VILLAGE OF ORLAND PARK

14700 Ravinia Avenue
Orland Park, IL 60462
www.orland-park.il.us

Meeting Minutes

Tuesday, March 22, 2011

7:00 PM

Village Hall

Plan Commission

Louis Stephens, Chairman
Commissioners: Judith Jacobs, Paul Aubin, Steve Dzierwa, Nick Parisi, John J. Paul and Laura Murphy

CALLED TO ORDER/ROLL CALL

Present: 6 - Jacobs; Dzierwa; Aubin; Stephens; Parisi, Paul

Absent: 1 - Murphy

APPROVAL OF MINUTES

2011-0198 **Minutes of the March 8, 2011, Plan Commission Meeting**

With the following corrections:
Page 5 Under AUBIN, Nth is the corrected spelling for the word in the second line.
Page 7 Under DZIERWA, final paragraph change SIR to SEER in both occurrences
Page 8 Under DZIERWA, first paragraph add a comma after area on line 2 and make planting plural (plantings)

A motion was made by Aubin, seconded by Parisi, that this matter be APPROVED . The motion carried by the following vote:

Aye: 4 - Dzierwa, Aubin, Parisi and Paul

Nay: 0

Abstain: 2 - Jacobs and Stephens

Absent: 1 - Murphy

PUBLIC HEARINGS

2011-0156 **Solar Energy System Installation - Appearance Review**

STEPHENS: Before we begin, I have a question for you Mr. Pittos. Have all the proper notifications been sent out to the neighbors? Because the requirement is that it is sent out to all the neighbors with-in 330 ft of the property, I'd like to know that before we get started.

PITTOS: The petitioner has indicated that all the public notification requirements have been met with the submission of a notarized signed affidavit to that extent.

PITOS: Staff presentation made in accordance with the written Staff Report dated March 3, 2011 as presented.

STEPHENS: Asked the petitioner to come up and be sworn in to answer questions.

AUBIN: Swore in the petitioner:
George Raman, 7701 W 157th Place, Orland Park, IL 60462

STEPHENS: Requested the petitioner, being under oath, verify that the public notices were sent out as required by code.

RAMAN: Yes, they were.

STEPHENS: Do you have anything that you would like to add to Mr. Pittos' presentation?

RAMAN: I think we have a fair representation of what we are going to do. I did want to say that although the Village would like the panels to be up against with the roof, that they do have to be up 2 or 3 inches, because heat and sunshine in some ways is an enemy in some way of electricity. So the hotter the solar panels get the less efficient they become. Solar panels that are out in the desert do not operate as efficiently as the ones in the colder climates. So you actually get better electricity production when the panels are cold than you do in the summer time, it is a double edge sword because the days are longer in the summertime than in the wintertime. So you do have to keep them up a little bit so that they don't get hot, and it does help with the cooling loads in your home because the solar panels are now shading your house and that heat has to be dissipated somehow and you do need a little bit of air space in between them. Here is the aesthetics judge who has been sitting next to me, my wife. She doesn't want anything to look out of character or out of place, and I have done my best to be symmetric in the design and there is also going to be an extra measure put into the system where I do have shading from the chimney in the late afternoon, to mitigate that I am installing an additional system that isolates each solar panel to produce energy on its own. It will be integrated into the system so that if one panel gets shaded it does not affect the rest of the system. Also with this additional system it shuts off the power to each individual panel when the electric meter is pulled or you lose power or if ComEd loses power to the grid. That is to prevent any power from back feeding into the electric grid so an electrical worker would not be electrocuted by people feeding power back into the grid. It is a safety feature, I believe that in the future that system will be integrated into most manufacturers systems, but they are not as of yet. If there is a fire during the day, they pull the meter out and each panel shuts down, where as if you didn't have this system those solar panels would continue to produce power and back feed at least up to the meter, because they are still working as long as sun is shining on them. So the wiring that is in conduit is going to go into the attic and down through the house and into the basement, but if somebody has conduit in their attic (without this feature) and the firemen cut through it, it could wreck their chainsaw or worse get an electric shock and you wouldn't want that to happen. So we are up to the latest technology, it is not a fly by night system, it is state of the art and I am happy to be the first one in Orland Park to put one in.

STEPHENS: Let me ask you a question. Speaking of the chimney shading the panel that is only going to happen in the summertime because in the wintertime, the sun moves further south and it probably moves away from being shaded.

RAMAN: There is a tool that has been used for many years called a solar pathfinder. You bring that up to the roof and it will show you the shade on the roof on any point that you put it at for the whole year. You take a picture of the shadows that are on that solar path finder and you put it into a computer program and it calculates all of the (data), you trace it out, that is a bit of a process and the computer generates whether this is a good location for a solar panel or not. It will show you that if you get really close to my chimney about 2:00 it will generate a shadow on one of the panels.

STEPHENS: In the summer and winter of the year?

RAMAN: Yes. In about 9 months of the year you are supposed to have a clear open window between 9am and 3pm, and that chimney is pretty big, and when I put the solar path finder up there on the roof, it did show shading at the earliest at 2:00, in some months of the year. Not just in 2 months of the year but maybe 6 months of the year, it may have fallen back a little bit (sometimes). But if I were to leave out that panel, now I have lost my aesthetics and I want it to mimic the shape of the roof and since I am installing this additional system I am still going to get as much production as I can out of that one additional panel, and it will keep the symmetrical shape and look better.

STEPHENS: Thank you for that answer. The Chairman then asked for questions and comments from the Commissioners, as there was no one from the public present.

PARISI: Mr. Pittos, when you were saying when it is 3 inches high that is alright because it follows the contour of the roof. Is that correct?

PITTOS: Yes, that is the intent of the code. When I said flush, I meant it as figure of speech, meaning it is parallel to the rooftop.

PARISI: It said in the narrative that it covered 29%. You were mentioning that was of a panel, of a side.

PITTOS: Correct.

PARISI: Clearly that one panel covers most of it. So you are saying that the dark portion (referring to rendering) covers less than 75% of that panel.

STEPHENS: Of that side of the roof.

PITTOS: When we are measuring the rooftop we count all south facing features (pointing them out on the rendering), so it is the entire area.

PARISI: Okay, I just wanted to understand it, thank you. That is a good idea, good

for you.

AUBIN: We are not setting any precedents here all of the code requirements have been met. Listening to staff's report there are very few if any conditions that have to be taken care of. So I am as confident as our staff is that the petitioner is in full compliance across the board.

PAUL: I am glad to see somebody taking lead on this. I mean there was a time when some guy was the first guy having some wires hooked up to a pole then everybody did. So I congratulate you on that.

JACOBS: I am curious how are the neighbors receiving this project.

RAMAN: Actually my neighbors wondered why we have to go through all of this, sending the letters and all. There hasn't been one negative comment made to me, they have wished me the best of luck going through the process.

JACOBS: Are you the installer?

RAMAN: I work for the company that is going to be doing the installing. I have taken classes for the last 3 years, up in the University of Wisconsin, and I am a local 134 electrician for 34 years and I have taken classes at the journeymen's training school in Alsip and I really believe that this is the wave of the future. We have installed systems like this in Chicago public schools and I hope we can talk to Orland Park and get some educational systems like this on the schools here. There is a program, where you apply for a grant to pay for the materials, the local 134 electricians donate the labor, so the schools basically get them for free. They get a display inside the classroom that shows the difference between florescent light usage and incandescent light usage and everything is monitored on the website and it can be pulled up anywhere, so you can see how much power you are generating on a cloudy day or on a sunny day. The teachers then can spend just a few minutes everyday showing the students about renewable energy.

JACOBS: How hot do those panels get?

RAMAN: While being in the sunshine, I am going to say in your attic it's probably about 120 or 130 degrees. Those panels if they are outside and have some airflow, probably won't get any hotter than that. They are made to be out there in the sun, and in our climate, we do some hot days in the 100s sometimes but our average high temperature is probably 85 degrees in the summer, and it won't approach the 120 or 130 degrees.

JACOBS: Do you have to reinforce the roof?

RAMAN: No but the supports for the racking system, you cannot go a long span. They don't weigh a lot and that information about the installation of the panels I

guess I would have to provide to the electrical inspector. As the mounting methods they have really, nice roof mounts now that go into the roof joists and spread the weight out evenly across the roof. Mr. Pittos was right we cannot have the panels close to the edge of the roof so the wind cannot get underneath of them, so for the service and for the wind it works out pretty well.

DZIERWA: I had a chance to go out there today and take a look at it and I will echo my fellow commissioners and say good for you for being first. I was thinking as a neighbor, if I lived behind you or next door, but I actually learned a lot more about solar panels today than I thought I knew and I had to do a little research on that. I found out that today's solar panels catch like 96 to 97 percent of the rays and that means that they are not going to generate heat. I was also worried about if I lived behind you and the sun was at a certain angle (how would I be affected), but I also learned (that with the percentage of sun ray collection) would not be a problem. What I was curious about what would you do when we have a significant snowfall? Could you explain that? I mean the fact that they generate heat it would melt off in a while, but are there resistance heaters or something like that in them.

RAMAN: They do not use any additional energy or anything; they are just a capture device. When the sun hits the material under glass, the electrons are stimulated they just start generating electricity. So when there is snow on top of them they can't receive the sunlight, but because these panels are black, they will melt the snow off of there faster than anything. If there was a lot of snow, that is going to be there for a while, I might get a long pole to take off as much as possible. Even with the last snowfall we had, there was hardly any snow on anybody's roof.

DZIERWA: Do you have a ridge vent on there?

RAMAN: No there is not. There are 10 vents on the roof and because our house is now 19 years old I am now planning to replace that side of the roof before installing the system, because once the solar panels are up there they will obstruct the replacement. The panels will be up 30 to 50 years generating electricity and I don't want to have to mess with them.

STEPHENS: From the codes perspective you are complying with all the codes. From a location perspective, I think it is in a good location because you don't have anybody really behind you so no one is going to really complain about that. From an aesthetic perspective, I think you have satisfied those who you needed to satisfy. And I think aesthetically it's going to look good. From a progressive point of view, I think it is good for the Village to have somebody come in and set it up on their own house I think is a good idea and it will set an example. And I think you may get some business from it. So I am all for this.

STEPHENS: The chair asked for a motion.

I move to accept as findings of fact of this Plan Commission the findings of fact set forth in this staff report dated March 22, 2011

and

I move to recommend to the Village Board of Trustees to approve the proposed elevation drawings titled “4.9 kW Solar Project”, prepared by Good Electric Inc., dated Feb. 16, 2011, sheets A and 1 of 1, for an environmental clean technology at 7701 W. 157th Place, subject to the following conditions:

1. That all building code related items are met;
2. That all building permits are obtained prior to construction;
3. That all utility conduits and systems related to the solar energy system not be visible from the street and from neighboring residential properties;

RECOMMENDED FOR APPROVAL to the Development Services & Planning Committee due back on 4/18/2011

Aye: 6 - Jacobs, Dzierwa, Aubin, Stephens, Parisi and Paul

Nay: 0

Absent: 1 - Murphy

OTHER BUSINESS

STEPHENS: Did anyone get any information about that (Planning Commissioner) class?

A number of commissioners showed interest in going and were planning to look at it.

ADJOURNMENT

There being no further business before the Plan Commission for discussion, the Chairman adjourned the meeting.

STEPHENS: This meeting is adjourned at 7:30 p.m.