



Oak Park Elementary School District 97

970 Madison ▪ Oak Park ▪ Illinois ▪ 60302 ▪ ph: 708.524.3000 ▪ fax: 708.524.3019 ▪ www.op97.org

TO: Dr. Albert G. Roberts, Superintendent of Schools

FROM: Therese M. O'Neill, Asst. Supt. Finance & Operations
Norman Lane, Director of Buildings & Grounds

SUBJECT: Irving Solar Panel Installation

DATE: October 25, 2011

In the spring of 2011, Irving School applied for and, in May of 2011, was awarded an \$8,000 grant from the Illinois Clean Energy Community Foundation to support the installation of a 1 KW solar panel at Irving School with installation to be done by Earth Wind & Solar Energy LLC. Total cost for this project is \$9,995 of which \$8,000 is coming from the grant and the remainder (\$1,995) from the PTO.

This project was reviewed by FAC (Facilities Advisory Committee) on both August 22 and October 5 and various questions/concerns/recommendations were presented and all have been complied with by the Irving School PTO. However, at the last meeting, October 5, FAC strongly recommended a "letter from an Illinois licensed Professional Structural Engineer confirming the installation will be successfully supported by the existing roof structure without structural deflection or damage". In an attempt to meet this request, the PTO explored potential cost and was informed that this assessment could run between \$500 and \$3000. Given this was beyond their resources, they decided to move to a wall mounted unit. Again, in reviewing with FAC, it was determined whether such unit was on the roof or wall, it would still require this assessment. It was determined to contact the District's architectural firm to acquire a more "firm" number and DLA has estimated the cost for a roof mounted assessment to be approximately \$1,650 and a wall mounted assessment, \$2,000.

Recognizing the educational benefit to students and the fact that the PTO has provided all monies associated with purchase and installation of the solar panel unit, it is suggested that the District absorb the cost for the roof mounted structural assessment (\$1,650).

Attached are various supporting documents provided by Barbara Hoffman, the Irving School PTO representative, who has led this effort and attended the October 5 FAC meeting. Included are all questions/concerns/recommendations from FAC and responses, a sample of the unit, how it would appear (either on the roof or the wall), and the grant award.

tmo

Attachments

MEMO

TO: District 97 Board of Directors
FROM: Irving School PTO
DATE: October 19, 2011
RE: Request for Approval of Solar Panel Installation

Washington Irving Elementary School PTO respectfully asks the District 97 Board of Directors to accept the \$8,000 grant awarded by the Illinois Clean Energy Community Foundation on May 13, 2011 to support the installation of a 1 KW solar panel at Irving School, and to approve the installation contract with Earth Wind & Solar Energy LLC. There will be no cost to District 97.

Background:

In Spring 2011, Irving School applied for and received a grant from the Illinois Clean Energy Community Foundation to support the purchase, installation, monitoring and maintenance of a 1 KW solar panel at Irving School. This grant is part of the K-12 Solar Schools program that is designed to promote the integration of renewable energy concepts and activities in schools. The 1 KW solar panel will generate the energy equivalent to power one classroom. There is a web-based monitoring system as well as a device that shows real-time performance data to students and teachers. Students will have the opportunity to assess the performance of the different panels over time. The Foundation provides professional development opportunities for staff to learn about how they can integrate solar energy and the data from the panels into their curricula. In addition to the installation of the solar panel, Irving School is required to host a “solarbration” to raise awareness about the benefits of renewable energy. The Irving Green Team, comprised of students and teachers, will plan this event.

Project Installation and Vendor:

During the course of the past several months, Irving School PTO members and staff have met with several potential installers who were recommended by the Illinois Clean Energy Community Foundation. The PTO received three formal quotes for the project. We were impressed with two installers – Earth Wind & Solar Energy and Sun Air Systems. Following a review of the quotes as well as communication with the Facilities Advisory Committee, we identified Earth Wind & Solar Energy as the preferred installer.

The solar panel will be mounted on the south-facing wall at the school in order to provide maximum exposure to the sun as well as visibility to students and teachers. The location is desirable for its nearly – but not 100% - unobstructed sun during peak hours, as well as its collocation with the school’s growing Zero Waste and School Garden initiatives.

Project Costs and Payment:

The total cost for the solar panel installation, including the materials, equipment, labor and installation of the solar panel, mounting system, and web-based monitoring system is \$9,995. The Illinois Clean Energy Community Foundation grant will cover 80% of the project costs (or \$7,996). The remaining \$1,999 will be covered through private funds raised by in June 2011 through a targeted fundraiser for the solar panel and Irving Schoolyard Project. The Illinois Clean Energy Community Foundation grant will be paid within one year of the award date (May 13, 2011) and following the foundation's receipt of a report and supporting documentation of the installation and solarbration activity. There will be no cost to District 97.

Facilities Advisory Committee

During the course of the past couple months, Irving School has responded (in writing and in person) to a series of questions raised by the Facilities Advisory Committee regarding this project. It is our understanding that we have satisfactorily resolved all of their questions about the project and installation. Based on the concerns from the Facilities Advisory Committee about the impact of the roof-mounted panels, we have decided to install a wall-mounted panel. Irving School is willing to answer any additional questions raised in advance of the installation.

We appreciate the District's consideration of this request. Irving School is excited about the prospect of integrating renewable energy concepts and activities with learning opportunities for students. We have – and will continue – to respond to inquiries from other District 97 schools about this project, and will provide our materials and documents to support their efforts in obtaining funds to support this project, as requested.

Please contact Barbara Hoffman, Irving parent, at Barbara.Hoffman1@comcast.net or 708-386-2456 with any questions.

Attachments:

1. Illinois Clean Energy Community Foundation grant award letter
2. Photo – Irving School South Wall
3. Photos of Solar Panel Installation Options
4. Earth Wind Solar Energy Project Quote



May 13, 2011

Ms Barbara Hoffman
Parent
Washington Irving Elementary School
1018 S. Euclid Avenue
Oak Park, IL 60304

Re: **Request ID: 5632**
Educational Solar PV Program

Dear Ms Hoffman:

The Illinois Clean Energy Community Foundation ("the Foundation") is awarding a grant of up to \$8,000 to the Oak Park Elementary School District 97 ("the Grantee") for the above-referenced project.

This letter defines the terms and conditions of the grant and constitutes the grant agreement ("the Agreement") between the Foundation and the Grantee. Please read it carefully. If the Grantee agrees to the terms and conditions in the agreement, please return one complete counter-signed copy of the Agreement no later than one month from the date of this agreement. Contact the Foundation if you have any questions.

Duration and Payment of Grant

This grant is to be used during the period June 1, 2011 through May 31, 2012 (the "Grant Period"). It will be paid by the Foundation in full upon successful installation of the photovoltaic system. According to Foundation guidelines, you are eligible to receive up to \$8,000 or 90% of the total project cost, *whichever is less*. Work under the grant must be completed and the installation operational by the end of the grant period.

The Foundation reserves the right to suspend, modify or cancel any payments that might otherwise be due under this grant, to require a refund of any unexpended grant funds or both, if:

1. such action is necessary to comply with any applicable law or regulation;
2. the Grantee has used the grant funds for purposes other than as described in the Agreement or otherwise violated any part of the Agreement; and/or
3. the Grantee's performance under the grant has not been satisfactory.

The Foundation's judgment on these matters will be final and binding.



Purpose and Use of Grant

This grant is for the installation of a single 1 kW Photovoltaic System at Washington Irving Elementary School (the "Project") as described in the Project proposal submitted to the Foundation by the Grantee dated March 24, 2011.

As integral components of the Project, the Grantee agrees to the following over the life of the equipment:

1. Implement online monitoring of real-time data on PV system electricity generation via www.IllinoisSolarSchools.org and maintain the internet connection in working order.
2. Maintain the PV system and its components in working order. Costs associated with equipment replacement, moving the PV system due to roof repairs, etc. is the responsibility of the Grantee.
3. Teach about solar energy in the classroom beginning with the 2011-2012 school year and educate the community about the benefits of solar energy. This should include an event such as a "Solarbration" to make community members aware of the presence and operation of the PV system.

The Grantee agrees to retire any environmental attributes, commonly also known as green tags or renewable energy credits, associated with the electricity generated by the PV system, so that the environmental benefits may only be reported by the Grantee.

The Grantee confirms that this grant will be used solely for the specific tax-exempt purposes described in the Project proposal and budget and no substantial variance will be made without the Foundation's prior written approval.

The Grantee also confirms that the Project is under its complete control and that it has and will exercise control over the process of selecting any vendors, contractors or consultants involved in the Project. The Grantee and the Foundation are not partners or joint venturers with respect to each other.

Furthermore, the Grantee agrees that funds from this grant will be used exclusively for tax exempt purposes as described in Section 501(c) (3) of the Internal Revenue Code and will not be used for any activities prohibited by law, including, without limitation, attempting to influence legislation or participating in any political campaign on behalf of any candidate for public office. The Grantee agrees that it and its employees, agents and sub-contractors will comply with all applicable federal, state, county and local laws, ordinances, regulations and codes in the performance of the Grantee's obligations under this Agreement.

Reporting Requirements

Interim Project Report

The Foundation requires the Grantee to submit an interim project report 6 months after the start of the grant period. The report should provide a description of the project's status and whether or not the project is expected to be completed within the grant period.

Project Completion Report

The Foundation requires the Grantee to ensure that solar data is available at www.IllinoisSolarSchools.org, and to submit a project completion report on this grant no later than 2 months after the end of the Grant Period. The report should cover the entire Grant Period and contain **a signed letter on organization letterhead** to the Foundation requesting the payment of the grant along with:

- (a) a brief summary of the installation experience and project overall;
- (b) copies of energy related curriculum, lesson plans or materials demonstrating integration of the PV system into such curricula;
- (c) evidence of project completion, which may include a letter from the Grantee certifying the installation, a picture of the installation or a copy of an interconnection agreement with Commonwealth Edison, Ameren Illinois Utilities, or other electricity providers, and;
- (d) a statement of Project expenditures and income showing the actual expenditures against the approved Project budget and listing all grant, loan and/or other funds received by the Grantee for the Project.

Publicity

The Foundation believes it is important that many organizations and individuals in Illinois learn about the Project and the ways it benefits the public. Accordingly, the Foundation strongly encourages the Grantee to publicize the receipt of this grant and the results of the Project.

The Grantee agrees to share with the Foundation a draft of any press release or public announcement of the grant prior to distributing the release or announcement and to provide the Foundation with clippings of resulting media coverage.

The Grantee also agrees to allow the Foundation to publicize the Grantee as a grant recipient and to use the name and description of the Project and photographs or other audiovisual representations of subjects related to the Project.

Maintenance of Records and Evaluation

The Grantee is responsible for maintaining adequate financial records regarding use of the grant funds, consistent with generally accepted accounting principles.

The Grantee agrees to cooperate fully in any evaluation of this grant and/or the Project that the Foundation may conduct. Such an evaluation may include a visit from Foundation staff or

consultants, interviews with Project participants, a review of financial and other records about the Project maintained by the Grantee and/or similar investigative activities.

Confirmation of Tax-Exempt Status and Good Standing

The Grantee confirms that it is currently a unit of government or a nonprofit organization exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code and is not a private foundation under Section 509(a) of the Internal Revenue Code. If the Grantee is not a unit of government, it agrees to submit with the signed Agreement written evidence of its tax-exempt, non-private foundation status if it has not previously provided such evidence to the Foundation.

The Grantee further confirms that it is currently in good standing with appropriate state government agencies. If requested by the Foundation, the Grantee agrees to provide written evidence of its good standing.

If there is any change in the Grantee's tax exempt status or good standing during this grant, the Grantee agrees to immediately notify the Foundation of that change.

Acceptance of Terms and Conditions of Agreement

If the Grantee agrees to the terms and conditions in the Agreement, please return to the Foundation one complete copy of this letter signed by an authorized representative of the Grantee in the space provided below. For future reference, please retain a copy of the Agreement in your files. This grant award may be withdrawn if the Foundation has not received a counter-signed copy of the Agreement within one month from the date of this letter.

Sincerely,



Dennis F. O'Brien
Executive Director

The Grantee acknowledges that relevant organization executives and Project personnel have read and understand the Agreement, that its terms and conditions are acceptable to the Grantee and that the Grantee will comply with those terms and conditions.

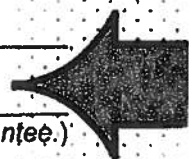
Grantee _____
(This must be the legal name of the organization accepting the grant and it must have federal tax-exempt status.)

Name of Authorized Signer for the Grantee _____

Title of Signer _____

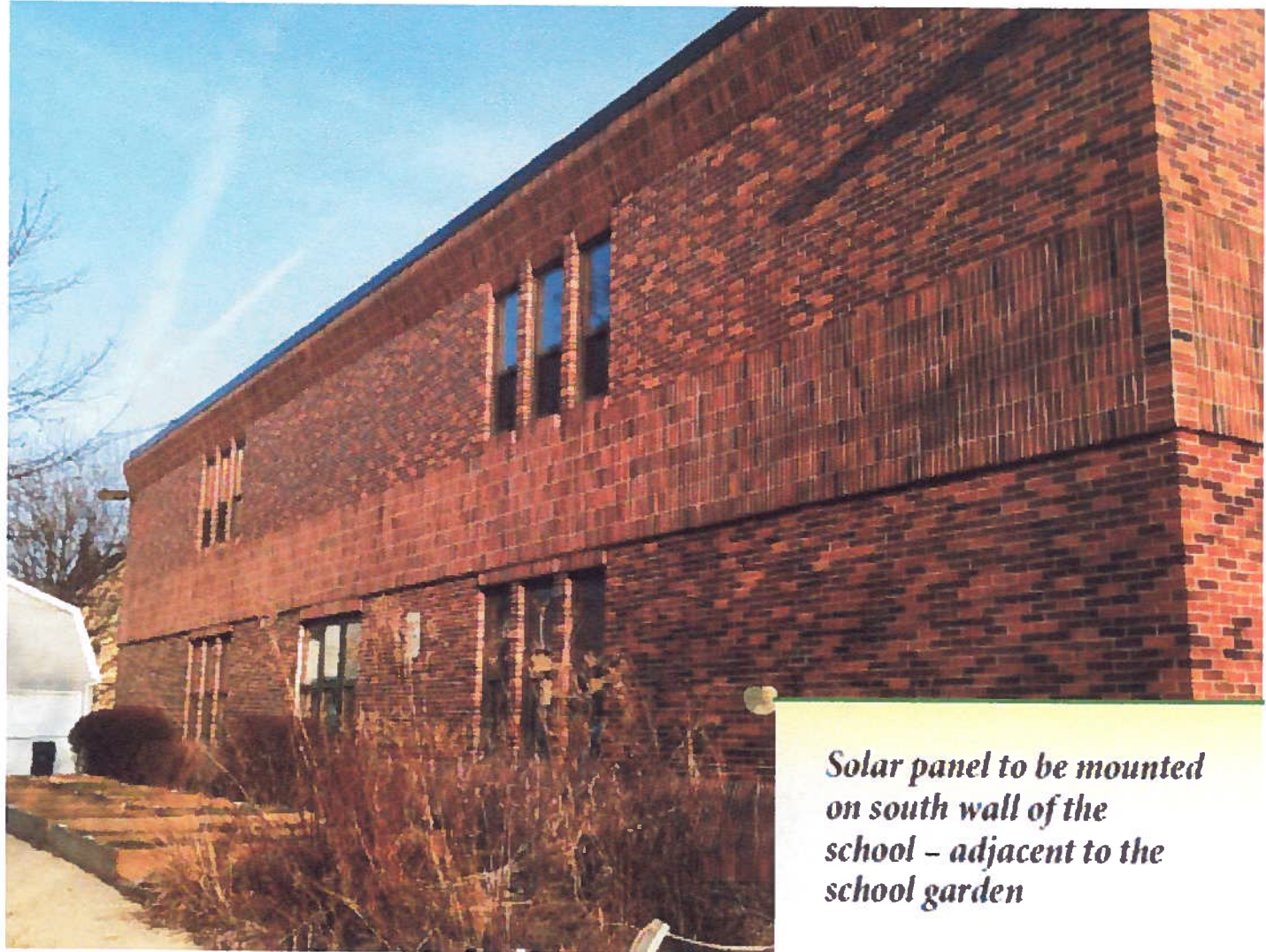
Authorized Signature _____
(This must be an original signature of an authorized representative of the Grantee.)

Date Signed _____



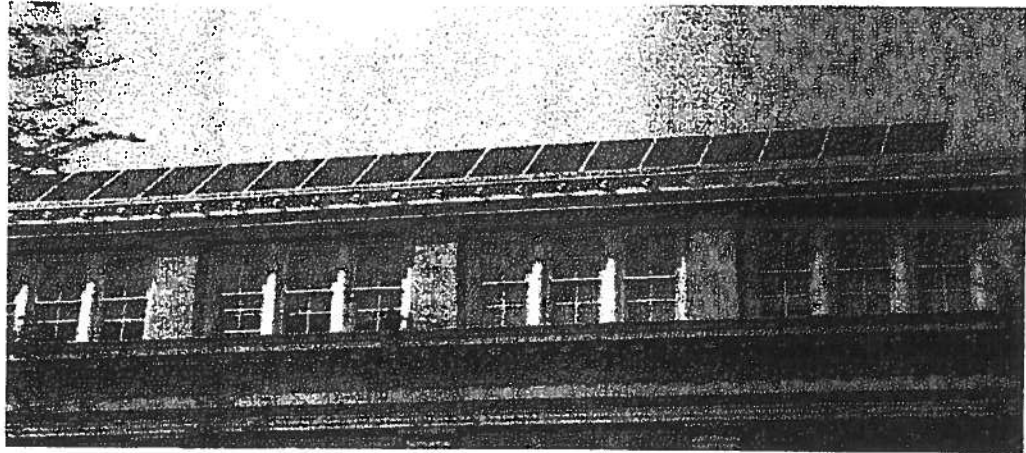
Attachment 2

Irving School Proposed Solar Panel Project

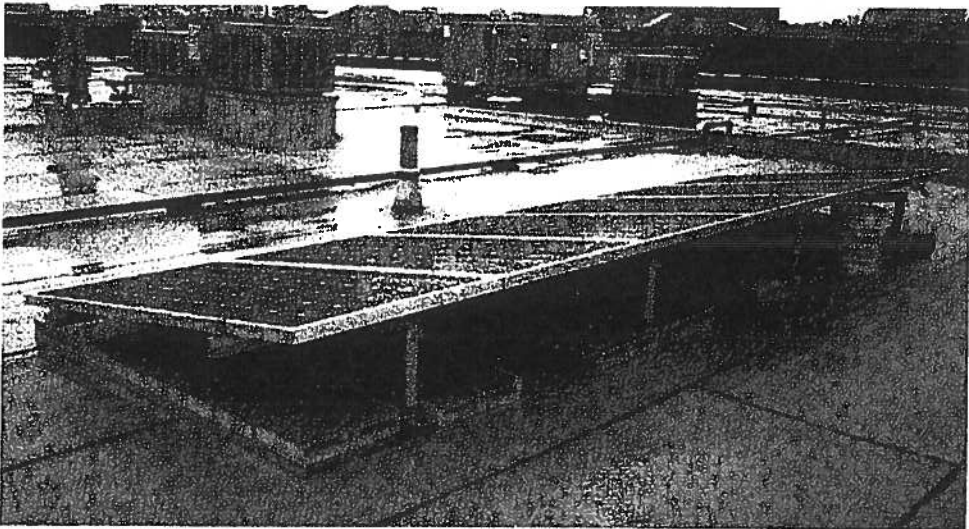


*Solar panel to be mounted
on south wall of the
school – adjacent to the
school garden*

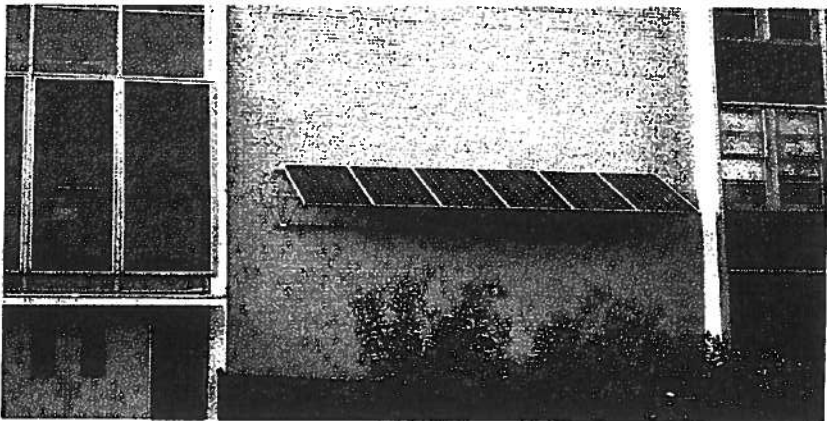
Sample Roof Mount (**much** larger than 1KW)



Sample of Roof Mount (showing cement blocks)



Sample Wall Mount





EARTH WIND & SOLAR ENERGY LLC

2350 W. Grand Ave, Chicago, IL. 60612

Phone 847-602-8696 Fax 312-277-6465
john@earthwindandsolarenergy.com

ESTIMATE

Prepared For: Irving Elementary School	Contact Number (s): 708-386-2456	Date: August 5, 2011
Street Address: 1125 S. Cuyler	City/State: Oak Park, IL.	Zip: 60304
Site Address: 1125 S. Cuyler	City/State: Oak Park, IL.	Zip: 60304
Referred by: Barbara Hoffman		Prepared By: Riana Caravette
Job Description: 1kW Solar Photovoltaic system		
Specifications:		
<ul style="list-style-type: none"> ➤ (6) MG 180 watt for a total of 1,080 Watts array. ➤ ENP micro inverters. ➤ Envoy Local Monitor display and internet gateway. ➤ Outside AC disconnect and all code required labeling. ➤ Custom fixed wall mounted system. ➤ Enlighten internet monitoring with a Lifetime subscription. ➤ Except where noted: All labor, materials, tax, freight, and fuel surcharges included. 		
Permit/ComEd intercon Fees (if necessary): Included		
Terms: 50% deposit, 25% upon delivery, 25% balance on completion.		
Warranty: 30 Years on Power Guarantee for Modules, 15 years on inverter, 1 year on Labor		
<p>System qualifies for \$ *State Rebate and \$ **Federal tax Credit *Note: Solar Grants and Rebates are not guaranteed and are available on a first-come, first-serve basis and may change without notice. For information about this program, contact Wayne Hartel at the Illinois Department of Commerce and Economic Opportunity: 217-785-3420. **You should consult a tax expert as to the latest tax credits available. Visit www.DSIREUSA.org</p>		

Complete Installed Price:

\$ 9,995

Total (after State & Federal Incentives):

\$

All materials are guaranteed to be as specified. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. Customer agrees to reimburse Earth Wind And Solar Energy LLC for all fees & expenses needed to enforce the terms of this proposal. All agreements contingent upon strikes, accidents or delays beyond our control. Earth Wind And Solar Energy LLC is fully licensed and insured. This proposal may be invalid after 30days.

Acceptance of Proposal — The above prices, specification and conditions are satisfactory and accepted. Earth Wind And Solar Energy LLC is authorized to do the work specified. Payment will be made as outlined above.

Signature: _____ **Date:** _____

Irving School – Solar Panel Installation
Summary of Facilities Advisory Committee Questions and
Responses from Irving School

August 22, 2011

The following questions were posed – and answered - in advance of the initial Facilities Advisory Committee discussion:

1) What is anticipated total cost of this project and how will it be funded?

The total project cost is 9,995, and includes equipment purchase, installation, labor, monitoring and maintenance. Irving School applied for and received a grant from the Illinois Clean Energy Community Foundation which will cover up to 80% of the total project costs, or just shy of \$8,000. The grant requires a match with private funds, and in June 2011 a group of 12 Irving School parents held a fundraiser to cover the balance of the Solar Panel project costs and the larger Schoolyard Project. Parents ran a 200-mile relay and, thanks to the support of family, friends, and the Irving School community, over \$12,000 was raised for the projects.

2) Is the electricity generated will be used for specific applications or to supplement the existing usage?

The Solar Schools project – and the 1 KW panel to be installed at Irving School – is designed as a demonstration project, providing hands-on learning opportunities for students. However, the 1 KW panel will in fact generate power for the school. It is my understanding that it will generate – on average – enough energy to power one classroom. Students will have the opportunity to assess the performance of the different panels over time. There is a web-based monitoring system as well as a device that shows performance that is visible to students and teachers.

3) Do you have construction document plans?

Attached is a copy of the bid from the Earth, Wind & Solar LLC, a company that has installed a number of projects for grantees of the Illinois Clean Energy Community Foundation including Fenwick High School and St. Edmunds School in Oak Park. Also attached is a copy of Irving's proposal, which includes photos of the proposed location of the project (the SW corner of the building). The location is desirable for its nearly – but not 100% - unobstructed sun during peak hours, as well as its collocation with the school's growing Zero Waste and School Garden initiatives. Finally, I've attached the signed grant agreement.

September 25, 2011

The following questions were posed – and answered - in advance of the Facilities Advisory Committee discussion:

1) Is there a warranty for the roof?

Roof installation will not compromise the integrity of the roof. There will be no penetration of the roof, as the panels are mounted on a steel contraption that is weighted down by 800 lbs of cement blocks that are designed to withstand 100 mph winds. Warranties will be provided as part of the project installation. The installers are all certified, bonded and insured for their work.

2) Ongoing maintenance?

There is very little ongoing maintenance required for the panels. The way they are installed allows for natural cleaning by rain water runoff.

3) Is the project fully funded?

In a word, yes. The grant covers 90% of the project costs (up to \$8,000). The estimates received at this point (though we are awaiting final quotes from one vendor) total approximately \$10,000. A group of Irving School parents ran a relay race this summer to raise funding for the solar panel installation and the larger schoolyard project. This fundraiser raised \$12,500, more than what is needed for the approximately \$2,000-\$2,500 required to fully fund the solar panel installation. (Any additional funds raised through this fundraiser are restricted for the Irving Schoolyard Project.)

4) Is there a concern about the safety of the building for installation?

No. The installers have each installed dozens (or more in one case) of these solar panels through the K-12 Solar Schools program. Each installer assessed the viability of the wall and roof-mounted systems. Two of the installers prefer to mount it on the roof and one prefers the wall (but is competent and skilled in roof mounting). There were absolutely no concerns about the structural safety of the installation.

October 5, 2011

The following recommendations for the roof-mounted panel were made in writing after the October 4, 2011 Facilities Advisory Committee discussion. Assurances from one of the installers, Sun Air Systems, are detailed below.

1) The installation contractor should provide a continuous separation barrier (or approved membrane) between the solar panel construction and the existing roof membrane to absorb friction and other unforeseen movement without compromising the existing roof weather tightness. Although there is no reason to suspect there will be any movement of the solar panel, Sun Air Systems can and will provide two layers of thin rubber membrane roof material. The Irving School PTO will incur an additional \$125 cost (reflected in costs provided to the District).

2) *The installation contractor should provide a letter from an IL licensed Professional Structural Engineer confirming the installation will be successfully supported by the existing roof structure without structural deflection or damage.* This analysis must be done by a qualified structural engineer, and will add between \$500 to \$3,000 to the cost of the project. According to the installer, the 800 lbs of PV structure, spread out over 16' is not a major roof load (approximate additional load is 12.5 lbs per square foot). Since it is not connected into the roof material, there is no uplift (active) wind loads, therefore the roof can be viewed as being in a standard "dead load" rated roof - as it is now classified. Irving School has reached out to other schools that have installed the roof-mounted solar panels; schools have not reported any issues with respect to the roof integrity.

3) *Installation contractor should provide an additional warranty for the roof area under the new solar panel construction and the access area utilized to install same should any leaks or damage be discovered in a predetermined time frame after the installation is complete.* The installation contractor has indicated that his warranty on the materials and function of the solar system also covers the PV materials and equipment that it is in direct contact with. Sun Air Systems' business insurance would cover such damages, were any to occur.

4) *District Roof Warranty contractor should provide a letter to the installation contractor with a cc to the District confirming their review of the proposed installation and confirmation the installation will not void or compromise the existing or future roof warranty(s).* Norm Lane has been in contact with the District Roof Warranty company, and will provide assurance as requested.

5) *Installation contractor should provide a definitive schedule of routine maintenance for the installation as it relates to the solar panel construction which may affect the roof protection system. And which of is or may be omitted from their responsibility.* All three installers indicated that the only "maintenance" that the school might need would be to remove snow / ice build-up and to clean the panels of dust build-up. However, all installers indicated that rain and sunlight would be sufficient maintenance. The installer indicated that it would be up to the school to remove all of the cement blocks from the board foundation and lift it up for inspection, if it were so inclined. The installer does not regularly schedule that maintenance. Furthermore, the installer indicates that there should be no non-authorized foot traffic - "wear-tear" related to the array.

6) *Installation contractor should provide a system lifetime evaluation for District evaluation for the solar panel installation in relation to the effect the installation will have on the roof protection system and the surrounding roof environment in both the immediate time frame and the future.* The installer does not have a long-term evaluation or "study" that would encompass every possible weather / act of God / vandalism scenario. Based on his experience, he suspects that this stationary device will sit on the roof's surface as a neutral item for many years, and can be easily moved out of the way for a general roofing replacement when that is needed.