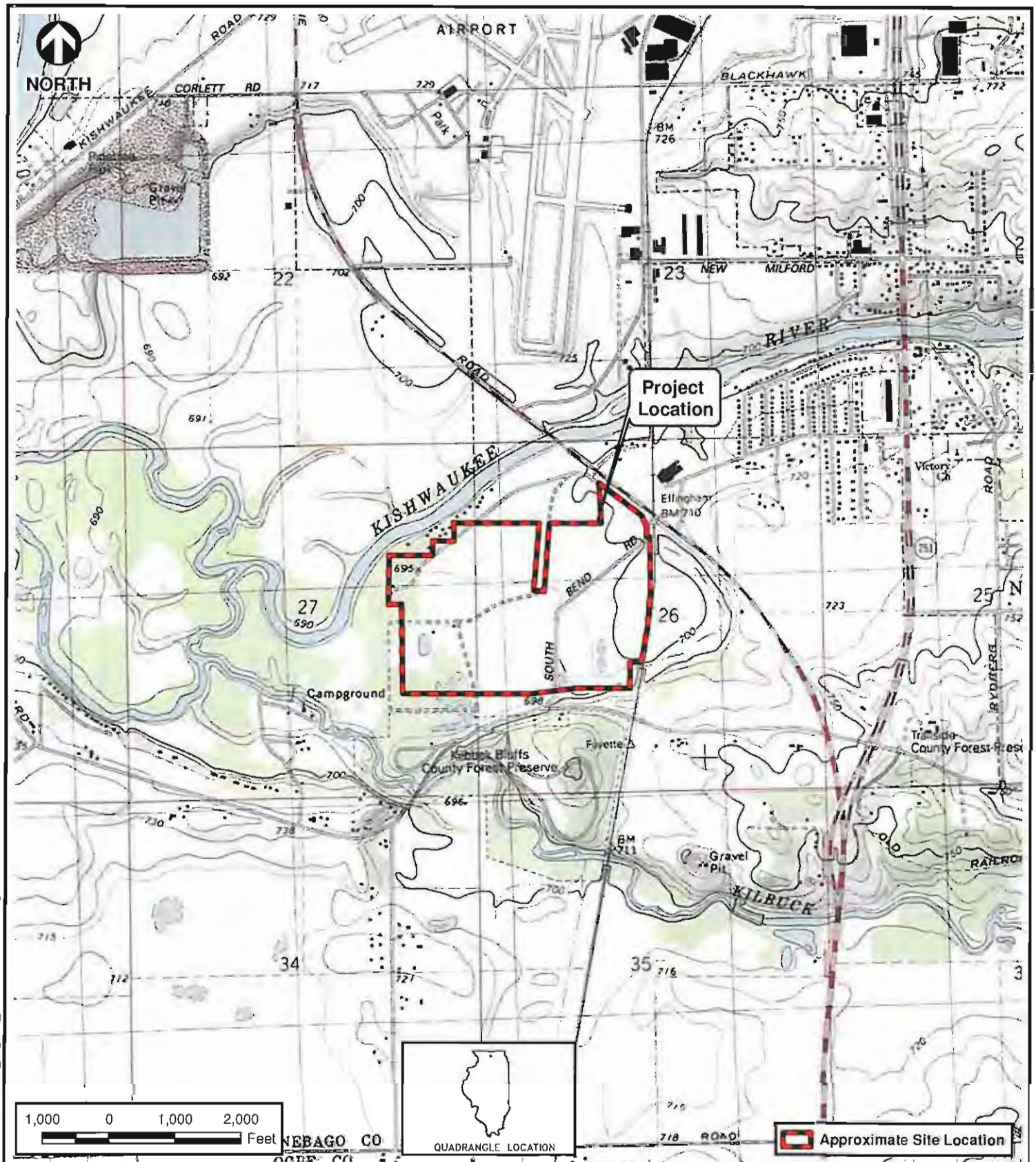
Daniel J. Godec
Project Manager

James E. Zentmeyer
Principal

Attachment: Figure 1 – Site Location Map
Figure 2 – Potential Indiana Bat Roost Tree Map
Attachment I – Site Photographs
Attachment II – Forested Habitat Data Sheets
Attachment III – Potential Indiana Bat Roost Tree Data Sheets
Table 1 – Potential Indiana Bat Roost Tree Information

cc: Jennifer Anderson, AE&E

FIGURES



SOURCE: PORTION OF THE USGS 7.5-MINUTE SERIES TOPOGRAPHIC QUADRANGLE MAP - ROCKFORD SOUTH, ILL 1977.

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ROCKFORD SOLAR FIELD PROJECT
SOUTH BEND ROAD & BAXTER ROAD
ROCKFORD, WINNEBAGO COUNTY, ILLINOIS

SITE LOCATION MAP

DRAWN BY:	MJB	CHECKED BY:	DJG	APPROVED BY:	JEZ*	FIGURE NO:
DATE:	FEBRUARY 22, 2011	DWG SCALE:	1 " = 2,000 '	PROJECT NO:	110-269	1

Signature on File *

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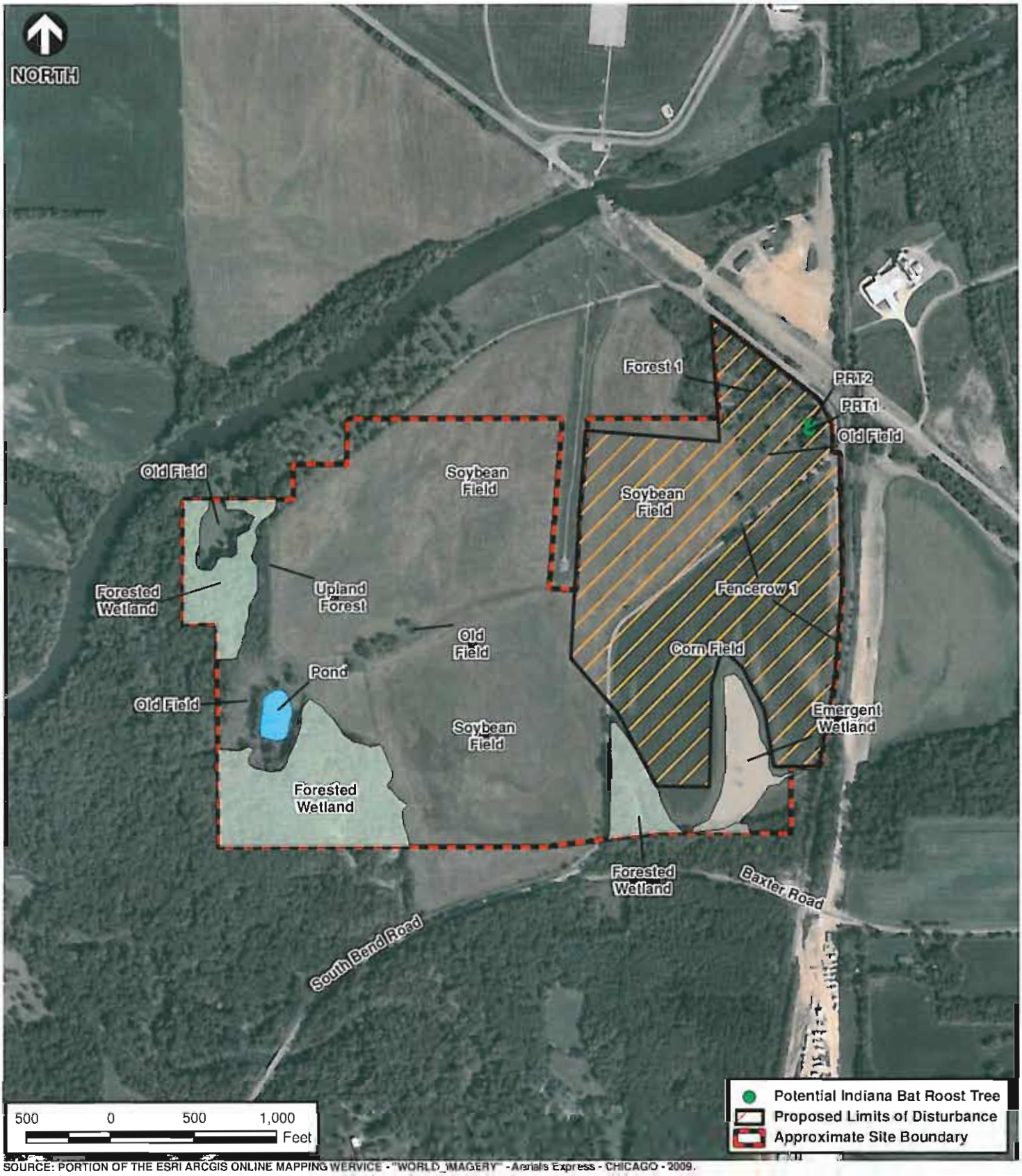

SOURCE: PORTION OF THE ESRI ARCGIS ONLINE MAPPING WERVICE - "WORLD_IMAGERY" - Aerials Express - CHICAGO - 2009.

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POTENTIAL INDIANA BAT ROOST TREE MAP

DRAWN BY:	MJB	CHECKED BY:	DJG	APPROVED BY:	JEZ*	FIGURE NO:
DATE:	FEBRUARY 22, 2011	DWG SCALE:	1 " = 800 '	PROJECT NO:	110-269	2

Signature on File *

ATTACHMENT I

SITE PHOTOGRAPHS

Photograph 1. View of early successional mixed hardwood forest (Forest 1). Photo taken facing southeast.

Photograph 2. View of early successional mixed forest (Forest 1). Photo taken facing west.

Anderson Environmental and Engineering, Co.
Rockford Solar Field Project Area
Rockford, Winnebago County, Illinois
CEC Project No. 110-269
Photographs Taken on February 16, 2011

Photograph 3. View of early successional mixed hardwood forest (Forest 1). Photo taken facing east.

Photograph 4. View of early successional mixed hardwood forest (Forest 1). Photo taken facing south.

Anderson Environmental and Engineering, Co.
Rockford Solar Field Project Area
Rockford, Winnebago County, Illinois
CEC Project No. 110-269
Photographs Taken on February 16, 2011

Photograph 5. View of fencerow habitat (Fencerow 1). Photo taken facing north.

Photograph 6. View of fencerow habitat (Fencerow 1). Photo taken facing south.

Photograph 7. View of potential Indiana bat roost tree (PRT-1) in early successional mixed hardwood forest habitat (Forest 1) in northeast portion of the Project Area. Photo taken facing west.

Photograph 8. View of potential Indiana bat roost tree (PRT-2) in early successional mixed hardwood forest habitat (Forest 1) in northeast portion of the Project Area. Photo taken facing northwest.

Anderson Environmental and Engineering, Co.
Rockford Solar Field Project Area
Rockford, Winnebago County, Illinois
CEC Project No. 110-269
Photographs Taken on February 16, 2011

Photograph 9. Representative view agricultural field and early successional fencerow habitat (Fencerow 1) from the southeast corner of the site. Photo taken facing northwest.

ATTACHMENT II

FORESTED HABITAT DATA SHEETS

Rockford Solar Indiana Bat Habitat Assessment
Forested Habitat Data Sheet

Surveyor(s): Mary Gilmore **Date:** 2/16/2011

Forest Type: Mixed hardwood, early successional **Identification Number:** Forest 1

Photo Numbers: 1, 2, 5, 8, 9.

Location (State/County/GPS Data): Rockford, Winnebago Co. IL GPS Point

Dominant Species Present:

Canopy: e. cottonwood, american elm, slippery elm, pin oak, hackberry, red maple, white ash

Shrub: e. red cedar, slippery elm, cottonwood, honeysuckle, staghorn sumac, Crataegus sp.

Herbaceous: Solidago spp., queen anne's lace, vervain, common mullein, poison ivy

Average Percent Canopy Cover: 50% **Understory Density:** 25-50 %

Water Features Within Survey Area: none observed

Potential Indiana Bat Roost Trees Present: 2 slippery elms

Comments:

Rockford Solar Indiana Bat Habitat Assessment
Forested Habitat Data Sheet

Surveyor(s): Mary Gillmore **Date:** 8/16/2011

Forest Type: Tree Line [illegible] **Identification Number:** Fencerow 1

Photo Numbers: 3,4

Location (State/County/GPS Data): IL, Rockford, Winnebago Co. [illegible]

Dominant Species Present:

Canopy: B. cherry, r. maple, hackberry, [illegible], box-elder, honey locust

Shrub:

Herbaceous: milkweed, goldenrod, queen anne's lace, common mullein, poison ivy

Average Percent Canopy Cover: 5-10% **Understory Density:** 25-50%

Water Features Within Survey Area:

Potential Indiana Bat Roost Trees Present: 0

Comments: scattered [illegible] [illegible] of tree line [illegible] tree [illegible]

ATTACHMENT III

POTENTIAL INDIANA BAT ROOST TREE DATA SHEETS

Rockford Solar Indiana Bat Habitat Assessment
Indiana Bat Roost Tree Identification Data Form

Surveyor(s): M. Gilmore **Date:** 02/16/2011

Roost Tree Identification Number: PRT1 **Forest Type:** non-forested early successional

Forested Habitat Identification Number: Forest 1

Status of Tree (circle): (Living) / Dead **Tree Species:** Slippery elm (Ulmus rubra)

DBH (circle): < 4" 4-8" 8-12" 12-16" 16-20" (>20")

Proximity to Water Features: Wetlands and pond over ¼ mile away; Kishwaukee River northwest of site

Understory Density (circle):	0-25%	25-50%	(50-75%)	75-100%
Midstory Density (circle):	(0-25%)	25-50%	50-75%	75-100%
Canopy Cover (circle):	(0-25%)	25-50%	50-75%	75-100%

Location (State/County/GPS Data): PRT1, Rockford, Winnebago County IL

Comments: Dying, broken limbs, small cavities, ex. bark (0-5%)
pic #6

Rockford Solar Indiana Bat Habitat Assessment
Indiana Bat Roost Tree Identification Data Form

Surveyor(s): M Gilmore **Date:** 7/16/2010

Roost Tree Identification Number: PRT 2 **Forest Type:** Mixed hardwood early successional

Forested Habitat Identification Number: Forest 1

Status of Tree (circle): (Living) / Dead **Tree Species:** slippery elm (Ulmus rubra)

DBH (circle): < 4" 4-8" 8-12" 12-16" 16-20" (>20")

Proximity to Water Features: Wetlands and ponds over ¼ mile away; Kishwaukee River North + west of site.

Understory Density (circle):	0-25%	25-50%	(50-75%)	75-100%
Midstory Density (circle):	(0-25%)	25-50%	50-75%	75-100%
Canopy Cover (circle):	(0-25%)	25-50%	50-75%	75-100%

Location (State/County/GPS Data): PRT 2 Rockford, Winnebago Co., Illinois

Comments: dying, broken limbs, peeling bark (15-20')

Photo # 7

TABLE I

POTENTIAL INDIANA BAT ROOST TREE INFORMATION

Table 1. Potential Indiana Bat Roost Tree Information

Potential Roost Tree Number	To Be Preserved or Removed?	Species	Estimated % Canopy Cover	Alive or Dead?	Dbh	Comment
PRT-1	Removed	Slippery elm	0 - 25 %	Alive	> 20 in.	broken limbs, small cavities, peeling bark
PRT-2	Removed	Slippery elm	0 - 25 %	Alive	> 20 in.	broken limbs, peeling barks

August 2, 2010 (Revised August 20, 2010)

Ms. Karen Miller
Section Manager
Impact Assessment Section
Division of Ecosystems and Environment
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702

Dear Ms. Miller:

Subject: Agency Coordination Letter and
Threatened and Endangered Species Habitat Assessment
Proposed Rockford Solar Field Project
Rockford, Winnebago County, Illinois
CEC Project No. 101-114

On behalf of our client, Anderson Environmental and Engineering, Co. (AE&E), Civil & Environmental Consultants, Inc. (CEC) has prepared the following revised letter report documenting the results of our federally-listed and state-listed threatened and endangered species habitat assessment within the approximate 205-acre proposed Rockford Solar Field Project area (the Project Area), located in Rockford, Winnebago County, Illinois. The Project Area is located south of Chicago Rockford International Airport and the Kishwaukee River, north of the intersection of South Bend Road and Baxter Road (Figure 1). Opinions presented in this letter report were developed based upon site observations made on July 6 and 7, 2010, and available information.

1.0 BACKGROUND

CEC was retained by AE&E to review available information and conduct an endangered and threatened species habitat assessment within the Project Area. The proposed Rockford Solar Field Project will consist of a solar power generating facility constructed to provide affordable and renewable energy to residential, commercial, and industrial customers within the Rockford

area. The threatened and endangered species habitat assessment is being conducted in association with a U.S. Department of Energy (DOE) Environmental Assessment being prepared for the Project Area.

Prior to conducting the site visits, CEC reviewed the U.S. Fish and Wildlife Service (USFWS) Midwest Region website (USFWS 2009) to determine which federally-listed endangered, threatened, and candidate species are known to occur, or potentially occur, in Winnebago County. CEC also reviewed the U.S. Geological Survey (USGS) topographic map for the Rockford, Illinois quadrangle prior to conducting the site visits. Additionally, CEC utilized the Illinois Department of Natural Resources (IDNR) Ecological Compliance Assessment Tool (EcoCAT) on July 13, 2010, to obtain information on known occurrences of federally-listed and state-listed species within the vicinity of the Project Area.

2.0 SITE OBSERVATIONS AND RESULTS OF DOCUMENT REVIEW

The USFWS (2009) listed the following federally-listed endangered and candidate species as occurring, or potentially occurring, in Winnebago County: Indiana bat (*Myotis sodalis*, endangered), eastern prairie fringed orchid (*Platanthera leucophaea*, threatened), and prairie bush clover (*Lespedeza leptostachya*, threatened). The IDNR/Illinois Natural Heritage Database (INHD) *Illinois Threatened and Endangered Species by County* list (IDNR 2008) identifies 50 state-listed threatened or endangered species as occurring, or potentially occurring, in Winnebago County.

CEC's search of the IDNR's EcoCAT for information on federally-listed and state-listed species within the vicinity of the Project Area on July 13, 2010 (Attachment I), resulted in the following species as having been documented within the vicinity: upland sandpiper (*Bartramia longicauda*, state-listed endangered). The EcoCAT search resulted in no records of federally-listed, proposed, or candidate species having been documented within the vicinity of the Project Area.

The Project Area was evaluated by CEC biologist Greg Gerke during site visits on July 6 and 7, 2010, to document existing vegetation communities and hydrological conditions. Each type of

habitat present within the Project Area was qualitatively evaluated for its potential to be suitable habitat for the Indiana bat, eastern prairie fringed orchid, and prairie bush clover. Each type of habitat present within the Project Area was also qualitatively evaluated for its potential to be suitable habitat for the additional state-listed species listed by the IDNR (2008) as occurring or potentially occurring in Winnebago County.

As shown on Figure 2, the Project Area primarily consists of active agricultural row crop fields. In addition to agricultural fields, the following vegetation communities were found to be present within the Project Area: old field vegetation, old field vegetation with scattered trees, upland deciduous forest, palustrine forested wetland, and palustrine emergent wetland. Representative photographs of each habitat type found within the Site during the site visits can be found in Attachment II.

Agricultural land within the Project Area consisted of soybean (*Glycine max*) fields located within the central portion of the Project Area and a corn (*Zea mays*) field located within the eastern portion of the Project Area.

One area of old field vegetation was located within the northwest portion of the Project Area. Areas of old field with scattered trees were located within the northeastern portion and the western portion of the Project Area. These areas were dominated by smooth brome (*Bromus inermis*), whorled milkweed (*Asclepias verticillata),* common milkweed (*Asclepias syracia*), goatsbeard (*Aruncus dioicus*), white vervain (*Verbena urticifolia*), black-eyed susan (*Rudbeckia hirta*), summer grape (*Vitis aestivalis*), common plantain (*Plantago major*), yarrow (*Achillea millefolium*), tall fescue (*Schedonorus phoenix*), tall goldenrod (*Solidago altissima*), poison ivy (*Toxicodendron radicans*), spotted knapweed (*Centaurea stoebe*), Queen Anne's lace (*Daucus carota*), common mullein (*Verbascum thapsus*), annual sunflower (*Helianthus annuus*), bouncingbet (*Saponaria officinalis*), red clover (*Trifolium pratense*), evening primrose (*Oenothera biennis*), dotted smartweed (*Polygonum punctatum*), daisy fleabane (*Erigeron annuus*), and Virginia creeper (*Parthenocissus quinquefolia*). Scattered tree species observed within the old field areas included eastern red cedar (*Juniperus virginiana*), red elm (*Ulmus rubra*), boxelder (*Acer negundo*), honey locust (*Gleditsia triacanthos*), eastern cottonwood

(*Populus deltoides*), red mulberry (*Morus rubra*), staghorn sumac (*Rhus typhina*), green ash (*Fraxinus pennsylvanica*), and spruce (*Picea pungens*).

Upland deciduous forest was located within the western portion of the Project Area. Dominant canopy species included swamp white oak (*Quercus bicolor*), honey locust, black walnut (*Juglans nigra*), and red elm. Dominant understory vegetation included Amur honeysuckle (*Lonicera maackii*), silky dogwood (*Cornus amomum*), red mulberry, hawthorn (*Crataegus* sp.), Virginia creeper, common blue violet (*Viola sororia*), summer grape, Virginia wild rye (*Elymus virginicus*), hairy pagoda-plant (*Blephilia hirsuta*), garlic mustard (*Alliaria petiolata*), currant (*Ribes* sp.), wild ginger (*Asarum canadense*), poison ivy, tall goldenrod, stinging nettle (*Urtica dioica*), greenbrier (*Smilax* sp.), jumpseed (*Polygonum virginianum*), wingstem (*Verbesina alternifolia*), and white avens (*Geum canadense*).

Palustrine forested wetlands were located within the southern and western portions of the Project Area. Dominant canopy species included silver maple (*Acer saccharinum*), green ash, eastern cottonwood, boxelder, American elm (*Ulmus americana)*, common hackberry (*Celtis occidentalis*), and swamp white oak. Dominant understory vegetation included buttonbush (*Cephalanthus occidentalis*) and spicebush (*Lindera benzoin*). Herbaceous species included moneywort (*Lysimachia nummularia*), stinging nettle, reed canary grass (*Phalaris arundinacea*), and poison ivy.

One palustrine emergent wetland was located within the southeastern portion of the Project Area. This wetland was dominated by ditch stonecrop (*Penthorum sedoides*), softstem bulrush (*Schoenoplectus tabernaemontani*), American water plantain (*Alisma subcordatum*), rice cut grass (*Leersia oryzoides*), narrowleaf cattail (*Typha angustifolia*), Pennsylvania smartweed (*Polygonum pensylvanicum*), river bulrush (*Schoenoplectus fluviatilis*), poison hemlock (*Conium maculatum*), and blunt spikerush (*Eleocharis obtusa*).

3.0 FEDERALLY-LISTED THREATENED AND ENDANGERED SPECIES DOCUMENT REVIEW AND HABITAT ASSESSMENT

3.1 Indiana Bat

The Indiana bat was originally in danger of extinction under the Endangered Species Preservation Act of 1966 and is currently listed as federally endangered and protected under the Endangered Species Act of 1973, as amended (USFWS 2007). The Indiana bat is a medium-sized, monotypic species within the genus Myotis. This species closely resembles the little brown bat (*Myotis lucifugus*) and the northern long-eared bat (*Myotis septentrionalis*). The Indiana bat typically has a distinctly keeled calcar, whereas little brown bats and northern long-eared bats do not. In addition, the hind feet of Indiana bats tend to be small and delicate with fewer, shorter hairs that do not extend beyond the toenails, as compared to the hind feet of little brown bats and northern long-eared bats (Natureserve 2010; USFWS 2007; Whitaker 1980).

The Indiana bat is a migratory species whose range includes the Midwest and eastern United States, from the western edge of the Ozark region in Oklahoma, to southern Wisconsin, east to Vermont and New Hampshire, and south to northern Florida. In summer months, this species is apparently absent south of Tennessee (Natureserve 2010; USFWS 2007). During winter, Indiana bats are restricted to suitable hibernacula, which are primarily located in the karst regions of the east-central U.S. These hibernacula are usually located in caves, although abandoned mines and a tunnel in a hydroelectric dam are also known to be utilized by this species as hibernacula (Whitaker 1980; USFWS 2007). Indiana bats require specific roost sites in caves or mines that attain appropriate temperatures to hibernate. Hibernating Indiana bats choose caves or mines that remain cold, but have a low risk of freezing (USFWS 2007).

Limited observations indicate that birth and development occur in very small, widely scattered colonies consisting of approximately 25 to 100 females and their young. Birth usually takes place during June with each female bearing a single offspring (Harvey et al 1999; USFWS 2006). About 25 to 37 days are required for development to the flying stage and the beginning of independent feeding. Male Indiana bats may be found throughout the entire range of the species

during the summer months and appear to roost singly or in small groups, except during brief summer visits to hibernacula (USFWS 2007).

This species typically breeds from late August to early October on the ceilings of large rooms near cave or other hibernacula entrances. Limited mating may also occur in the spring before the hibernating colonies disperse (Natureserve 2010; USFWS 2007). Hibernating colonies disperse in late March and most of the bats migrate to more northern habitat for the summer. However, migrations have been documented as occurring in a southerly direction as well and some males remain in the hibernating area during this period, forming active bands which wander from cave to cave (USFWS 2007).

Migration to the wintering caves usually begins in August and reserves of fat depleted during migration are replenished in large part during the month of September (Harvey et al 1999; USFWS 2007). Feeding activities continue at a diminishing rate in the fall. By late November, populations of this species have entered a definite state of hibernation (USFWS 2007).

The Indiana bat's diet consists of insects, with females and juveniles foraging in the airspace near the foliage of riparian and floodplain trees and males foraging in the densely wooded area at tree top height (Natureserve 2010; USFWS 2006).

Summer Indiana bat roosting and foraging habitat consists primarily of floodplain and riparian forests, though recently it has been found that upland forests are also used by Indiana bats for roosting. Upland forests, old fields, and pastures with scattered trees have also been documented to provide foraging habitat. Indiana bats typically use dead and dying trees as summer roost sites, although large trees with bark that is naturally shaggy or peeling away from the tree, such as shagbark hickory (*Carya ovata*) and white oak (*Quercus alba*), are also used and may be important as protection from severe weather (Natureserve 2010; USFWS 2007). The suitability of any tree as a roost site is determined by: its condition (dead or alive); the quantity of loose bark it has; the solar exposure and its location in relation to other trees; and its distance to and spatial relationship with water sources and foraging areas (USFWS 2007).

The most important characteristics of trees that provide roosts are structure-related and include exfoliating bark with space for bats to roost between the bark and the bole of the tree. Tree cavities, hollow portions of tree boles and limbs, crevices in the top of a lightning struck trees, and splits below splintered, broken tree tops have also been used as roosts. It has been found that Indiana bat maternity colonies use multiple roosts, in both living and dead trees, and that exposure of roost trees to sunlight and location relative to other trees are important factors in their suitability and use (USFWS 2007).

Indiana bats are thought to have historically been a savannah species because they prefer large trees in the open or at edges of forests, fragmented forest landscapes, open canopies, and forests with an open understory (USFWS 2007).

In Illinois, since 1995 Indiana bats have been known to inhabit 16 different caves and mines during the winter months. In the summer months, Indiana bats are found in both the glaciated and unglaciated portions of the state (USFWS 2007). According to the USFWS (2007) and IDNR (2008), summer occurrences of Indiana bats and maternity colonies have not been documented in Winnebago County, Illinois, nor have they been documented in adjacent counties in Illinois or Wisconsin. No records of Indiana bat hibernacula are currently or historically known from Winnebago County or adjacent counties in Illinois or Wisconsin. The nearest Indiana bat hibernacula to Winnebago County are located in Jo Daviess and La Salle Counties, Illinois, and Grant County, Wisconsin (USFWS 2007).

CEC biologist Greg Gerke conducted a habitat assessment and pedestrian survey of potentially suitable Indiana bat habitats within the Project Area during site visits conducted on July 6 and 7, 2010. As stated, the Project Area primarily consists of active agricultural row crop fields. In addition to agricultural fields, the following vegetation communities were found to be present within the Project Area: old field vegetation, old field vegetation with scattered trees, upland deciduous forest, palustrine forested wetland, and palustrine emergent wetland (Figure 2; Attachment II). No streams or rivers are present within the Project Area. However, the Kishwaukee River is located adjacent to the northwestern portion of the Project Area. The forested wetlands within the Project Area contained surface water during the site visits.

Additionally, the forested wetlands contained a fair number of potential roost trees and may provide potentially suitable foraging and roosting habitat for Indiana bats. Areas of upland deciduous forest within the Project Area are generally early successional, contained dense understory vegetation dominated by Amur honeysuckle, and had limited numbers of potential roost trees present, as seen in the photographs included in Attachment II.

No hibernacula or summer captures of this species have been documented within the vicinity of the Project Area or in adjacent counties in Illinois and Wisconsin (USFWS 2007; Attachment I). Additionally, as seen on Figure 2, the proposed limits of disturbance within the Project Area does not contain forested wetland or upland deciduous forest habitats. Therefore, it is determined that this project may affect, but is not likely to adversely affect, the Indiana bat or its habitat, especially if potentially suitable Indiana bat roost trees within the Site are removed between the October 15 to March 31 time period.

3.2 Eastern Prairie Fringed Orchid

Eastern prairie fringed orchid was listed by the USFWS as federally threatened on September 28, 1989 (54 FR 39857 39863) (USFWS 2010a). Specific threats identified by the Eastern Prairie Fringed Orchid Recovery Plan in 1999 were: 1) habitat destruction predominantly due to cropland and pasture; 2) fire suppression and woody vegetation encroachment; 3) impacts to pollinator populations, specifically that of hawkmoths; 4) competition from non-native plant species, including reed canary grass, purple loosestrife, and glossy buckthorn; 5) overutilization for commercial and scientific purposes; and 6) existing regulatory mechanisms (USFWS 1999).

The eastern prairie fringed orchid is a long-lived perennial herb from an underground tuber in the orchid family (Orchidaceae). It has a single unbranched stalk, with stems 8 to 40 inches tall and hairless alternate leaves which sheath the stalk. The creamy white colored flowers occur from late June through mid-July, while the fruiting period extends to late August or September when seeds disperse (USFWS 1999).

The historic range of the eastern prairie fringed orchid extended from eastern Iowa, Missouri and Oklahoma eastward across southern Wisconsin, northern and central Illinois, southern Michigan, northern Indiana and Ohio, and northwestern Pennsylvania to western New York and adjacent Ontario. Isolated, disjunct populations also occurred in Maine, New Jersey, and Virginia (USFWS 1999). Eastern prairie fringed orchid is currently known to occur in a total of 59 populations in six states, including Illinois, Iowa, Michigan, Maine, Ohio, and Wisconsin.

The primary habitat of eastern prairie fringed orchid consists of mesic tallgrass prairies, sedge meadows, fens, lake shores, and sphagnum bogs (USFWS 1999, Penskar and Higman 2000). Populations have also been found to a lesser degree in old fields and roadside ditches (USFWS 2004). Most of the populations of this species in the midwestern U.S. occur in silt-loam soils derived from loess or glacial till (USFWS 1999). Natural processes that maintain prairies, meadows, fens, and bogs in early successional or mid-successional phases may be important in maintaining sunny, open conditions required by this species (USFWS 1999). According to Penskar and Higman (2000), this species frequently persists in degraded tallgrass prairie remnants, and will colonize ditches, railroad rights-of-way, fallow agricultural fields, and similar habitats where artificial disturbance creates a moist mineral surface conducive to germination.

Penskar and Higman (2000) list the following species as being found with eastern prairie fringed orchid in wet/mesic tallgrass prairie habitats in Michigan: water sedge (*Carex aquatilis*), tussock sedge (*Carex stricta*), bluejoint (*Calamagrostis canadensis*), little bluestem, big bluestem, prairie cordgrass, shrubby cinquefoil (*Potentilla fruticosa*), dense blazing star (*Liatris spicata*), stiff yellow flax (*Linum medium*), redosier dogwood (*Cornus sericea*), silky dogwood (*Cornus amomum*), Virginia mountainmint (*Pycnanthemum virginianum*), fringed gentian (*Gentianopsis crinita*), Riddell's goldenrod (*Solidago riddellii*), smooth sawgrass (*Cladium mariscoides*), broadleaf cattail, rushes (*Juncus* spp.), and hardstem bulrush (*Schoenoplectus acutus*).

Illinois likely contained the largest pre-European settlement populations of eastern prairie fringed orchid. This species was originally known from tall grass prairies within 33 counties in the northern portions of the state. Currently, as many as 20 populations may occur in six counties in the Chicago area, with other single populations currently known from eastern and west-central

areas of the state (USFWS 1999). Fourteen populations are protected and mananged. According to the IDNR (2008), populations of this species are known to occur in the following counties in Illinois: Cook, DuPage, Grundy, Hancock, Henry, Iroquois, Jackson, Kane, Lake, Lee, McHenry, and Will. According to the USFWS (1999) and IDNR (2008), the eastern prairie fringed orchid is not currently known to occur in Winnebago County, Illinois, or any adjacent Illinois counties. According to the USFWS (1999), this species is known to occur in Rock County, Wisconsin, which is adjacent to Winnebago County, Illinois.

CEC biologist Greg Gerke conducted a habitat assessment for eastern prairie fringed orchid within the Project Area on July 6 and 7, 2010. The Project Area does not contain typical habitat for eastern prairie fringed orchid, including mesic tallgrass prairies, sedge meadows, fens, lake shores, and sphagnum bogs. The Project Area does contain some old field habitats, which eastern prairie fringed orchid has been found to occur in on an infrequent basis (USFWS 2010b). However, old field habitats are not typical habitat for this species and, as seen in Section 2.0, old field habitats within the Project Area were dominated by non-native species that are not typically associated with eastern prairie fringed orchid. As stated previously, a palustrine emergent wetland is present within the southeastern portion of the Project Area. This wetland may be considered potentially suitable habitat for eastern prairie fringed orchid. However, based on a review of a recent aerial photograph, it appears that at a minimum, portions of this wetland were likely farmed recently. As seen in Section 2.0, the wetland is dominated by species which are early colonizers of wetlands and not species typical of sedge meadows, fens, or bogs. Additionally, as seen on Figure 2, the proposed limits of disturbance within the Project Area does not contain emergent wetland habitats. According to the IDNR's EcoCAT and the INHD, the occurrence of this species has not been documented within the Project Area or the immediate vicinity of it (Attachment I; IDNR 2008). Therefore, it is determined that this project may affect, but is not likely to adversely affect, eastern prairie fringed orchid or its habitat.

3.3 Prairie Bush Clover

Prairie bush clover was listed by the USFWS as federally threatened on January 9, 1987 (52 FR 781 785) (USFWS 2010b). Specific threats identified by the Prairie Bush Clover Recovery Plan

in 1988 were: 1) habitat destruction predominantly due to agriculture; 2) unknown species biology including genetic variability; 3) herbivory by insects and mammals; and 4) woody invasions (USFWS 1988).

The prairie bush clover is a perennial herb in the bean family (Fabaceae). It has a single branched or unbranched stem up to 1 meter tall and trifoliate leaves which are widely spaced on the stem. Both the leaves and the stems are covered in fine silky hairs, giving the plant a silvery appearance. The flowers vary in color and are white, yellowish-white, or light pink and have a magenta mark in the center of their keel. Flowering occurs from mid-July through early September, while the fruiting period occurs from late August to early October. Individual plants are estimated to live 10 years or more (USFWS 1988).

The historic range of the prairie bush clover included approximately 27 counties across Iowa, Illinois, Wisconsin, and Minnesota. Prairie bush clover is currently known from approximately 36 populations in 24 counties of northern Illinois, southern and western Wisconsin, southern Minnesota, and Iowa (USFWS 1988). Approximately 90 percent of all prairie bush clover plants occur within a "core area" that includes northern Iowa and adjacent southwestern Minnesota (CPC 2010b).

The primary habitat of prairie bush clover consists of tallgrass prairies with soils that may be either deeply underlain by till or sand, gravel, or rocks, most often including limestone, but also including sandstone, gneiss, or quartzite (USFWS 1988). According to the USFWS (1988), prairie bush clover is known to occur on both disturbed and undisturbed sites, and several sites have been previously mowed, burned, grazed, or historically farmed. The Center for Plant Conservation (CPC 2010b) states that this species is often found on north-facing slopes of dry upland prairies, where it occurs either in thin soil at the margin of rocks or in gravelly loamy soil (CPC 2010b). According to The Nature Conservancy (TNC 1995), this species is known to occur in dry gravel prairies and dry-mesic prairies with steep, well-drained, usually calcareous soils.

A list of commonly associated plant species in prairie bush clover populations include the following: big bluestem, little bluestem (*Schizachyrium scoparium*), sideoats grama (*Bouteloua curtipendula*), indiangrass (*Sorghastrum nutans*), prairie dropseed (*Sporobolus heterolepis*), porcupinegrass (*Hesperostipa spartea*), leadplant (*Amorpha canescens*), cutleaf anemone (*Pulsatilla patens*), several species of aster (*Aster ericoides, A. laevis, A. ptarmicoides*, and *A. sericeus*), white wild indigo (*Baptisia leucophaea*), stiff tickseed (*Coreopsis palmata*), pale purple coneflower (*Echinacea pallida*), flowering spurge, (*Heuchera richardsonii*), roundhead lespedeza (*Lespedeza capitata*), blazing star (*Liatris aspera*), hoary puccoon (*Lithospermum canescens*), narrowleaf stoneseed (*Lithospermum incisum*), grooved flax (*Linum sulcatum*), yellow sundrops (*Oenothera serrulata*), downy phlox (*Phlox pilosa*), white prairie clover (*Petalostemum candidum*), purple prairie clover (*Petalostemum purpureum*), silverleaf Indian breadroot (*Pediomelum argophyllum*), large Indian breadroot (*Pediomelum esculentum*), Missouri goldenrod (*Solidago missouriensis*), gray goldenrod (*Solidago nemoralis*), stiff goldenrod (*Oligoneuron ridigum*), birdfoot violet (*Viola pedata*), and prairie violet (*Viola pedatifida*) (TNC 1995). Natural processes, or now human management regimes, that maintain prairies in early successional or mid-successional phases may be important in maintaining sunny, open conditions required by this species as populations have been known to decline as woody species encroach areas of occupied habitat (USFWS 1988).

The known populations in northern Illinois contain a combined total of approximately 249 plants (CPC 2010b). According to the IDNR (2008), four occurrences of prairie bush clover are currently known from Winnebago County, Illinois. Since 1995, populations of prairie bush clover have been documented as occurring in the following Illinois counties: Cook, DuPage, Lee, McHenry, Ogle, and Winnebago (IDNR 2008; USFWS 1988). Rock County (Wisconsin) is also known to contain populations of prairie bush clover and is adjacent to Winnebago County, Illinois (USFWS 1988).

CEC biologist Greg Gerke conducted a habitat assessment for prairie bush clover within the Project Area on July 6 and 7, 2010. The Project Area does not contain tallgrass prairie vegetation, which is the only type of habitat where prairie bush clover is known to occur (USFWS 1988; USFWS 2010b). According to the IDNR's EcoCAT (Attachment I), the

occurrence of this species has not been documented within the Project Area or the immediate vicinity of it (Attachment I; IDNR 2008). Therefore, it is determined that this project may affect, but is not likely to adversely affect, prairie bush clover or its habitat.

4.0 STATE-LISTED THREATENED AND ENDANGERED SPECIES LIST FOR WINNEBAGO COUNTY

As stated, the IDNR/INHD *Illinois Threatened and Endangered Species by County* list (IDNR 2008) identifies 50 state-listed threatened or endangered species as occurring, or potentially occurring, in Winnebago County. Table 1 outlines the preferred habitat of each species and whether potentially suitable habitat for each species was observed by CEC within the Project Area. Bold text within Table 1 indicates that potentially suitable habitat for a species is present within the Project Area. Additional information regarding these species is provided in the sections following Table 1.

TABLE 1
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Speckled Alder	*Alnus incana* ssp. *rugosa*	E	Banks of streams, swamps, and bogs; often with black spruce or eastern white cedar	No	No
Shadbush	*Amelanchier interior*	T	Mesic sand forests, dolomite stream bluffs, and bogs	No	No

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Western Sand Darter	*Ammocrypta clarum*	E	Sandy runs within medium to large rivers; prefers margins of stream channel and backwaters; intolerant of siltation and turbidity	No	No
Henslow's Sparrow	*Ammodramus henslowii*	T	Prairie habitats, undisturbed large grasslands and hayfields.	No	No
Bearberry	*Arctostaphylos uva-ursi*	E	Sand deposits and sandstone outcrops	No	No
Dragon Wormwood	*Artemisia dracunculus*	E	Dry sand and gravel prairies; loess bluffs along rivers	No	No
Wooly Milkweed	*Asclepias lanuginosa*	E	Dry gravel prairies	No	No
Forked Aster	*Aster furcatus*	T	Seepage zones along north-facing wooded bluffs and stream banks	No	No

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Upland Sandpiper	*Bartramia longicauda*	E	Prairies, pastures, and hayfields; sometimes found at airports	No	No
Kittentails	*Besseya bullii*	T	Sand savannahs and gravel prairies; occurs along the Illinois, Mississippi, and Rock Rivers in Illinois	No	No
Daisyleaf Grape Fern	***Botrychium matricariifolium***	**E**	**Successional sand forests and dry to moist old fields**	**Yes**	**Yes**
Northern Grape Fern	***Botrychium multifidum***	**E**	**Mesic forests, sand savannahs, and successional habitats**	**Yes**	**Yes**
Dwarf Grape Fern	*Botrychium simplex*	E	Disturbed sand prairies and successional sand forests	No	No
Grass Pink Orchid	*Calopogon tuberosus*	E	Prairies, bogs, and fens	No	No
Sedge	*Carex echinata*	E	Wet meadows/sedge meadows	No	No

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Downy Yellow Painted Cup	*Castilleja sessiliflora*	E	Dry to mesic gravel and sand prairies	No	No
Redroot	*Ceanothus herbaceus*	E	Sand prairies and sand savannahs	No	No
Pipsissewa	*Chimaphila umbellata*	E	Dry to mesic upland sand forests	No	No
Northern Harrier	*Circus cyaneus*	E	Nests within large undisturbed grasslands (150 acres or more in size) and adjacent marshes with tall, dense vegetation	No	No
Sweetfern	*Comptonia peregrina*	E	Acidic sand prairies and savannahs	No	No
Spotted Coral-root Orchid	*Corallorhiza maculata*	T	Oak forests	No	No
Purple Wartyback	*Cyclonaias tuberculata*	T	In current areas within medium to large rivers in gravel, mixed sand and gravel, or gravel and mud substrates	No	No

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
White Lady's Slipper	*Cypripedium candidum*	T	Wet mesic prairies and fens	No	No
Cerulean Warbler	***Dendroica cerulea***	**T**	**Tall trees within swamps, bottomlands, floodplains, and mixed woods**	**Yes**	**No**
Spike	*Elliptio dilatata*	T	Small to large streams and lakes in mud or gravel substrates	No	No
Bearded Wheat Grass	*Elymus trachycaulus*		Mesic prairies and wet dolomite outcrops	No	No
Blanding's Turtle	***Emydoidea blandingii***	**T**	**Marshes, bogs, fens, prairie wetlands, sedge meadows, vegetated areas of shallow lakes and ponds**	**Yes**	**No**

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Gravel Chub	*Erimystax x-punctatus*	T	Small rivers within deep riffles and channels of moderate to very fast current over gravel or firm sand/gravel substrates	No	No
Iowa Darter	*Etheostoma exile*	T	Clear, well vegetated lakes, sloughs, and streams. Prefers quiet pools with a mud or clay bottom with detritus and brush	No	No
Starhead Topminnow	***Fundulus dispar***	**T**	**Quiet shallow backwaters; glacial lakes; clear, well vegetated floodplain lakes; swamps and marshes; usually with sand and mud substrates**	**Yes**	**No**

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Sandhill Crane	*Grus canadensis*	T	Nests in relatively large undisturbed freshwater marshes and prairie ponds	No	No
Bald Eagle	***Haliaeetus leucocephalus***	**T**	**Undisturbed areas near large rivers and lakes. Nests located in high branches of old trees including pines, spruce, firs, cottonwoods, oaks, poplars, and beech**	**Yes**	**No**
Tall Sunflower	*Helianthus giganteus*	E	Fens and sedge meadows	No	No
Ottoe Skipper	*Hesperia ottoe*	T	Sandy areas including sand prairies, sand dunes, and loess-sand hill prairies	No	No
Vasey's Rush	*Juncus vaseyi*	E	Wet prairies, sedge meadows, and stream banks	No	No
Pinweed	*Lechea intermedia*	T	Areas of dry, sterile, sandy soils	No	No

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Ground Juniper	*Juniperus communis*	T	Lake Michigan dunes, glacial till bluffs and ravines adjacent to the lakeshore	No	No
Trailing Juniper	*Juniperus horizontalis*	E	Sand dunes, sandy and gravelly soils, prairies, slopes, rock outcrops, and stream banks	No	No
Loggerhead Shrike	***Lanius ludovicianus***	**T**	**Open country with scattered trees and shrubs, such as grasslands and pastures**	**Yes**	**Yes**
Prairie Bush Clover	*Lespedeza leptostachya*	E	Dry or dry-mesic tallgrass prairies	No	No
Black Sandshell	*Ligumia recta*	T	Riffles or raceways of medium to large rivers in gravel or firm sand substrates	No	No
Weed Shiner	*Notropis texanus*	E	Clear, sand-bottom creeks with some submerged vegetation; rivers and sloughs	No	No

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Small Sundrops	*Oenothera perennis*	T	Sand and gravel prairies; dry rocky prairie slopes and knobs	No	No
Large-flowered Beardtongue	*Penstemon grandiflorus*	E	Dry sand prairies and gravel prairies	No	No
King Rail	***Rallus elegans***	**E**	**Freshwater marshes, upland/wetland marsh edges, ricefields or similar flooded farmlands**	**Yes**	**No**
Prairie Buttercup	*Ranunculus rhomboideus*	T	Disturbed and undisturbed dry gravel and dolomite prairies	No	No
Red-berried Elder	*Sambucus racemosa ssp. pubens*	E	Rocky forest slopes and occasionally bogs	No	No
American Burreed	*Sparganium americanum*	E	Muddy and peaty shores and shallow water	No	No

TABLE 1 (Cont.)
STATE LISTED SPECIES HABITAT INFORMATION
Proposed Rockford Solar Field
Rockford, Winnebago County, Illinois

Common Name	Scientific Name	Status[2,3]	Preferred Habitat[1]	Potentially Suitable Habitat Within the Project Area?	Potentially Suitable Habitat Within Proposed Limits of Disturbance?
Rock Elm	***Ulmus thomasii***	**E**	**Mesic forests with calcareous slopes and floodplain terraces**	**Yes**	**No**
Highbush Blueberry	*Vaccinium corymbosum*	E	Wet acidic prairies and acidic bogs	No	No

[1] Preferred Habitat information obtained from: Britton and Brown 1970; Herket and Ebinger 2002; Nyboer and Ebinger 2004; Nyboer et al. 2006; WDNR 2009a; Hitchcock 1971; Yatskievych 2000; Shuford and Gardali 2008; and NatureServe 2010.
[2]Species listed by the IDNR as threatened (T)
[3]Species listed by the IDNR as endangered (E)

5.0 DAISYLEAF GRAPE FERN

5.1 Reason for Listing

Daisyleaf grape fern is listed as endangered in Illinois (IDNR 2008). Although more widely distributed in the northeastern United States, Canada, and Europe, this species is extremely rare in Illinois, with the only known occurrences being located in two northern Illinois counties (Herket and Ebinger 2002; USDA 2010).

5.2 Description

Daisyleaf grape fern is a perennial fern from fleshy roots that reaches heights up to 30 cm (Herket and Ebinger 2002; USDA 2010). The leaves appear in spring and die out by late summer (FNA 2010).

5.3 Distribution and Recent History in Illinois

Daisyleaf grape fern's known distribution in Illinois only includes three populations in Lee and Winnebago counties in northern Illinois. One of the two populations in Winnebago County is apparently no longer extant (Herket and Ebinger 2002). The last observation of the daisyleaf grape fern in Winnebago County was apparently in 1993 (IDNR 2008).

5.4 Habitat

As identified in Table 1, daisyleaf grape fern inhabits successional sand forests and old fields (FNA 2010; Herket and Ebinger 2002).

6.0 NORTHERN GRAPE FERN

6.1 Reason for Listing

The northern grape fern is listed as endangered in Illinois (IDNR 2008). Although more widely distributed in the northeastern and western United States (Rocky Mountains), Canada, Europe, and Asia, this species is rare in Illinois, with the only known occurrences being located in ten northern Illinois counties (Herket and Ebinger 2002; USDA 2010).

6.2 Description

The northern grape fern is a perennial evergreen fern that reaches heights up to 40 cm. The leaves remain green over winter and sporophores appear in spring (Herket and Ebinger 2002; FNA 2010).

6.3 Distribution and Recent History in Illinois

Although the northern grape fern has been documented in 10 counties in northern Illinois, extant populations in Illinois are now believed to only occur in Cook, Carroll, Jo Daviess, Stephenson, and Winnebago Counties (Herket and Ebinger 2002). One occurrence of the northern grape fern is known from Winnebago County, with the last observation being from 1987 (IDNR 2008).

6.4 Habitat

As identified in Table 1, the northern grape fern inhabits mesic forests, sand savannahs, and successional habitats (Herket and Ebinger 2002). This species is apparently also common in old field habitats (FNA 2010).

7.0 CERULEAN WARBLER

7.1 Reason for Listing

The cerulean warbler is listed as threatened in Illinois (IDNR 2008). This species is known to breed throughout much of the northeastern United States and spend its winters in northern South America (Natureserve 2010). Populations of this species have been documented throughout much of Illinois and Illinois is near the center of this species' historic breeding range and this species was historically common in Illinois. However, today the cerulean warbler is rare and patchily distributed in Illinois (Nyboer et al. 2006).

7.2 Description

The cerulean warbler is relatively small wood warbler, with a total length of approximately 11 cm (4.5 inches) (Bull and Farrand 1990; NatureServe 2010). The male of this species has a sky-blue head and back, with a dark band across its white breast and dark blue-gray streaking on its sides. Females have a greenish mantle, blue-green or bluish crown, a pale eyebrow, and a pale yellowish breast and throat. Juvenile males of this species are similar in coloration to females, but with some bluish and dark streaks above (Bull and Farrand 1990; NatureServe 2010).

7.3 Distribution and Recent History in Illinois

The cerulean warbler is currently most common in the southern and southwestern portions of Illinois, with scattered populations also in known to occur in the northern and east-central portions of the state (Nyboer et al. 2006). One occurrence of the cerulean warbler was observed in Winnebago County in 2006 (IDNR 2008).

7.4 Habitat

As identified in Table 1, the cerulean warbler typically inhabits second growth or mature forests with tall trees within swamps, bottomlands, floodplains, and mixed woods. This species is often found in open woodland near streams and rivers (Bull and Farrand 1990; Nyboer et al. 2006). These birds are often found high in the treetops, where they are difficult to see in the thick foliage (Bull and Farrand 1990; NatureServe 2010).

8.0 BLANDING'S TURTLE

8.1 Reason for Listing

Blanding's turtle is listed as threatened in Illinois (IDNR 2008). It is distributed from southern Ontario to central Illinois and Iowa, west to Nebraska and Minnesota and east to Pennsylvania. Specific threats to Blanding's turtle are generally related to their life history characteristics,

including delayed sexual maturity, high temperature requirement for hatchling success, nest predation, small population size, low rates of juvenile recruitment, and low rates of migration among patches of habitat (Nyboer et al. 2006). Loss of nesting habitat is also a threat to populations of Blanding's turtle (NatureServe 2010).

8.2 Description

Blanding's turtle is a medium to large turtle, with an adult shell length ranging from approximately 12 to 30 cm (4.7 to 11.8 inches) (NatureServe 2010). This species possesses a bright yellow chin and throat and a smooth, black, helmet-shaped carapace (Behler and King 2000; NatureServe 2010). The tail and limbs are blue-gray, black or brown, usually with light brown or yellow spots. The head of the Blanding's turtle is large and flat and ranges in color from black to dark brown, sometimes with scattered yellow spots. The hind feet of this species are weakly webbed (NatureServe 2010).

8.3 Distribution and Recent History in Illinois

Blanding's turtle is known to occur in 17 counties in Illinois, generally within the northern portions of the state. Additional occurrence records which may no longer be extant are known from 14 counties in central and northern Illinois (Nyboer et al. 2006). Three occurrences of Blanding's turtle have been observed in Winnebago County, with the last observation being in 2007 (IDNR 2008).

8.4 Habitat

As identified in Table 1, Blanding's turtle inhabits marshes, bogs, fens, prairie wetlands, sedge meadows, vegetated areas of shallow lakes, and ponds (Nyboer et al. 2006). Blanding's turtle is also known to inhabit shallow, slow-moving rivers and pools adjacent to rivers, protected coves and lake inlets, oxbows, and waters with aquatic vegetation and a soft bottom (NatureServe 2010).

9.0 STARHEAD TOPMINNOW

9.1 Reason for Listing

The starhead topminnow is listed as threatened in Illinois (IDNR 2008). Specific threats to the starhead topminnow in Illinois include habitat degradation within the Wabash River valleys, specifically from oil pollution and the loss of floodplain swamp habitats (Nyboer et al. 2006).

9.2 Description

The starhead topminnow is a freshwater fish that ranges in size from approximately 47 to 55 millimeters (mm). The back and upper sides of this species are an olive tan color while the lower sides and belly are lighter and yellowish. A series of red-brown dots are located along the sides of the fish. A dark blotch is located beneath the eye (WDNR 2009).

9.3 Distribution and Recent History in Illinois

The starhead topminnow is known to occur in 17 counties in Illinois, generally within the central and northern portions of the state. Additional occurrence records which may no longer be extant are known from 9 counties in Illinois (Nyboer et al. 2006). Two occurrences of the starhead topminnow have been documented in Winnebago County, with the last observation being recorded in 1998 (IDNR 2008).

9.4 Habitat

As identified in Table 1, the starhead topminnow inhabits quiet shallow backwaters; clear, well vegetated floodplain lakes; and swamps and marshes usually with sand and mud substrates (Nyboer et al. 2006). This species prefers quiet, clear to slightly turbid, shallow backwaters that contain an abundance of submerged vegetation (WDNR 2009). The starhead topminnow is known to spawn in dense beds of aquatic vegetation (NatureServe 2010).

10.0 BALD EAGLE

10.1 Reason for Listing

The bald eagle is listed as threatened in Illinois (IDNR 2008). The bald eagle was previously listed as federally-threatened by the USFWS, but was removed from the federal list of threatened and endangered species by the USFWS on July 9, 2007 (Office of the Federal Register 2007). Specific threats to the bald eagle are related to past human activity and are primarily associated with loss of habitat, mortality from shooting and trapping, and environmental contamination (USFWS 1983).

10.2 Description

The bald eagle is a large blackish eagle with a white head and white tail and a yellow bill (Bull and Farrand 1990). Juveniles lack the white head and tail, and do not acquire adult plumage until at least age 4 (USFWS 1983). This species averages 79 to 94 cm (31.1 to 37 inches) in length and the wingspan averages 178 to 229 cm (70 to 90.1 inches) (NatureServe 2010).

10.3 Distribution and Recent History in Illinois

In Illinois during the late 1800's and early 1900's, the bald eagle was known to nest in the lower Wabash Valley and along the shores of Lake Michigan. Wintering was considered common in these areas of Illinois during this time period (USFWS 1983). During the National Wildlife Federation midwinter bald eagle counts from 1979-1981, the number of bald eagles counted within Illinois ranged from 149 to 599 (USFWS 1983). The bald eagle is known to occur in 47 counties in Illinois. Additional occurrence records which may no longer be extant are known from three counties in Illinois (Nyboer et al. 2006). As of 1999, at least 36 active bald eagle nests were identified in Illinois (Nyboer et al. 2006). Two occurrences of the bald eagle are known from Winnebago County, with the last observation being in 2005 (IDNR 2008).

10.4 Habitat

As identified in Table 1, the breeding habitat for the bald eagle includes undisturbed areas near large rivers and lakes, with nests located in high branches of old trees (Nyboer et al. 2006). Nest trees may include pines, spruce, firs, cottonwoods, oaks, poplars, and beech (NatureServe 2010). Nests may also occur on cliffs, and infrequently may be found on the ground. Adults generally use the same breeding area, and often the same nest, each year (USFWS 1983).

11.0 LOGGERHEAD SHRIKE

11.1 Reason for Listing

The loggerhead shrike is listed as threatened in Illinois (IDNR 2008). Loggerhead shrike populations are declining, making them a state-listed threatened species in Illinois. In Wisconsin, habitat loss, changing in farming practices, adverse weather, use of pesticides, and increased predation are the speculative causes of decline (Herrmann 2007). In 1971-1972, an Illinois Natural Heritage Survey study found that loggerhead shrike eggs and body tissues were accumulating DDE, a metabolite of DDT (Bailey 1999). The factors causing loggerhead shrike population declines are unclear. However, any one of these factors may be influencing loggerhead shrike populations, and furthermore, a combined interaction of these factors could exacerbate their impacts.

11.2 Description

The loggerhead shrike is a member of the shrike family (Laniidae) and is slightly smaller than robin-sized (8 to 10 inches long). It is big-headed, slim-tailed, pale gray above and white below, with a black face mask. It has a dark crown and slightly hooked beak. Its song is a variety of harsh and musical notes and trills. It is thrasher-like in that it has a series of double phrases. The northern shrike (*Lanius excubitor*) differs with its pale marks on its lower mandible and above its mask in addition to barring on its breast. Its mask does not extend over its bill unlike the loggerhead shrike (Bull and Farrand 1977; Peterson and Peterson 2002).

11.3 Distribution and Recent History in Illinois

The loggerhead shrike breeds from Canada south to Florida and Mexico and winters north to Virginia and northern California (Bull and Farrand 1977). In Illinois, it can be found year round in the southern portion of the state. It is found in the summer north to the central portion of the state, with isolated populations occurring in the northern areas (Peterson and Peterson 2002). Two occurrences of the loggerhead shrike are known from Winnebago County, with the last observation being in 1993 (IDNR 2008).

11.4 Habitat

The breeding habitat of this species generally consists of open areas with scattered trees, primarily including pastures, native tallgrass prairie and grasslands, old fields and orchards, roadsides, and fencerows (WDNR 2003, Bull and Farrand 1977, Lee 2001). Apparently, loggerhead shrikes have also been known to utilize riparian areas, open woodlands, agricultural row crop fields, wheat fields, hay fields, mowed roadsides, golf courses, parks, and cemeteries (Lee 2001; INHS 2008a). Suitable nest trees and perches from which to locate prey are essential components of loggerhead shrike habitat. They prefer areas with thorny trees and species such as hawthorn (*Crataegus* spp.), osage orange (*Maclura pomifera*), and honey locust, which they utilize to impale their prey. Loggerhead shrikes often perch on, and hunt from, utility lines and poles, treetops, and fencerows.

Suitable nest trees are typically thorny and/or have dense branches. Species known to be used as nest trees include eastern redcedar, hawthorn, osage orange, apple (*Malus* spp.), pine (*Pinus* spp.), spruce (*Picea* spp.), fir (*Abies* spp.), honey locust, multiflora rose (*Rosa multiflora*), and willow (*Salix* spp.). Nests are constructed of sticks and are typically located 3 to 12 feet above the ground in the crotch of a tree branch (Lee 2001). This species is migratory and arrives on its breeding grounds relatively early, from mid-March to mid-April (Lee 2001). It migrates south for the winter from mid-September to mid-October (INHS 2008a).

12.0 KING RAIL

12.1 Reason for Listing

The king rail is listed as endangered in Illinois (IDNR 2008). Specific threats to the king rail include habitat destruction and drainage of wetlands. Environmental contaminants and high predator densities may have also contributed to the decline of the king rail (NatureServe 2010).

12.2 Description

The king rail is a marsh bird characterized by a length that ranges from 38 to 48 cm (15 to 18.9 inches). The head, neck, and underparts of this species are rust colored and the back of this species is a mottled brown color. The bill is long and slightly curved (Bull and Farrand 1990).

12.3 Distribution and Recent History in Illinois

The king rail is known to occur in 10 counties throughout Illinois. Additional occurrence records which may no longer be extant are known from 7 counties in Illinois (Nyboer et al. 2006). Two occurrences of the king rail are known from Winnebago County, with the last observation being in 1995 (IDNR 2008).

12.4 Habitat

As identified in Table 1, the king rail inhabits freshwater marshes, upland/wetland marsh edges, rice fields or similar flooded farmlands (NatureServe 2010). Nests are usually placed in clumps of grass or sedges adjacent to a water surface (Nyboer et al. 2006) or attached to plants growing in shallow water (NatureServe 2010).

13.0 ROCK ELM

13.1 Reason for Listing

The rock elm is listed as endangered in Illinois (IDNR 2008). The range of rock elm generally extends from Minnesota east to New York and south to Tennessee and Missouri. Isolated populations also occur in other states outside of this area, including South Dakota, Nebraska, Kansas, and Arkansas. In Illinois, this species is considered very rare and has declined considerably due to habitat loss and Dutch Elm Disease (IDNR 2008; NatureServe 2010).

13.2 Description

The rock elm is a small to medium sized tree, reaching heights up to 30 m (Herket and Ebinger 2002). Leaves are alternate and simple, measuring 3 to 4 inches in length (Preston and Braham 2002).

13.3 Distribution and Recent History in Illinois

According to Herket and Ebinger (2002), this species is currently only known from two populations in Illinois, both located in Kendall County. Occurrence records for this species which appear to no longer be extant are known from seven additional counties in Illinois (Herket and Ebinger 2002). One occurrence of rock elm is known from Winnebago County and was last observed in 1988 (IDNR).

13.4 Habitat

As identified in Table 1, the rock elm is known to occur in Illlinois in mesic forests with calcareous slopes and floodplain terraces (Herket and Ebinger 2002). This species is also reported as being known to inhabit a wide variety of sites, from loamy wet-mesic soils to dry limestone outcrops (Preston and Braham 2002).

14.0 CONCLUSIONS

No occurrences of federally-listed species are known from the Project Area or its vicinity (Attachment I). The only state-listed species that has been documented within the vicinity of the Project Area is the upland sandpiper (Attachment I), with the last reported occurrence of this species in Winnebago County being from 1988 (IDNR 2008). The breeding habitat of the upland sandpiper typically consists of open prairies, hay fields, and pastures (INHS 2008v; Bull and Farrand 1977). Airports and airfields are apparently commonly used as breeding habitat throughout the range of this species (INHS 2008b, SAS 2006). Areas of taller grass are necessary for nesting, while foraging typically takes place in areas of shorter grass and/or more open areas (INHS 2008, SAS 2006). Nests are usually located in areas of dense grass and consist of a shallow scrape that is lined with grass and typically concealed by taller arching grass (SAS 2006, INHS 2008). This species often utilizes fenceposts and utility poles as perches. As noted previously, the Project Area does not contain prairies, large hay fields, or pastures, and therefore does not contain typical habitat for the upland sandpiper. It is likely that the occurrence of this species from the vicinity of the Project Area was from the Chicago Rockford International Airport, which is located just north of the Project Area. Additionally, CEC biologist Greg Gerke has seen upland sandpipers many times and is also very familiar with the identification of this species by their vocalizations. Mr. Gerke did not observe or hear any upland sandpipers within the Project Area while conducting the July 6 and 7, 2010, site visits.

Potentially suitable habitat for the following state-listed species appears to be present within the Project Area: Indiana bat, daisyleaf grape fern; northern grape fern; cerulean warbler; Blanding's turtle; starhead topminnow; bald eagle; loggerhead shrike; king rail; and rock elm. Only the cerulean warbler; Blanding's turtle; bald eagle; and loggerhead shrike have been documented in Winnebago County since 2000. Although potentially suitable habitat is present within the Project Area for the 10 species listed above, within the proposed limits of disturbance (Figure 2) potentially suitable habitat is only present for the following state-listed species: Indiana bat, daisyleaf grape fern; northern grape fern; and loggerhead shrike.

In order to reduce the potential for take of Indiana bats, potentially suitable Indiana bat roost trees within the Project Area will be removed during the October 15 to March 31 time period. Therefore, the proposed Rockford Solar Field Project may affect, but is not likely to adversely affect, the Indiana bat. The proposed Rockford Solar Field Project's effects on the remaining state-listed species within potential habitat within the Project Area are unknown at this time. It is noted that these state-listed species are not currently or historically known from the Project Area.

15.0 CLOSING

On behalf of our client, AE&E, as well as the DOE, we respectfully request your response to this letter and opinion about the potential effects the proposed project may have on state-listed species. If you have any questions or require additional information, please contact the undersigned at 513-985-0226.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Daniel J. Godec
Project Manager

James E. Zentmeyer
Principal

Attachments: Figure 1 – Site Location Map
Figure 2 – Habitat Assessment Map
Attachment I – IDNR Natural Heritage Database Search Results
Attachment II – Site Photographs

cc: Mr. Brad Brown – AE&E

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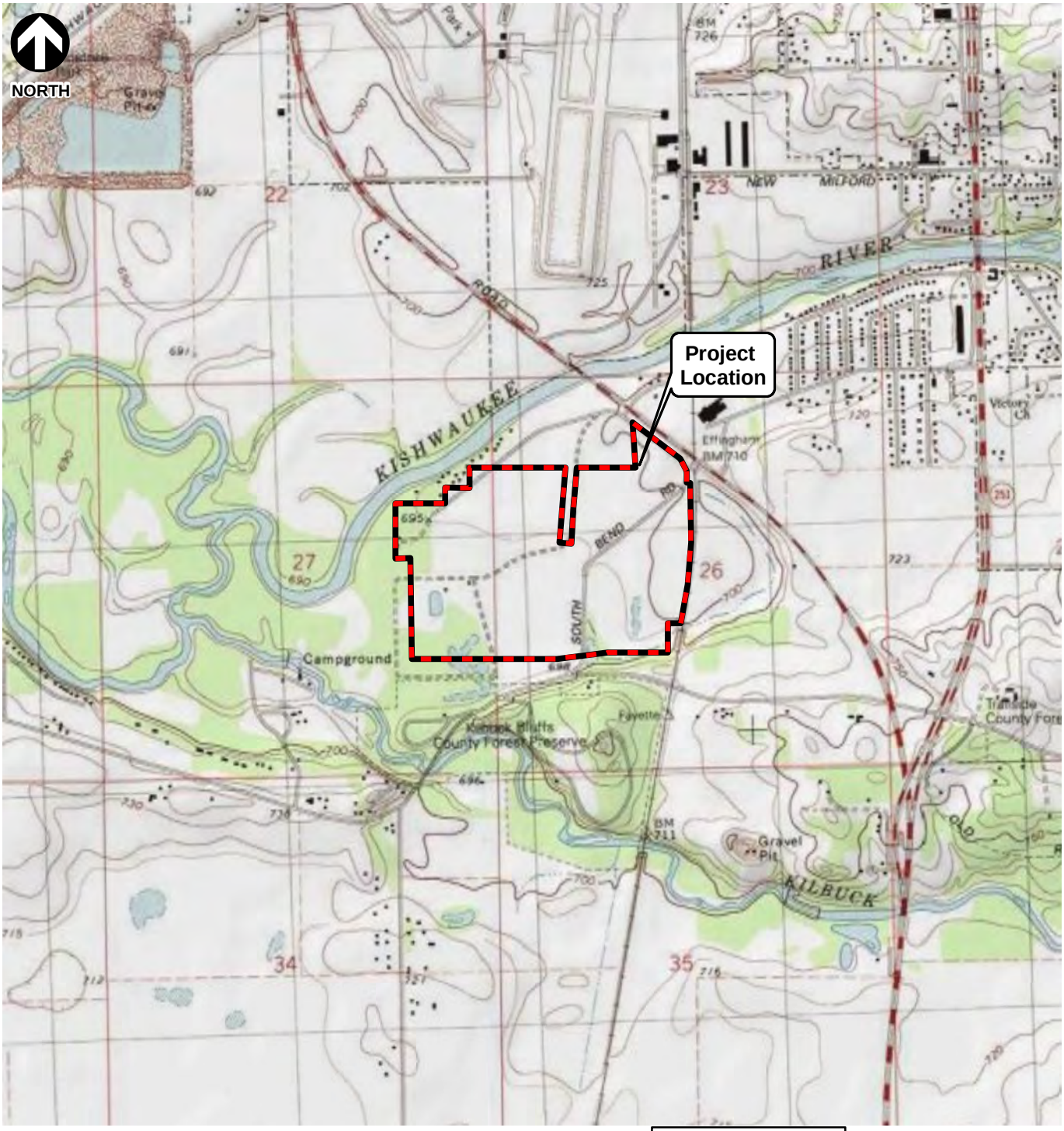
FIGURES



SOURCE: PORTION OF THE USGS 7.5-MINUTE SERIES TOPOGRAPHIC QUADRANGLE MAP - ROCKFORD, ILL 1977.

Civil & Environmental Consultants, Inc.
Cincinnati, OH
(513) 985-0226 (800) 759-5614
Pittsburgh, PA Chicago, IL Cleveland, OH Columbus, OH Detroit, MI
Export, PA Indianapolis, IN Nashville, TN St. Louis, MO Phoenix, AZ

Site Location Map

ROCKFORD SOLAR FIELD PROJECT

South Bend Road & Baxter Road
Rockford, Winnebago County, Illinois

DWN. BY: MJB	SCALE: 1 " = 2,000 '	DATE: 08/20/2010	PROJECT NO: 101-114	FIGURE NO: 1
CHKD. BY: MAVB				

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Pittsburgh, PA Chicago, IL Cleveland, OH Columbus, OH Detroit, MI
Export, PA Indianapolis, IN Nashville, TN St. Louis, MO Phoenix, AZ

Habitat Assessment Map

ROCKFORD SOLAR FIELD PROJECT

South Bend Road & Baxter Road
Rockford, Winnebago County, Illinois

DWN. BY: MJB	SCALE: 1 " = 800 '	DATE: 08/20/2010	PROJECT NO: 101-114	FIGURE NO: 2
CHKD. BY: MAVB				

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ATTACHMENT I

IDNR ECOCAT DATABASE SEARCH RESULTS

EcoCAT
Ecological Compliance Assessment Tool

Applicant:	Civil & Environmental Consultants	*IDNR Project #:*	1100359
Contact:	Maggie Vuturo Bosiljevac	Date:	07/13/2010
Address:	4274 Glendale Milford Road Cincinnati, OH 45140		

Project: Rockford Solar Field Project
Address: Belt Line Road, Rockford

Description: The Rockford Solar Field is planned to be located near the Chicago Rockford International Airport (RFD) on an estimated 200 acre parcel south of Runway 19 and the Kishwaukee River. This information request is associated with a US Department of Energy (DOE) Environmental Assessment of the property.

Natural Resource Review Results

This project was submitted for information only. It is not a consultation under Part 1075.

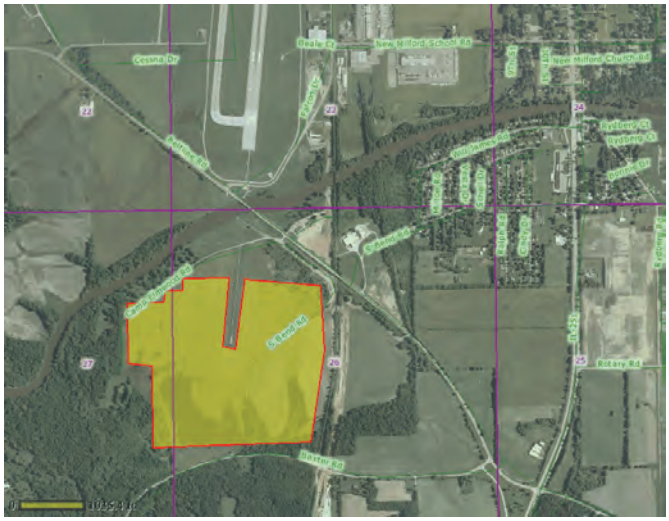
The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Bell Bowl Prairie INAI Site
Kishwaukee River INAI Site
Upland Sandpiper *(Bartramia longicauda)*

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Winnebago
Township, Range, Section:
43N, 1E, 26 43N, 1E, 27



IL Department of Natural Resources Contact
Impact Assessment Section
217-785-5500
Division of Ecosystems & Environment

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

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1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

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Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

ATTACHMENT II

SITE PHOTOGRAPHS

Photographic Record

Photo 1 – View of upland deciduous forest within northwest portion of the Project Area.

Photo 2 – Representative view of forested wetland within the southwestern portion of the Project Area. Photo taken facing west.

Photo 3 – Representative view of forested wetland within the southwestern portion of the Project Area. Photo taken facing west.

Photo 4 – View of old field habitat within Project Area.

Photo 5 – Overview of the Project Area. Photo taken facing north.

Photo 6 – Representative view of forested wetland in northwest portion of Project Area. Photo taken facing south.

Photo 7 – View of forested wetland in northwest portion of Project Area.

Photo 8 – View of forested wetland in southeast portion of Project Area.

Photo 9 – View of forested wetland in southeast portion of Project Area.

Photo 10 – View of forested wetland in northwest portion of Project Area. Photo taken facing west.

Photo 11 – View of forested wetland in southeast portion of Project Area. Photo taken facing north.

Photo 12 – View of emergent wetland in southeast portion of Project Area. Photo taken facing south.

Photo 13 – View of emergent wetland in southeast portion of Project Area. Photo taken facing north.

Photo 14 – View of emergent wetland in southeast portion of Project Area. Photo taken facing east.

Photo 15 – Representative view of pond in southwest portion of Project Area.

Photo 16 – Representative view of agricultural land. Photo taken facing south.

Photo 17 – Representative view of upland forest. Photo taken facing north.

Photo 18 – Representative view of old field vegetation. Photo taken facing northwest.

Results of a Phase I Archaeological Investigation of the Proposed Rockford Solar Field Project, Winnebago County, Illinois

Prepared for:

Anderson Environmental Engineering
Rockford, IL

Prepared by:

Archaeological Research, Incorporated

August, 2010

Archaeological Research, Inc.
1005 Greta Avenue Woodstock, Illinois 60098

ARCHAEOLOGICAL SURVEY SHORT REPORT **Reviewer_____**
Illinois Historic Preservation Agency **Date: _____**
Old State Capitol Bldg., Springfield, IL 62701 (217/785-4997) **___Accepted ___Rejected**

IHPA Log #_____ **IHPA use only (Form ASSR0886)**
Locational Information and Survey Conditions
County: Winnebago
Quadrangle: **Project Type/Title:** Phase I/Rockford Solar

Funding &/or Permitting Fed./State Agencies:
Sec: 26 & 27 **T.:** 43N **R.:** 1E **Natural Divis. (no.):** 3d
Project Description: The client proposes to construct a solar energy field within the project area. The project area was staked at the time of survey. The project area is largely agricultural with some small areas of trees and grass.
Topography: The project area is located within the Rock River Hill Country physiographic province of Illinois. The Rock River Hill Country is largely in Illinoian glacial drift, and is characterized by rolling topography punctuated by dells, or bluffs along streams. Locally, the project area is situated in a low-lying, frequently flooded floodplain area between the Kishwaukee River and Kilbuck creek.
Soils: Soils in the project area have been mapped as: Hononegah loamy coarse sand 0-2% slopes, Millington silt loam 0-2% slopes, and Comfrey loam 0-2% slopes frequently flooded. Hononegah series soils are deep, excessively drained soils situated on stream terraces and outwash plains. These soils formed in a parent material of alluvium and developed under a native vegetation of water-tolerant grasses. Millington series soils are deep, poorly drained soils that are situated on alluvium. These soils are situated on floodplains, formed in a parent material of alluvium and developed under a native vegetation of wet-prairie grasses. Comfrey series soils are very deep, poorly drained soils situated on floodplains. These soils formed in a parent material of alluvium and developed under a native vegetation of grasses and trees.
Drainage: The project area is drained by Kilbuck Creek which drains into the Kishwaukee River which in turn drains into the Rock River.
Land Use/Ground Cover (Include % Visibility): The majority of the project area is contained within agricultural fields. At the time of survey vegetation in these areas consisted of corn and soybeans. Visibility within the corn was roughly 75%. Visibility within the beans was roughly 40%. The western portion of the project areas of trees interspersed with areas of grass and light brush. Ground surface visibility in these areas was less than 30%. Numerous areas of the project area were flooded at the time of survey, these areas are marked on the attached sketch map.
Survey Limitations: There were no limitations to a comprehensive survey of the project area.
****

ARCHAEOLOGICAL AND HISTORICAL INFORMATION
Historic Plats/Atlases/Sources:
IAS site files for Winnebago County, Plats and Atlases of Winnebago County: 1839 (GLO); 1871 (Warner, Higgins & Beers); 1886 (H.R. Page & Co.); 1905(George A. Ogle & Co.) ARI site files for Boone County. These plat maps were viewed but not photocopied at the Ida Public Library in Belvidere, IL.
Previously Reported Sites: The project area contains the previously recorded archaeological sites 11WO313 and 11WO338. There are twelve previously recorded archaeological sites located within one mile of the project area: 11WO72, 11WO473, 11WO71, 11WO341, 11WO358, 11WO339, 11WO73, 11WO254, 11WO342, 11WO343, 11WO344, & 11WO345.
Previous Surveys: The project area has been previously surveyed. This survey was conducted by IDOT in 1993/1994 as part of the Greater Rockford Airport project. A search of the Illinois online sites database failed to locate an IHPA document number for this previous survey. Surveys within one mile of the project area include the following IHPA doc.#'s: 5888, 15581, 13822, 9164, and 5923.
Regional Archaeologists Contacted: David Keene
Investigation Techniques: Surface inspection was conducted over the entire project area at 5-meter intervals. In those areas where visibility was less than 30%, screened sub-surface shovel testing was conducted at 15-meter transect intervals. Archaeological sites 11WO313 and 11WO338 were surface inspected at 1-meter transect intervals. Additionally, archaeological site 11WO338 was sub-surface inspected with two transects at 10-meter intervals. One transect bisected 'Area B' in an east-west direction, and one transect bisected the north-south portion of the site paralleling the road. These transects are illustrated on the attached site map.
Time expended: 12 Person days
Sites/Find Spots Located: N/A
Cultural Material: N/A **Curated At:** ARI
Collection Techniques: Total Recovery
Area Surveyed (Acres & Square Meters): 200 acres / 809,4000 square meters

Results Of Investigation And Recommendations: (Check One)

_X_ Phase I Archaeological Reconnaissance Has Located No Archaeological Material; Project Clearance Is Recommended.

_ __ Phase I Archaeological Reconnaissance Has Located Archaeological Materials; Site(s) Does (Do) Not Meet Requirements For National Register Eligibility; Project Clearance Is Recommended.

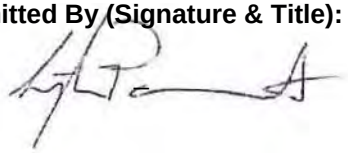
___ Phase I Archaeological Reconnaissance Has Located Archaeological Materials; Site(s) May Meet Requirements For National Register Eligibility; Phase II Testing Is Recommended.

___ Phase II Archaeological Investigation Has Indicated That Site(s) Does (Do) Not Meet Requirements For National Register Eligibility; Project Clearance Is Recommended.

___ Phase II Archaeological Investigation Has Indicated That Site(s) Meet Requirements For National Register Eligibility; Formal Report Is Pending And A Determination Of Eligibility Is Recommended.

Comments: SEE ADDITIONAL COMMENT SHEET

Archaeological Contractor Information:
Archaeological Contractor: Archaeological Research, Inc.
Address/Phone: 2000 North Racine Ave. Chicago, Illinois 60613 / 773-975-1753
Surveyor(s): Steve Parrish, David Keene **Survey Date**: 7-13,14,15 & 8-2,3,5-2010
Report Completed By: Steve Parrish **Date**: 8-13-2010
Submitted By (Signature & Title):



Senior Staff archaeologist

Attachment Check List: (#1 Through #4 are MANDATORY)

_X_ 1) Relevant Portion Of USGS 7.5' Topographic Quadrangle Map(s) Showing Project Location And Any Recorded Sites;
_X_ 2) Project Map(s) Depicting Survey Limits And, When Applicable, Approximate Site Limits And Concentrations Of Cultural Materials;
_X_ 3) Site Form(s):
_X_ 4) All Relevant Project Correspondence;
_X_ 5) Additional Information Sheets As Necessary.

Address Of Contracting Agency To Whom SHPO Comment Should Be Mailed:
Anderson Environmental & Engineering, Co.
124 N. Water Street, Suite 206
Rockford, IL 61107

Contact Person: Jennifer Anderson **Phone No.** 815-962-9000
Reviewers Comments:

ADDITIONAL COMMENTS:

A Phase I archaeological survey was conducted on the site of a proposed solar energy field in Winnebago County, Illinois. The project area consists of 200 acres of primarily agricultural land situated within the floodplain of the Kishwaukee River and Kilbuck Creek south of the Rockford Regional Airport. The western edge of the project area contains an area of trees, grass and light brush. The low-lying project area contains a number of wetland, marsh and flooded areas that were underwater at the time of survey. These areas are delineated on the attached sketch map of the project area. The project area contains the remains of a demolished structure that appears to have been constructed of corrugate metal and wood. The remains of this structure were photographed and the photos appear at the end of this report. The project area was previously surveyed by crews from RIP/UIUC in 1993 as part of the Greater Rockford Airport project. This survey resulted in the location of two sites that are within the current project boundaries. These sites have been recorded with the Illinois State Musuem as 11WO313 and 11WO338. The USGS map of the project area indicates 4 structures within the western 1/3 of the project area that appear to be associated with a former campground.

11WO313

The project area contains the previously recorded archaeological site 11WO313. Archaeological site 11WO313 was originally recorded in 1993 by crews from RIP/UIUC when this area was surveyed as part of the Greater Rockford Airport project. The site is situated within the flooplain of the Kishwakee River to the north and Kilbuck Creek to the south, 740 meters southwest of the intersection of Elmwood Road and South Bend Road. Cultural material attributed to the site consists of a total of 3 pieces of lithic debitage: 1 tertiary flake, 1 bifacial thinning flake and 1 broken flake. Because of the light density of cultural material as well as the inclusion of the site within previously disturbed agricultural soils further investigation at 11WO313 was not recommended in 1993. The area containing archaeological site 11WO313 was re-investigated during the current survey. Currenlty, the site is contained within an agricultural field that was planted with soybeans. Ground surface visibility was roughly 40-50%. Initially, the area was walked at 5-meter intervals as part of the initial pedestrian inspection of the project area. No cultural material was encountered within the area mapped as containing 11WO313 during this initial inspection. Subsequent to the 5-meter inspection, the area mapped as containing site 11WO313 was subjected to a pedestrian inspection at 1-meter transect intervals. No cultural material was located as a result of 1-meter pedestrian inspection. Limited sub-surface shovel testing was then conducted at select locations and also failed to result in the location of any cultural material. Given the light density of cultural material originally attributed to the site, the previous investigations recommendations of no further work, as well as the negative results of the current investigation, and the inclusion of the site within agricultural fields further investigation at 11WO313 is not considered likely to result in the location of significant cultural deposits in situ. Further investigation at 11WO313 is therefore not recommended.

11WO338

As mentioned, the project area also contains the previously recorded archaeological site 11WO338. Archaeological site 11WO338 was originally recorded in 1993 by crews from RIP/UIUC when this area was surveyed as part of the Greater Rockford Airport project. The site is recorded as being situated on a low rise within the floodplain of the Kishwaukee River to the north and Kilbuck Creek to the south, 200 meters southwest of the intersection of Elmwood Road and South Bend Road. Cultural material attributed to the site consists of: 8 decortication flakes, 4 thinning flakes, 25 broken flakes, 6 core frangments, 3 bladelet cores, 1 anvil/grinding stone, 60 grit tempered body sherds, 2 grit tempered basal sherds, 30 indeterminate sherds, 2 lamellar flakes, 3 tertiary flakes, 1 notched flake, 6 chert hammerstones, 4 fcr, 1 perforator, 2 quartzite hammer stones, 1 triangular humpbacked scraper, 11 biface blades, 8 limestone pieces, grit tempered shoulder sherds, grit tempered neck sherds, 3 mammal bones and 1 mollusc shell. This cultural material was dispersed over 29,196 square meters. In addition, the 1993 survey identified two areas of artifact concentration, 'Area A' on the northern end of the site and 'Area B' which is situated on the sourthern end of the site as mapped. These areas of artifact concentration are marked on the attached map of archaeological site 11WO338 [**Attachment 7**]. The site form does not indicate what cultural material came from which area, nor which area contained a greater percentage of the assemblage or a greater density of artifacts. The northern end of 11WO338, the portion of the site that contains the concentration of artifacts labeled 'Area A' is located outside of the current project boundaries, and was not investigated during the investigations presented in this report. This portion of the site is also contained within an active agricultural field that at the time of survey was planted with soybeans.

Given the presence of large amounts of pottery, as well as the recommendation for additional investigation by the previous survey, an earnest attempt was made to relocate archaeological site 11WO338. The entire site as mapped was initially surveyed at 5-meter transect intervals on July 13, 2010. Random sub-surface shovel testing was also conducted at that time. When 5-meter transect intervals failed to result in the location of any cultural material, the interval was reduced to 1-meter transects and the surface of the site was re-inspected. The reduced transect interval also did not result in the location of any cultural material. Archaeological site 11WO338 was then set aside and the remainder of the project area was inspected.

During this time, northwestern Illinois and southwestern Wisconsin received large amounts of rainfall which thoroughly washed the project area and resulted in significant flooding to the region in general, as well as the project area specifically. Given the heavy rain, it was hoped that cultural material at 11WO338 would be more evident on the surface. As a result a second surface inspection at 1-meter transect intervals was conducted on August, 2. Again, this inspection failed to locate a single piece of cultural material. After this second surface inspection, two transects of sub-surface shovel tests were excavated. Transect 1 (illustrated on the map of 11WO338) [Attachment 7], bisected 'Area B' in an east-west direction, and Transect 2 [Attachment 7], bisected the remaining portion of the site in a north-south direction running up towards 'Area-A'. All soils excavated as a result of these shovel test units was screened for cultural material through ¼ inch hardware cloth. Sub-surface shovel testing was did not result in the location of any cultural material. Sub-surface shovel testing did result in the location of several small (1-2cm) chert nodules, however none of them exhibited any evidence of human modification.

Archaeological site 11WO338 was intensely scrutinized for cultural material, and yet, no cultural material could be located. At the time of the 1993 survey, Mr. Berres indicates that 'cultivation is having an adverse impact on the site'. It appears that this assessment was correct. The site is currently under cultivation, planted with soybeans, and evidence of old cornstalks, indicates that the area has likely been under cultivation continuously since 1993. in addition to cultivation, the area is frequently flooded, as indicated by flooding during the current survey. It is considered likely that the combined effects of modern mechanized agricultural and periodic intense flooding have resulted in the destruction of archaeological site 11WO338. Given the size of the site, and the apparent absence of cultural material, further work at 11WO388 is considered likely to be ineffective as there is no clear area within the large site boundaries in which to concentrate any further investigation. The negative effect of agriculture is compounded by frequent flooding and as a result the potential for intact features is considered to be low. Given the lack of integrity, archaeological site 11WO338 is recommended to be considered not eligible for listing on the National Register of Historic Places. Further archaeological investigation at 11WO338 is not recommended.

Archaeological inspection of the remainder of the project area did not result in the location of any additional archaeological deposits. The remains of a modern structure were encountered, and these remains are marked on the sketch map of the project area [**Attachment 4**]. The remains consist of corrugated metal and wood. It appears to have been an above ground shelter type structure like a yurt that may have been associated with the abandoned campground that is located west of the project area. The structure has no foundation, and there was no archaeological component associated with it. he structure has been demolished, and the remains are currently in a large pile. Given the lack of structural integrity, this structure is not considered to be eligible for listin on the National Register of Historic Places. Further evaluation of this structure is not recommended. The U.S.G.S. topographic map (Rockford South Quadrangle) indicates that 3 other such structures were at one time situated within the current project area. No evidence of these structures was located during the Phase I investigation of the project area. These other structures were likely demolished at the same time as the structure indicated on Attachment 4, or were destroyed by flooding. Given the negative results of field inspection, the inclusion of the project area in an agricultural field as well as the negative results of background documents, further investigation of the project area is not considered likely to result in the location of significant cultural deposits in situ. Further inspection of the project area is not recommended. If cultural material is encountered during construction, construction should be halted and the SHPO should be notified immediately.

REFERENCES CITED

Graham, D.R.
1980 *Soil Survey of Winnebago and Boone Counties, Illinois*. United States Department of Agriculture, Soil Conservation Service, Washington D.C.

Schwegman, John E.
1973 *Comprehensive Plan for the Illinois Nature Preserves System Part 2, The Natural Divisions of Illinois*. Illinois Nature Preserves Commission, Rockford.

Nelson, Ronald E.
1988 Illinois: *Land and Life in the Prairie State*. Kendall/Hunt, Dubuque.

Willman, H.B.
1971 *Summary of the Geology of the Chicago Area*. Illinois State Geological Survey Circular 460, Urbana.

1839 *General Land Office Plat Map of Winnebago County, Illinois*. Library of Congress, Washington, D.C.

1871 *Atlas of Winnebago County, and the State of Illinois*. Warner, Higgins and Beers, Chicago.
Viewed but not photocopied at the Belvidere Public Library

1886 *Illustrated Atlas of Winnebago & Boone Counties, Illinois*. H.R. Page & Co.
Viewed but not photocopied at the Belvidere Public Library.

1905 *20th Century Atlas of Boone County, Illinois*. Middle West Publishing Company.
Viewed but not photocopied at the Belvidere Public Library.

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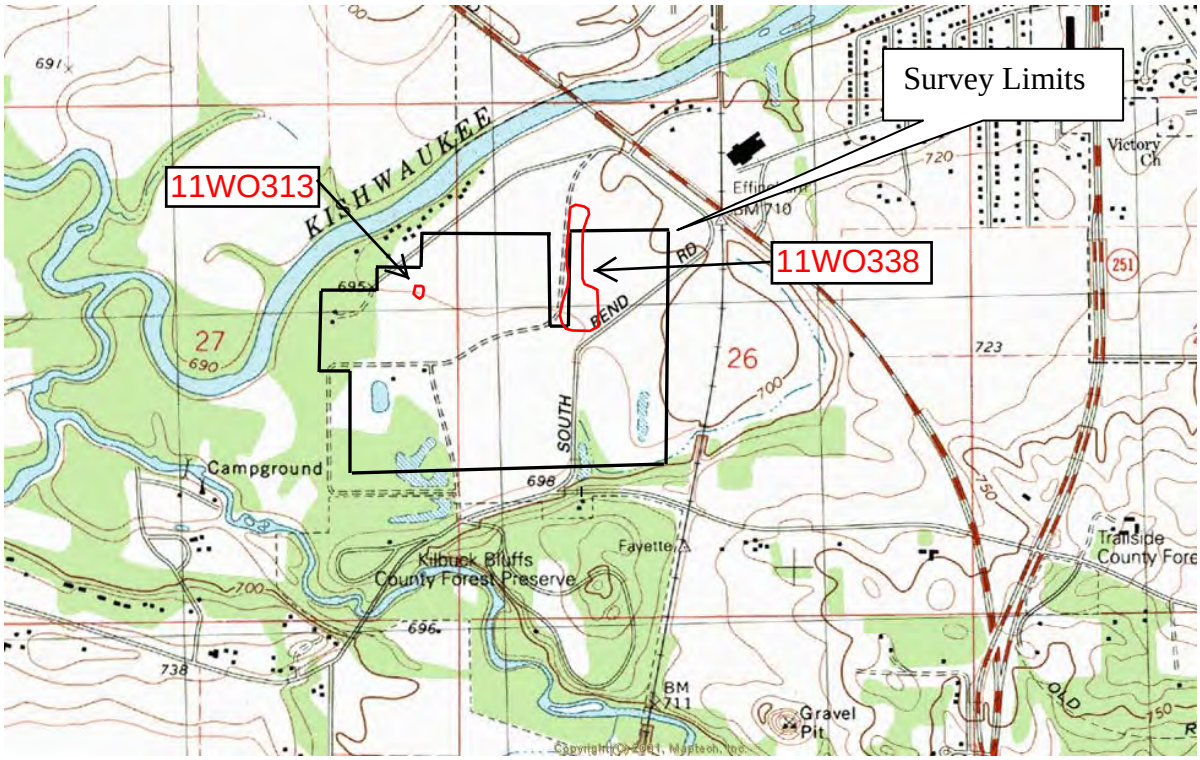
OTHER REFERENCES

Illinois Archaeological Survey (IAS) site files. Illinois State Museum, Springfield.

Attachment 1: Project Location Map

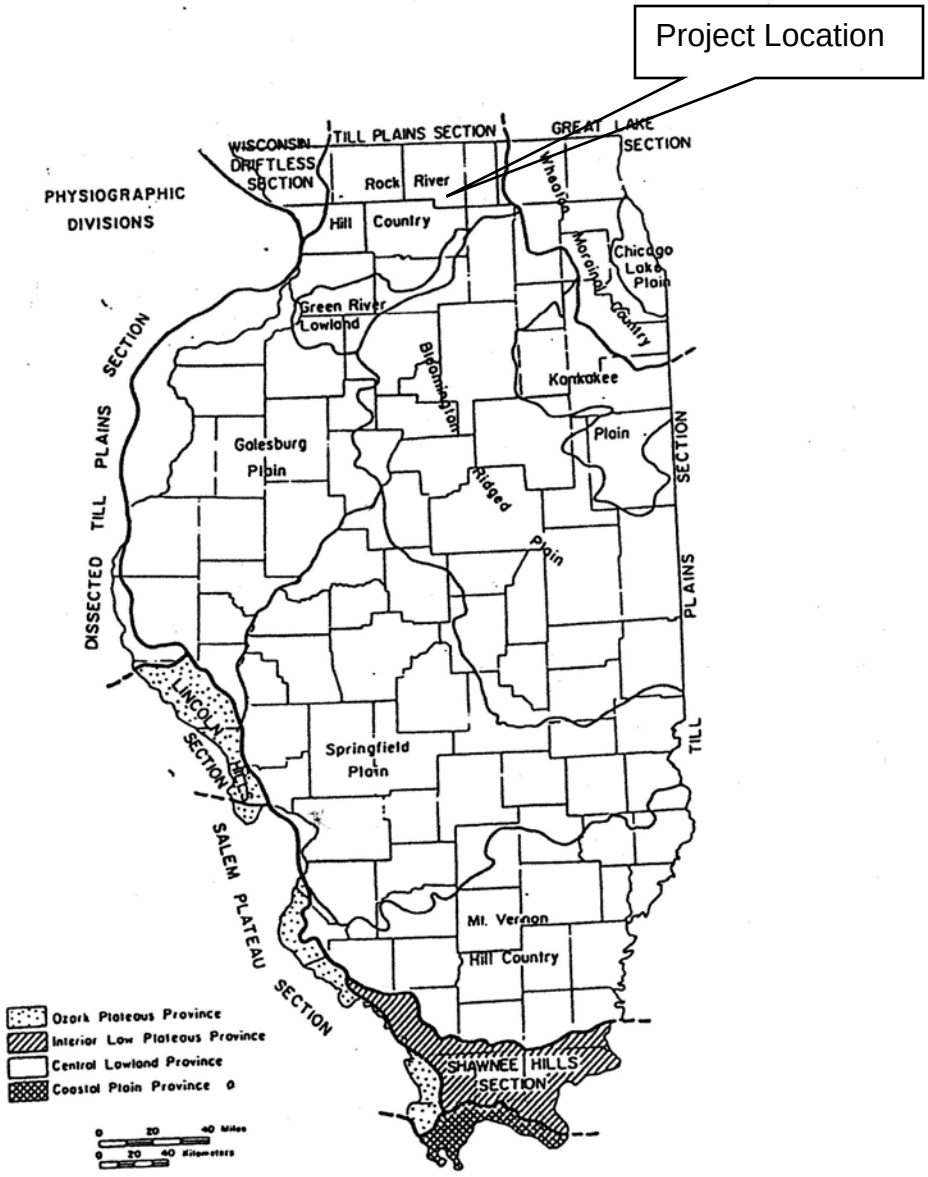


Archaeological RESEARCH, INC.

Winnebago County, Illinois
Rockford South, IL 7.5 Minute USGS Quadrangle
T43N., R1E; Section 26 and 27

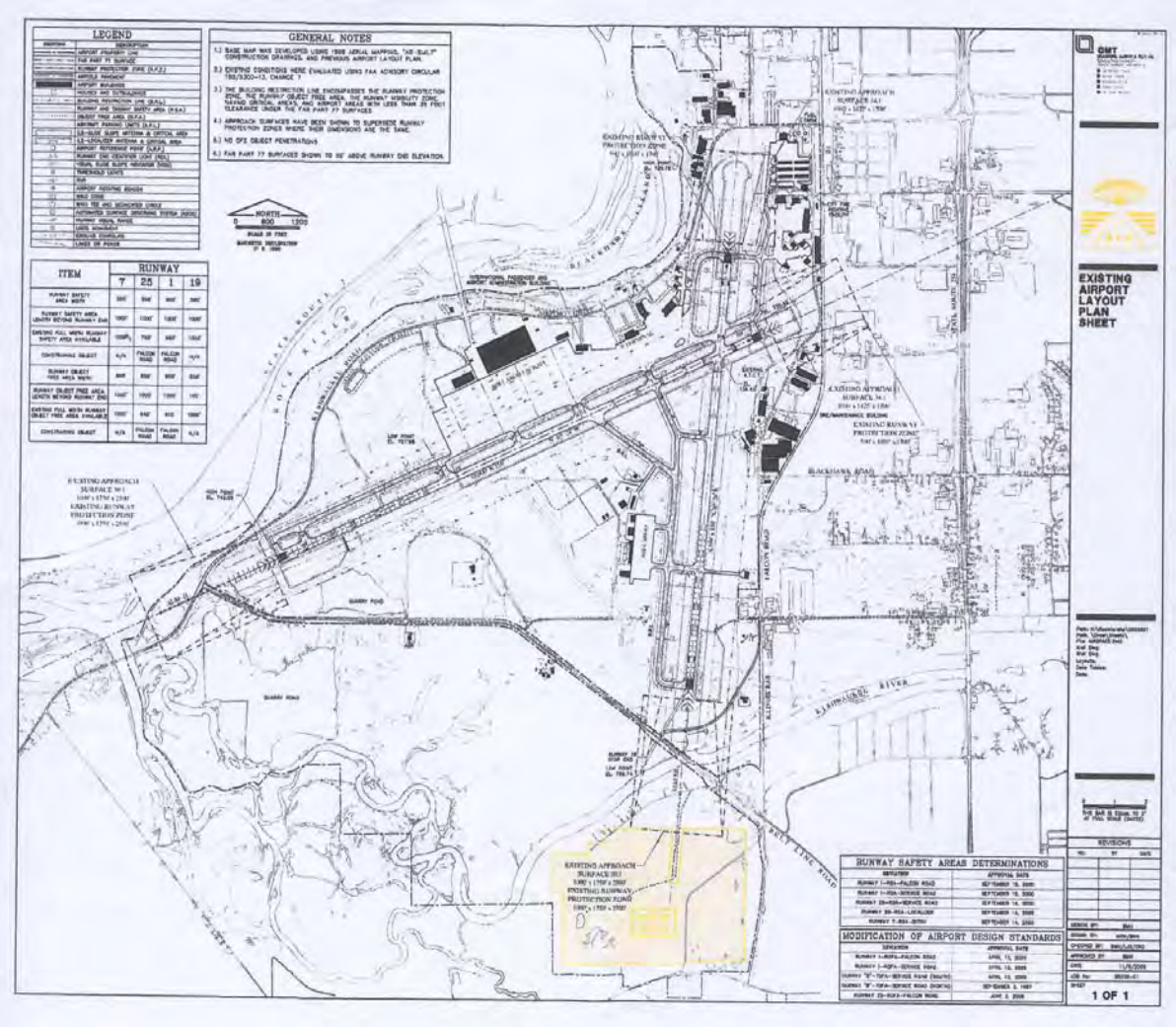
Map Date:	Scale:	Project No.:
1993	1: 24,000	

Attachment 2. Physiographic Provinces of Illinois

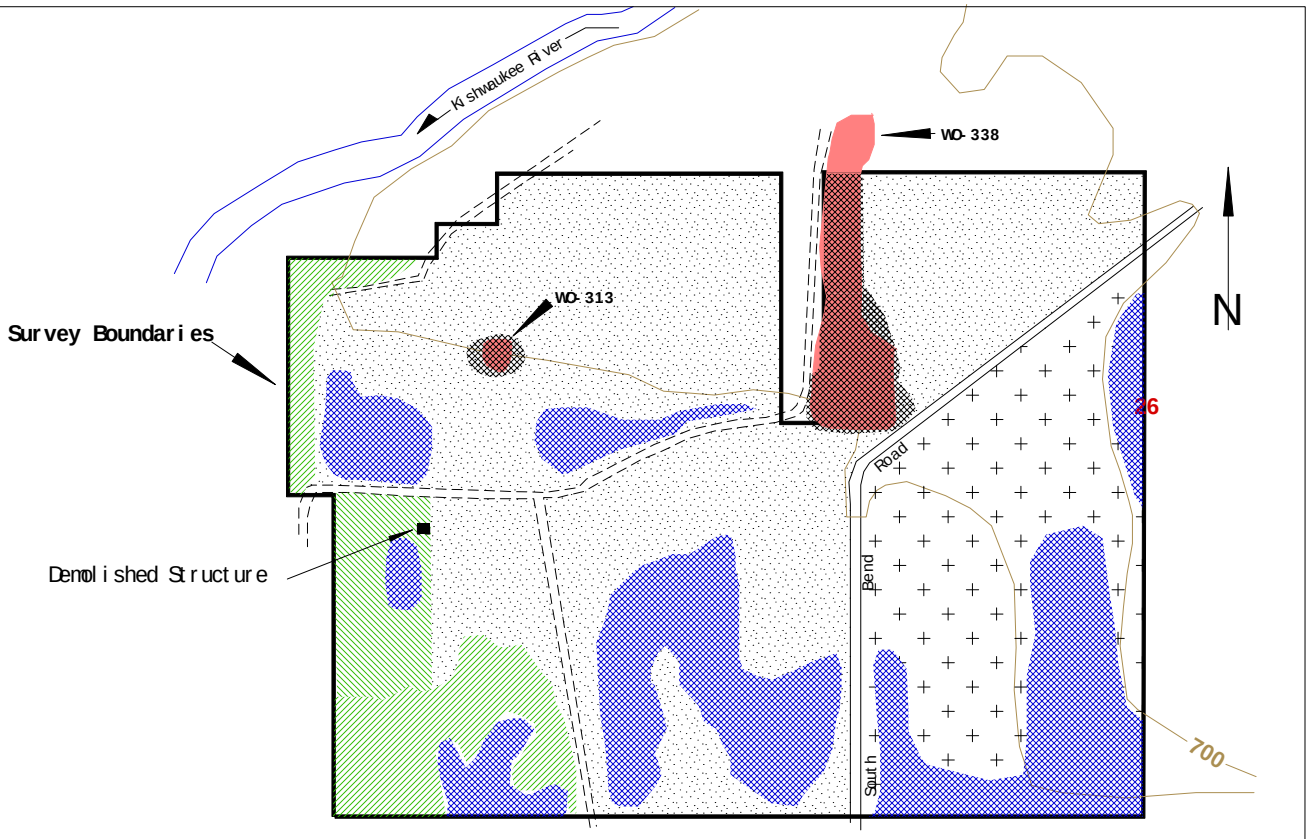


Physiographic Provinces of Illinois (Willman 1975:16)

Attachment 3. Project Area Map Provided by the Client



Attachment 4. Sketch Map of the Project Area Showing Vegetation and Survey Methods.



Soybeans. Visibility 40% Surface inspection at 5-meter transect intervals. Screened, sub-surface shovel testing as indicated.

Flooded Areas

Corn. Visibility 60-75% Surface inspection at 5-meter transect intervals. Limited, Screened sub-surface shovel testing.

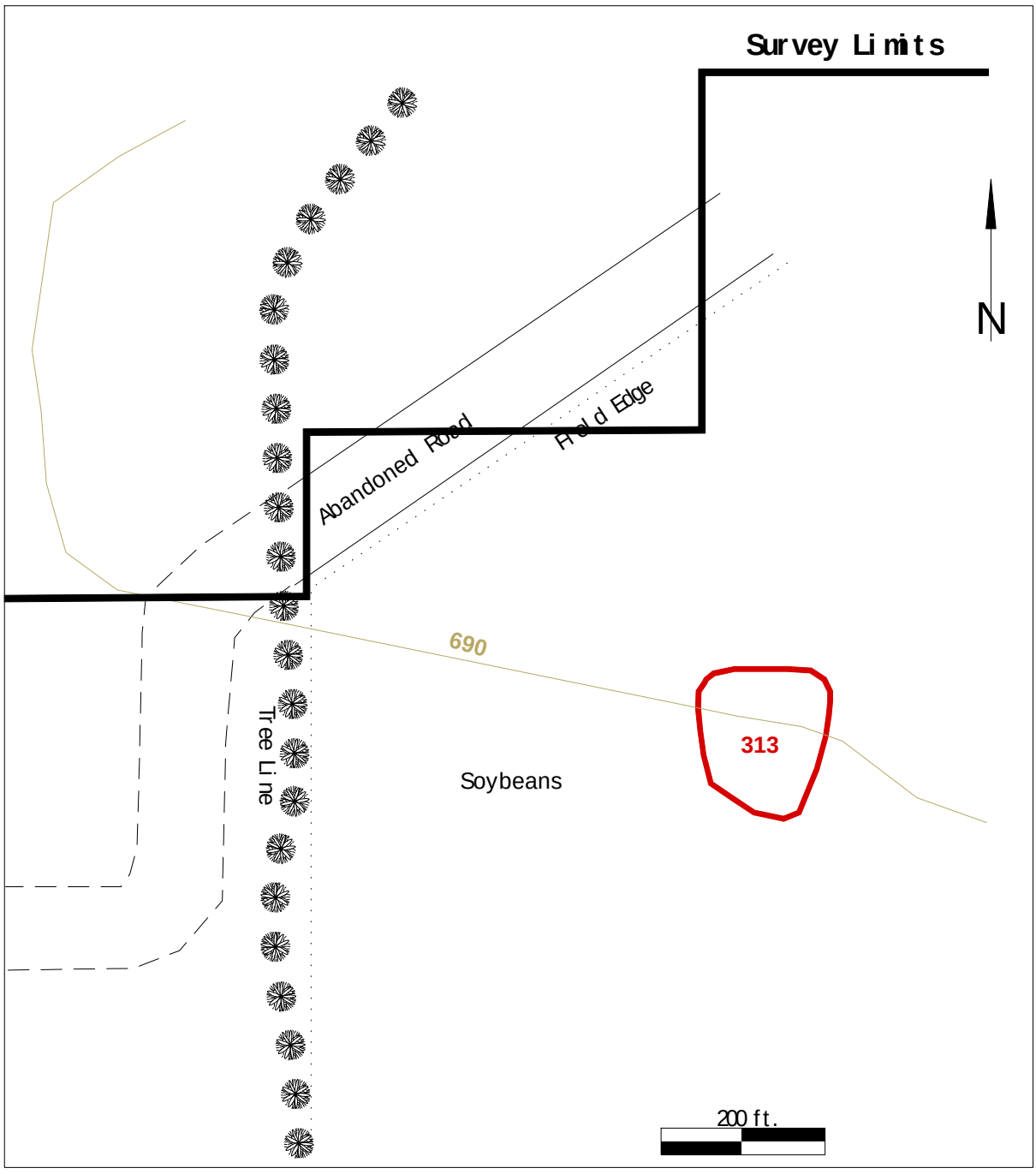
Trees/Brush. Visibility highly variable ranging from less than 30 roughly 75% Surface inspection at 5-meter transect intervals. Screened, sub-surface shovel testing at 15-meter intervals where ground surface visibility was less than 30%

Grass/weeds. Visibility highly variable ranging from less than 30 to roughly 60% Surface inspection at 5-meter transect intervals, screened sub-surface shovel testing at 15-meter intervals.

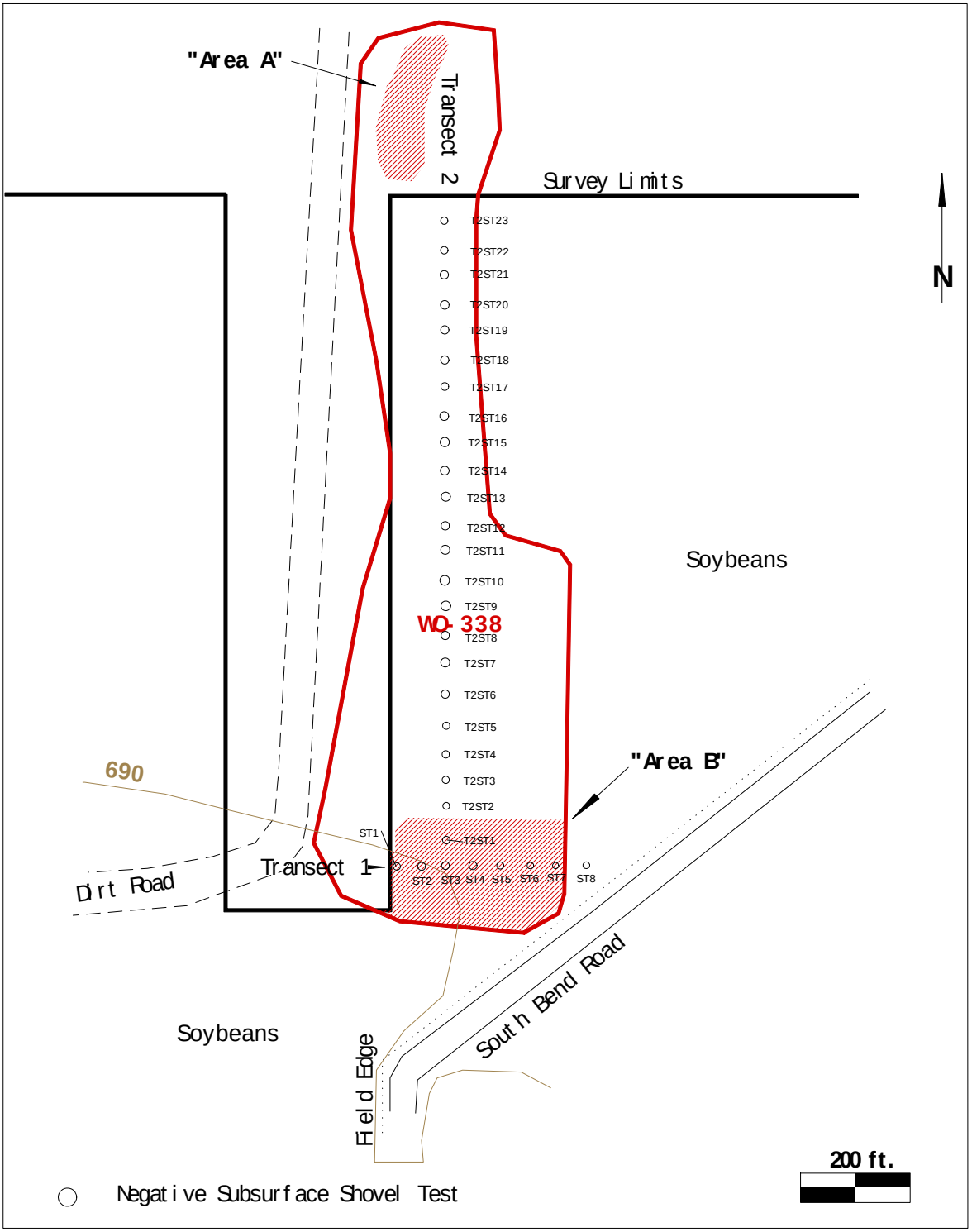
Surface inspection at 1-meter transect intervals. Limited sub surface shovel testing as indicated on the attached site maps.

Attachment 5. General Land Office Plat Map of, Winnebago County, Illinois.
Library of Congress
1839

Attachment 6. Map of Archaeological Site 11WO303



Attachment 7. Map of Archaeological Site 11WO338.



Attachment 8. Photographs of Demolished Structure.

View to south. Demolished structure.

View to north. Demolished structure.

ILLINOIS ARCHAEOLOGICAL SITE RECORDING FORM

County: Winnebago **Site Name:** **Revisit:** Y
Field Number: WO313 **State Site No.:** 313
Quadrangle (7.5'): Rockford South **Date Recorded:** 2010.08.11

LEGAL DESCRIPTION (to quarter quarter quarter section)

Align: NE	**1/4s:** NWSESENE	NESESENE	SWNESENE	SENESENE	**Section:** 27	**Township:** 43 N	**Range:** 1 E
Align:	**1/4s:**				**Section:**	**Township:**	**Range:**
Align:	**1/4s:**				**Section:**	**Township:**	**Range:**
Align:	**1/4s:**				**Section:**	**Township:**	**Range:**

UTM Coordinates (by ISM): **UTM Zone:** 16 **UTM North:** 4671042 **UTM East:** 326777 **NAD27**

Ownership: Private

ENVIRONMENT

Topography: Floodplain **Elevation (in meters):** 215
Nearest Water Supply: Kishwaukee River **Drainage:** Kishwaukee
Soil Association: Lawson-Sawmill-Darwin
Description: The site is situated on the floodplain of the Kishwakee River, 740m SW of the Elmwood Road and South Bend Road intersection.

SURVEY

Project Name: Rockford Solar **Site Area (square meters):** 1330
Ground Cover (List up to 3): Cultivated **Visibility (%):** 40
Survey Methods (List up to 2): Pedestrian Shovel Test **Standing Structures:** N
Site Type (List up to 2): Unknown

SITE CONDITION

Extent of Damage: Destroyed
Main Cause of Damage: Agriculture

MATERIAL OBSERVED

Number of Prehistoric Artifacts (count or estimate): 0 **Number of Historic Artifacts (count or estimate):** 0
Prehistoric Diagnostic Artrifacts: N **Historic Diagnostic Artifacts:** N
Prehistoric Surface Features: N **Historic Surface Features:** N
Description: No cultural material was encountered during the revisit.

TEMPORAL AFFILIATION (Y if present)

Prehistoric Unknown: X	**Late Archaic:**	**Mississippian:**	**Colonial (1673-1780):**
Paleoindian:	**Woodland:**	**Upper Mississippian:**	**Pioneer (1781-1840):**
Archaic:	**Early Woodland:**	**Protohistoric:**	**Frontier (1841-1870):**
Early Archaic:	**Middle Woodland:**	**Historic Native American:**	**Early Industrial (1871-1900):**
Middle Archaic:	**Late Woodland:**	**Historic (generic):**	**Urban Industrial (1901-1945):**
			Post-War (1946-present):

Description: No diagnostic material is attributed to this site.

Surveyor: Parrish, Keene **Institution:** ARI **Survey Date:** 8-02-10 **Curation Facility:** NA
Site Report by: Parrish **Institution:** ARI **Date:** 8-12-10
IHPA Log No.: **IHPA First Sur. Doc. No.:**
Compliance Status: **NRHP Listing:** N

ILLINOIS ARCHAEOLOGICAL SITE RECORDING FORM

County: Winnebago **Site Name:** **Revisit:** Y
Field Number: WO338 **State Site No.:** 338
Quadrangle (7.5'): Rockford South **Date Recorded:** 2010.08.11

LEGAL DESCRIPTION (to quarter quarter quarter section)

Align: NW	**1/4s:** SESESWNW	NESESWNW	SWSWSENE	NWSWSENE	**Section:** 26	**Township:** 43 N	**Range:** 1 E
Align:	**1/4s:** SESENWNW	SENESWNW	NENESWNW	SWNWSENW	**Section:**	**Township:**	**Range:**
Align:	**1/4s:** NWNWSENW	SWSWNENW			**Section:**	**Township:**	**Range:**
Align:	**1/4s:**				**Section:**	**Township:**	**Range:**

UTM Coordinates (by ISM): **UTM Zone:** 16 **UTM North:** 4671089 **UTM East:** 327266 **NAD27**

Ownership: Private

ENVIRONMENT

Topography: Floodplain **Elevation (in meters):** 215
Nearest Water Supply: Kishwaukee River **Drainage:** Kishwaukee
Soil Association: Lawson-Sawmill-Darwin
Description: The site is situated on a floodplain of the Kiswaukee River 200 meters SW of the Elmwood Road and South Bend Road Intersection.

SURVEY

Project Name: Rockford Solar **Site Area (square meters):** 29196
Ground Cover (List up to 3): Cultivated **Visibility (%):** 40
Survey Methods (List up to 2): Pedestrian Shovel Test **Standing Structures:** N
Site Type (List up to 2): Unknown

SITE CONDITION

Extent of Damage: Destroyed
Main Cause of Damage: Agriculture

MATERIAL OBSERVED

Number of Prehistoric Artifacts (count or estimate): 0 **Number of Historic Artifacts (count or estimate):** 0
Prehistoric Diagnostic Artrifacts: N **Historic Diagnostic Artifacts:** N
Prehistoric Surface Features: N **Historic Surface Features:** N
Description: No cultural material was encountered during the revisit.

TEMPORAL AFFILIATION (Y if present)

Prehistoric Unknown:	**Late Archaic:**	**Mississippian:**	**Colonial (1673-1780):**
Paleoindian:	**Woodland:**	**Upper Mississippian:** X	**Pioneer (1781-1840):**
Archaic:	**Early Woodland:**	**Protohistoric:**	**Frontier (1841-1870):**
Early Archaic:	**Middle Woodland:** X	**Historic Native American:**	**Early Industrial (1871-1900):**
Middle Archaic:	**Late Woodland:**	**Historic (generic):**	**Urban Industrial (1901-1945):**
			Post-War (1946-present):

Description: Temporal affiliation is based off the original site form.

Surveyor: Parrish, Keene **Institution:** ARI **Survey Date:** 8-05-10 **Curation Facility:** NA
Site Report by: Parrish **Institution:** ARI **Date:** 8-12-10
IHPA Log No.: **IHPA First Sur. Doc. No.:**
Compliance Status: **NRHP Listing:** N