

ZONING BOARD OF APPEALS
238 Main Street, Cold Spring, New York 10516

MEETING AGENDA

June 10, 2013
7:30 p.m.

1.) Approval Of May 13, 2013 Minutes

Review Of Completeness

- 2.) Gleick, James Special Use Permit SP-13-1 TM#82.-1-42.1**
200 Long And Winding Rd.
Wind Energy Conversion System

PUBLIC HEARING

- 3.) Gleick, James Appeal # 883 TM# 82.-1-42.1**
200 Long and Winding Rd.

CONTINUATION

Applicant would like to install a Residential Wind Turbine that will be 152 feet in height. According to the Code of The Town of Philipstown, no structures shall exceed 40 feet in height, therefore the applicant is requesting a 112 foot height variance.

3.) NEW/ OLD BUSINESS

*** ITEMS MAY NO BE TAKEN IN ORDER AS LISTED**

ZONING BOARD OF APPEALS

MAY 13, 2013

MINUTES

The Zoning Board of Appeals for the Town of Philipstown held a work session on Monday, May 13, 2013 at the Philipstown Town Hall, 238 Main Street, Cold Spring, New York. The work session was opened by Vincent Cestone, Chairman, at 7:40 p.m.

PRESENT: Vincent Cestone	- Chairman
Robert Dee	- Member
Bill Flaherty	- Member
Lenny Lim	- Member
Adam Rodd	- ZBA Council
Tina Andress- Landolfi	- Secretary

ABSENT: Paula Clair	-Member
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THE PLEDGE OF ALLEGIANCE WAS SAID.

Vincent Cestone- First item on the agenda is approval of minutes from April 8. Are there any corrections or changes? I will make a motion to accept them as submitted.

William Flaherty- I will second.

Vincent Cestone- All those in favor?

ALL MEMBERS WERE IN FAVOR.

APRIL8, 2013 MINUTES WERE APPROVED.

Vincent Cestone- Now we are going to go back into the Public Hearing for the wind turbine. We reviewed the Town Code, and I am going to ask our attorney Adam Rodd if he could explain some of the things that are required that this board has missed. If you would please Adam.

Adam Rodd- Yes, just in reviewing the zoning codes that would be applicable for this application, it is our recommendation at this point in time, that there are various items to be supplied to the board before the board is actually authorized to act on this approval. Under the proposed provisions given the height of the wind energy conversion system that is proposed, this would be considered to be a major project under the provisions of the code as opposed to a minor. What that requires for the board to act and proceed, would be for the applicant to prepare a long form EAF, which we don't have as of yet, and that would need to be prepared by the applicant. We would also need a Engineered Site Plan of the project, and again that is something that is needed before the board can proceed. In addition given the complexity of the issue and the engineering concerns that are involved, we recommend that it would be appropriate to ask that professional planners and consultants, specifically there is a firm in White Plains that would be appropriate for the task. A firm called AKRF to view this matter to provide some guidance to this board and to the applicant to allow this matter to move forward. Those are basically the highlights of what would be required to allow this board to continue to process this application. It is our

recommendation that the Public Hearing of course be kept open, as it needs to be so that those materials can be supplied. I recommend that to the extent that there are members of the public that want to be heard on this, and that is fine, with the understanding that additional documentation will be presented, will be made available to the public, and the public can comment further at that time.

Vincent Cestone- That also means that the height. Does the variance need to be amended, not to be a height variance, but a special use permit?

Adam Rodd- Yes, the way the code is written, it contemplates that a wind energy conversion system can have a height for example that exceeds forty feet, but that would turn it into a major project, which would require a special permit, which of course requires this board to approve. It is not per say a height variance, but the height of the project, according to the code provisions, classifies it as a major wind energy conversion system project as opposed to a minor one.

Vincent Cestone- Ok, so the whole height issue we should basically abandon for now?

Adam Rodd- Well, again they don't need an area variance, but the height is.

Vincent Cestone- Makes it a major application.

Adam Rodd- Is relevant to the special permit criteria which is defined in the code.

Vincent Cestone- Anything else Adam?

Adam Rodd- That is it.

Vincent Cestone- Does the applicant want to say something?

Connor Kays- Connor Kays, Hudson Wind. Long form EAF is no problem at all. The engineered Site Plan is also not a problem, although Bergy does provide state licensed PE, stamped drawings for these through them. I am going to assume is considerably less, then having a third party do it. The engineer, they have a number of them on staff, they are state certified in

numerous different states. I ask that the engineered specifications from them be acceptable. A special use permit versus, we are all talking about the same thing here, we are obviously looking at a height. You guys deemed this as a major when we started I believe, so that does not change it a whole lot. You are looking for just these two pieces of information that has come to light that you are looking for.

Adam Rodd- The other bit of housekeeping, because it is a major project, the property would need to be posted. There is a sign you can get from the town clerk indicating that the property is under consideration for major special permit.

Connor Kays- Sure, also not a problem.

Vincent Cestone- There is the issue of a tear down bond.

Connor Kays- Yes, we did, Doug spoke to the Code Enforcer regarding the bond, and we have submitted an email from him. He has not been brought in on any of these meetings as of yet, so he did not make a determination one way or the other. The only thing that he mentioned was that it should not be a parameter for your decision at this point in time, it will be something taken care of afterwards. I don't know, that will be up to the board whether they want to bring him in, so that he can start making that.

Vincent Cestone- We are going to ask the engineering company to make a recommendation for the bonding, and what would be needed for that.

Connor Kays- Ok, I am sure Bergy has a lot of experience with this, so I don't think the engineer there would have any problem making a recommendation. Once we get the architectural stamped drawings from them, if the board wanted a third party opinion as well, I think we would be able to give the engineer our drawings, and they would be able to make an opinion on the bond as well.

Vincent Cestone- Adam, about money for the engineer?

Adam Rodd- I think the way to approach this is that I think the applicant would need to post an escrow to defray the cost of the engineering review. At this juncture I would suggest an escrow of perhaps a thousand dollars, with the understanding after the engineer reviews the materials the firm can

give a more realistic number as to the cost that are going to be involved in reviewing this project.

Vincent Cestone- Who do they do that with, the escrow money, is that with the Town Clerk?

Adam Rodd- I believe it is.

Tina Andress-Landolfi- It comes through our office, the Code Enforcement Office.

Vincent Cestone- Ok, is there anything else that you wish?

Connor Kays- No, I think that we will let the public take it from there. I know the owner Mr. Gleick is here tonight, and would like to speak. The only other thing that we submitted is a letter from the Conservation Board and wetland inspector, and they had no objection to the problem, and they do mention wildlife, noise, and bats, and everything else. They had no objections, and I think that is worth pointing out. Along with some general information, that was more for public consumption was submitted and some photos of the vehicles that we are looking at that we talked about last time, nothing too big. Cement truck and a crane is the largest that we would have up there. Unless the board has any questions for me at this time.

Vincent Cestone- Any questions from the board?

No questions from the board at this time.

Vincent Cestone- With that I open it up for public comment. Sir if you would come up to the microphone and introduce yourself.

Robert Cutler- Hi, I am Robert Cutler. First of all I would like to thank you for having this hearing, because I remember the last one was going to be the last one, and we asked that you could open it one more time.

Vincent Cestone- Absolutely.

Robert Cutler- I appreciate that.

Vincent Cestone- And it will probably go longer than that.

Robert Cutler- That I got. It has certainly given me and some others some homework to do with this issue. What I would like to do is first just review where we were at the tail end of the last hearing. It came out that if the applicant were successful and granted the approval to put up a wind turbine, then that is something that other people could do in Philipstown as well.

Vincent Cestone- They can do that now, even before the approval.

Robert Cutler- Conceivably, I could put up a wind turbine.

Vincent Cestone- Absolutely.

Robert Cutler- Although I don't. What I am here to do is tell you that I have gone through.

Vincent Cestone- Pardon me, Just one second. Please no flash.

Reporter- Ok

Vincent Cestone- Ok I am sorry.

Robert Cutler- Again I have looked a number of issues, and what I would like to do, I don't have the images that I would like to present to you. I went down to grey printing, and you can't print them up large enough, so I have a hand out that I would like to hand out.

Vincent Cestone- Sure, To us?

Robert Cutler- And to other people in the audience?

Vincent Cestone- Usually Board members and the secretary and the attorney is what we would require.

Mr. Cutler handed the board photos showing Commercial Wind Turbines on fire, and Images of dead birds killed by Commercial sized wind turbines.

Robert Cutler- What I did, was try and take a look at the potential risk and damages that could occur to Philipstown, and all of us with a wind turbine put up. I had no knowledge of these things, before I went into this, I did not know yea or nay whether it was a good idea. What I found that was alarming is that if you look at the back. The first is the damage to the environment. These things catch fire they are not perfect. There are many photographs like this, these are just four. They are machines. They are subject to mechanical error and human error. What disturbs me as looking at these images, is thinking of a wind turbine on top of a hill right behind me in August in the middle of a dry spell is there could be forest fires. My house is close to it, and I am in danger. If there were wind turbines all over Philipstown, there could be many accidents. That is something that I think you need to think very careful about. Second, was the damage to wildlife, in particular soaring birds, eagles and hawks, which would fly up next to our hill and to the top where this wind turbine would be located. They would be killed, in fact so many were killed in California in a wind farm that the scientist who collected the carcasses classified the deaths in three separate ways. One was by the birds being cut in half, the other was decapitation, and the other was their wings being clipped. That is what they had to do to understand how these birds were being killed. I can see that happening too if there were several hundred wind turbines in the Town of Philipstown. That is the thing that bothers me, if you give one to one person, you can give one to all.

Vincent Cestone- Absolutely.

Robert Cutler- You have three different kinds of birds here that are soaring birds. You have eagles and hawks. There are night owls, and there are also the migrating birds that fly through. This picture here shows a flock of geese going right through wind turbine. Geese don't know, and birds don't know it is a danger for them. The third point that bothers me a lot, is the destruction to the scenic beauty of the Hudson River Valley. It seems to me that if we have not learned anything from Storm King, what are we doing here? The Storm King turned out to be based on the large unattractive plant on top of the Storm King Mountain. If you imagine wind turbines everywhere, and you take a look at the image, you can see what I tried to do, those are obviously not to scale, but if you have several hundred wind mills around here you are certainly going to cause damage to the scenic value and the character of the Hudson River Valley. Imagine if you will, driving along route 9D, the corridor to the Highlands, and up on the, when

you get to Castle Rock, Castle rock is about 75 feet high. This window would be twice as high as that. 150 feet high. Imagine if the owner of Castle Rock decided he wanted to have two or three wind mills up there. Next to the Castle you have thee gigantic wind mills, it is perfectly possible given what you are considering tonight.

Vincent Cestone- This is not a commercial installation. I did the same research that you did, and I am very aware of what you are telling me.

Robert Cutler- The fourth of course is the stature of the Hudson River Valley as an area of historical importance. We all know that indeed, that our country was secured by what happened at Constitution Island by the chain, and by (inaudible) Ironically on top of the very hills that these wind turbines would be placed. You have really the desecration of the scenic value and the diminishing and the compromising of the importance. Number five is the appeal of Philipstown by the tourist will be decreased by the combination of three and four. The scenic beauty being destroyed and the National Historicalness being compromised, who wants to come to Philipstown with a lot of turbines. It is going to affect tourism there is not a doubt in my mind about that. The sixth was the one I had no idea, but the health of humans and all creatures is threatened, and what that means is, I dug in to this. I talked to Arlene Bronzaft who is the noise advisor to Mayor Bloomberg, and she has also been the advisor to the three previous Mayors. Her telephone number is there. She is the author of various articles on the potential impact of wind turbine sounds on adults and children. There are numerous websites. The deal is that they create inaudible sounds. We cant hear them, but they are there never the less, at 40 db I think it his. Those inaudible sounds do impact some people. They cause headaches they cause dizziness and you feel lousy. The articles, I cant give you chapter and verse, but here are the websites to look in to. Finally, I have to confess that I have a dog in this hunt, because I am trying to sell my house at 540 Route 9D right now, and when I told Bob McCaffrey about the wind mill, he did not say Hosannah. He said Uh Oh. I am not alone, you have other people that are trying to sell their homes too. Again you have a ____ of these that are going to bring all the property values down. I think these are the things, that finishes the list of seven, there is a legal issue that someone advised me about, and that is the right to enjoy ones property. We have the right to life, liberty, and the pursuit of happiness. We have the right to own property, and enjoy that property. If I sit on my property and watch a hawk fly up, I now will think oh my God, don't go over there. If I see

an eagle, I will feel the same way. Does that infringe on the enjoyment of my property, I think it does. If I think during a dry spell about forest fire, then that infringes on the enjoyment of my property. The second legal issue that I only discovered this morning was the, on the back of the document, was from the great Bob Boyal who called me up, you may know him. Bob said he Robert, did you know that there is a policy number 24 that designates a number of scenic areas of state wide significance that must be protected when making planning and development decisions. Perhaps you know about the SASS Policy.

Vincent Cestone- Yes, I do.

Robert Cutler- That is spelled out here. Certainly our area is of State wide significance. I would like to read those two middle paragraphs. It says, The Hudson River Coastal area between New York City and the federal _____ are the first areas to be evaluated under the policy 24. The Hudson River Coastal landscape has a wealth and variety of scenic resources shaped by the unique combination of geological forces and historical events. Majestic Mountains and (inaudible) The Hudson River region has played an important roll in our Nations history. It spawned the Hudson River School of painting, and the romantic landscape style. World renowned artist have responded to its beauty and the works of major architects line the rivers corridor. Historic _____ the Hudson's past is a bustling transportation corridor. Today tourism is the major industry, and National State Parks and Historic sites attract visitors from all around the nation and the world. I think that we are really putting the Hudson Highlands in danger of going ahead with the project a project like this.

Vincent Cestone- Thank you very much. Anyone else wish to speak?

Don Nice- My name is Don Nice, and I am here to discuss an issue. I don't know if it has been brought up or not, and my wife and I have lived overlooking the Hudson for forty years. During that time there has been a significant change in peoples attitude of things aesthetic and things that are scenic. As a result of that I think that this community and this part of the country has seen a rebirth, in a way of people coming up to be in a place which is unique in the world, totally unique. Why is it unique? It is because there are people here that have fought desperately to preserve what we have. That thing that we have is very nebulous, it is like those Hudson River paintings. You look at it and you cant say that is bad or good, but we

know it is here. I would just like to suggest that we continue this, and that we seriously consider what is going on. If for example, that this permit is granted, does that mean then, that there will be a board that will decide on the aesthetic merit for every single application? That is going to be difficult.

Vincent Cestone- That is absolutely difficult.

Don Nice- I would be happy to be a part of that if that happens, because I consider myself to be an expert witness in this area. I was dean at the school of visual arts. I was Vice President at the National Academy. I taught school for 25 years, and am a long time painter of the Hudson River. Thank you.

Vincent Cestone- Thank you. Any one else wish to speak?

Allen Smith- My name is Allen Smith. I was here last time. I would like to start by apologizing for my behavior last time, but it was the first time I had heard about this, and my reaction was just a total emotional reaction without really knowing anything about it. Since then I visited in Red Hook one of these towers to look at. I am an Audio file, Audio Engineer, Musician retired from being an executive at Sony Music. I built Sony Music studios around the world. I was part of the evaluation of what they call super audio cd. A very high end form of audio. My office and me were used as listening station. I am trying to say that audio and sound are a major part of my life. That is how I made my living, and frankly was very successful at it. Now I am retired, and I am speaking as a neighbor. I agree with everything that has been said about keeping the beauty of the area, but in a little bit, I am talking about what I think the personal effect is going to be on myself. I have lived along the river since 1978. I had property on the other side of the road. I could walk down to the river look at the trains. You do get noise from the river, and the road, but 6 am Sunday Morning it is dead quiet. 2am any morning it is dead quiet. Those are hours that I do what I do. I contemplate, and I listen to music. That is quiet time for me. I looked at the noise regulations. I know that it is an application for a variance in height, but if you look at the noise regulations. I think you have work to do, for instance one regulation that says, if the noise at the property boundary exceeds 5 decibels from norm, then it is a violation of the noise regulations. I think if you are going to allow something like this, then you have to at least set up a study, put a sound meter out there around the clock four seasons of the year and see what the normal sound level is, before you can see if

there is a violation of 5 db. The other thing that concerns me is, I live in a down draft from the top of the hill. The tower is going to 1500 feet away from my property line. The idea of sound traveling 1500 feet can sound like, hey it does not do that. You are missing the points, Cold weather, hot weather, sound waves travel differently in cold weather. Down drafts, sound waves catches on an airwave, it comes down. I am very concerned with what I consider to be my life at this point. I sit in my pond in the back at hours that you wouldn't believe. I am a music person, so middle of the night is normal for me. I don't want to be hearing. You said last time it sounds like a refrigerator. If you listen to a refrigerator for a solid hour, it is very disturbing sound to hear a sound wave to continually going as opposed to what you would call music. That is my issue. I do commend Mr. Gleick for wanting to do something about alternative energy. I think it is very good to do that. I would wonder why he does not do a solar panel that does not interfere with anything, and gives him alternative electric. I understand that he can get similar kinds of subsidies for it. The other thing is, that when I visited the tower in Red Hook to hear it, and it was not spinning. The homeowner told me that he was sorta disappointed, because it does not work all the time. He originally thought he would make his payback in seven years, he figures it is going to take him 17 years, and he lives in a home that is 10 percent the size of Mr. Gleick. I commend alternative energy, but I don't know if this is the right one.

Vincent Cestone- Sound is part of the Long Form EAF.

Allen Smith- If I read these, it says sounds emitted at levels lower than those prohibited by sub section c2 shall not be permitted, because of the type of frequency of the noise emitted. Sub sounds are offensive, disruptive, or are in continual dis harmony of the character of an adjoining or nearby residential neighborhood. It is not something you can measure.

Vincent Cestone- I saw that section of the code.

Allen Smith- I am sure you did.

Vincent Cestone- Absolutely.

Allen Smith- Ok Thanks

Vincent Cestone- Your welcome. Introduce yourself please.

Vivian Linares- My name is Vivian Linares. I am a staff member at Manitoga Russell Wright Design Center which is an adjacent property. Our executive director was here previously, but she can't be here tonight, so I am representing the organization. She had voiced a concern about sound, and I would like to reinforce that. We are a National Historic Landmark. The highest designation that you can have. We have 75 acres and two historic properties, and we are open to the public. We are concerned about audible sound, low frequency sound and infra sound, and while we applaud innovation, as stewards of this National Historic Landmark, we must be concerned with any factors that might affect the site. One of the things that we noticed, I have a paper that was published by the Canadian Health Department. In it, it says something about low frequency sound is not generally well perceived by the human ear, however it may induce vibrations in light weight structures, and in residences or sleeping quarters and cause a rattle. Our structures are mostly glass and wood. _____ we have lots of one of a kind artifacts that are fragile and are built into the house which is a museum. We also have collection objects that are very fragile as well. We have concerns, and we don't have the funds to do our own study to see how this would impact us. From what we are reading we have raised concerns that we need to voice. We appreciate the time and care you are putting in to this. Thank you very much.

Vincent Cestone- Your welcome. Someone else wish to speak?

Mary Ellen Finger- I am Mary Ellen Finger. I spoke to you last month, and I have some strong opinions about this, and I made copies of the Zoning. Can I had them out to you.

Vincent Cestone- If you just tell us the section that would be sufficient.

Mary Ellen Finger- 175-10 d. 175-60 a and c, 175-30 e2.

Vincent Cestone- I read those sections related to this.

Robert Dee- we have the books.

Vincent Cestone- Make your point.

Mary Ellen Finger- I am a little _____ I don't know if my interpretation is correct on this.

Vincent Cestone- Just say what your concerns are.

Mary Ellen Finger- When I saw the Saturday Times list heat trapping gas passes a mile stone raises fears, and then the next days (inaudible cant hear her) It really makes me concerned about the issue our earth is facing, because of our energy uses. It somehow seem sensible to let our concerns about saving a view trump saving this planet. Richard Shea said in an article that if this turbine is not approved in some sort of matter with restrictions, conditions, then it would really lead to the inability to get any wind turbines in the area. I really feel we need to not just talk the talk about energy conservation and alternative energy systems, we really need to walk the walk. I did mention that _____ AKRF whose planners represent our town at the Zoning Training Meeting said that it has to have a significant negative impact on the enjoyment of a view from a public place. Not just because it can be seen in order for it to be considered as a negative impact. (Inaudible. Mrs Finger was making references to sections of the code, but was very low speaking)I looked up applicable.

Vincent Cestone- This is major application, because of the maximum height in Philipstown. That is why it is a major Application. If the wind turbine could be built under forty feet, then you can build it by right. Once you go over the maximum height, that is when you start running into issues with special use permits.

Mary Ellen Finger- My argument is that applicable cant really be referred to this forty which is kind of the default height limit, because I really don't think that applies to wind turbines in general.

Vincent Cestone- You have to understand, that the Zoning Board does not make the code, we interpret it. The Code is developed and instituted by the Town Board, and we are a board that deals with those ambiguities and special use permits. We cant write the law all we can do is interpret the law when there is ambiguities. I understand your point about wind turbines, but there are options that don't impact scenic areas. I don't think many people would be here for the installation of solar panels. Do you agree, because solar panels can achieve the same goal, and it is not 152 feet tall.

Mary Ellen Finger -It really depends on the site.

Vincent Cestone- Yes, but the site is susceptible to both. I understand what you are saying in support of alternative energy, and I agree with you, but there are other options. There is not one size fits all. Is the concern of this board.

Mary Ellen Finger- What I am suggesting, because I was prepared for this to be thrown out (inaudible) the legal reading of the code. There is enough(Inaudible) Wind Energy conversion systems may exceed height limits in the dimensional table. I was (inaudible) And is used to generate energy for off site use (inaudible) It is talking about commercial uses.

Vincent Cestone- Well that is your interpretation on that.

Mary Ellen Finger- We have soil mining regulations, we have communication tower regulations, but we don't have wind or solar.

Vincent Cestone- I dot have the section of the code, but it does specifically talk about towers in general. Not just communication towers. Towers period. It deals with this type of application. In the old code, maybe you are looking at the old code, it did not deal with it at all.

Mary Ellen Finger- Do you know the section (inaudible)

Vincent Cestone- Not off the top of my head.

Mary Ellen Finger- The only thing I found about towers was in the communication towers.

Vincent Cestone- I am not going to debate it right now, because I'm not prepared to talk about it. The applicant has options. If he wants to go green, there are many options where he can go green. it does not have to be a wind turbine. It could be solar or some other type of installation that achieves the goal, so making the argument for wind turbines as one size fits all, I don't agree with you on that, because there are sections of Philipstown where it is viable and areas where it is not. You cant put a 152 foot tower in the middle of Cold Spring, it would not make sense, but the code says it is an accepted use. Not in Cold Spring, because that is a Village, but say Continental Village where it is not a village on its own.

Mary Ellen Finger- I could not find anything where it referred to setbacks or any.

Vincent Cestone- You are not an expert in the code. The code specifically talks about these things, and I have 18 years experience doing this. It does address that.

William Flaherty- I would just like to say briefly that section 175-10d I won't read the whole thing because we will be here till midnight. I just want to say in relation (inaudible) Wind energy conversion systems that exceed applicable height limits shall be considered a major, which this is, only by special permit by the Zoning Board.

Mary Ellen Finger- Yes sir, my argument with that was, as sketchy as it may sound, is applicable does not apply to 40 feet limit. That is not applicable to wind energy conversion systems because the turbulence area that you have to avoid is 40 to 50 feet above the height of the house or the trees around. A small wind energy conversion system has to be higher than the houses, so that is not applicable. I looked up in the dictionary applicable means capable of being applied or appropriate. That height is not appropriate.

Robert Dee- That is your opinion, That is your opinion

Mary Ellen Finger- That is my opinion

William Flaherty- I don't think at this time this board has the authority to grant variances because of the height. Our Zoning takes care of that I think without the necessity of having a Zone Variance.

Vincent Cestone- What you are saying is the height variance is irrelevant in this instance.

William Flaherty- That is correct

Vincent Cestone- The way the code is written now yes, and if you disagree with that you have to go to the Town Board and ask them to change the code.

Mary Ellen Finger- Im sorry?

Vincent Cestone- What Bill was saying is that once this Wind Turbine installation was presented as a special use permit, the height variance is no longer relevant.

William Flaherty- Exactly, it is no longer applicable

Vincent Cestone- If you disagree with that you would ask the Town Board to change the code, because we interpret the code we don't write the law. We cant change that.

Mary Ellen Finger- Thank you sir.

Vincent Cestone- Your welcome. Anyone else wish to speak? You sir.

James Requa- I am James Requa, and I was surprised and very appreciative that the board has taken all this time to look at this. I think it would have been very easy for you to say you cant do that. I think it is important because of the bigger picture of what is going on with our planet which also effects our community. As the climate changes it will effect us, and we for some time have been doing things in response to that or in favor of taking care of our area. We have recycling programs, we have town offices using green energy, we have regulations about dumping. It is not just about Philipstown. If we don't want trash all around we don't just take it over the border to Dutchess County and dump it either. We do the responsible thing with it. I think that is good, and it is appropriate. We care about the river. The river over the years has had many good things and bad things. We have power plants on the river spewing smoke, and we have nuclear power plant. We do our best here to take care of the river which is mostly benefiting the people down river from us, but we do it anyways. I think that it is very important not just to put up wind turbines and solar panels, but to do all of it. We are way behind where we need to be in terms of switching to green energy. When an opportunity like this comes up, what would be really good is if the town, like the state and federal government, had ways to encourage it rather than limits and rules that make it difficult or impossible. I think that I would love to see this approved, and more than that I would love to see it instigate a deeper look by the town to see what it is that we can do encourage more of this kind of a thing. In the past there have been people who wanted to put up Solar Panels that had the same

kind of resistance. It is an historic landmark, you cant put solar panels on it. That is the thing I wanted to say. I would like to see us all looking at moving towards a set of rules that encourages and supports people who want to do things like this, rather than putting things in the way and making it difficult for them.

Robert Dee- Can I ask you one question sir?

James Requa- Absolutely

Robert Dee- Do you think it would be acceptable to people for everyone in Philipstown, with a small piece of property with 1/2 an acre 3/4 of an acre that are together have a windmill? If everybody had one, would it be ok?

James Requa- Well, at this point I think it would be much better than the direction we are heading, which is a disaster.

Robert Dee- Ok

Vincent Cestone- Sir

James Gleick- I am the applicant, is this the appropriate time.

Vincent Cestone- You can say whatever you want, this an open forum.

James Gleick- My name is james Gleick, I am the applicant. I want to be brief because I spoke to you in November, and I wrote you a letter, and I do not want to repeat myself. I honestly don't remember what I said back in November. I am thinking that maybe I should address the question of why I am not putting in Solar Panels, since a number of people have asked, and the board is curious. My wife and I have been thinking for about several years on what we might do or need to do as citizens of the planet. We read the news papers like all you do. You all saw the news last week that has already been alluded to you here. The levels of atmospheric carbon dioxide have passed 400 parts per million for the first time, not just in recorded history, but since the first time since there have been humans on the planet. It is a mile stone that even the most pessimistic climate scientist thought would come later than it has, and it is irreversible. We put carbon into the atmosphere, but we cant take it out. It contributes to the very violent weather that I know we are all worried about. The first thing we

thought about was solar panels, because we have some roof top, and compared to putting up a big wind tower it seemed much easier, and obviously less expensive. We called some contractors, and they came and investigated our property, and it turns out that for us it does not work. We do not have enough roof space, or our roof was not pointing in an southerly enough direction, and it would not pay for itself. It might be possible theoretically to tear down a wide area of trees and put up some dedicated solar installation, but I think that would be more expensive and more damaging to the landscape than what we are talking about. The next thing that occurred to us was, it is windy up there. We have a very unusual piece of property in two respects. One is that it is very high up above the river at the elevation of 700 feet. The other is that the site we are talking about is quite isolated. It is a great distance from the nearest neighbor. Those two things are not true for everybody. The first one at least is necessary, before you can get approval from NYSERDA, as you heard at the last meeting from there expert. You have to qualify based on the wind speeds that you can get through the turbine. I think even on our property there was only one possible site to make it work. People have talked about putting a wind turbine on every piece of property in Philipstown. I think as soon as people start to investigate, they are going to discover in general their property is not going to qualify, because the wind does not blow in an efficient and unobstructed way that lets them generate enough power. Also we are far from our neighbors. I have listened to the comments today, and I have watched the video of the previous meeting, so I am aware of what my neighbors have come out and said. I am grateful to them for coming and taking the time, and raising the questions that they have raised. In particular, I am very sensitive to the question of noise. The first question that my wife and I asked, because I don't want to hear noise when I am going to sleep, and I wanted assurances from the contractors that we were not going to hear the thing, which is only a few hundred feet from our house, and they provided those assurances. There is a difference between asking questions and providing expert testimony, and I am not in a position to provide expert testimony. I have only been able to look at the data which has been presented to you. I think that it is interesting that the gentlemen that actually took the time , and I am glad that he did this, to visit a wind turbine, found that it was silent when he visited it, because there was no wind blowing. That is an important point. When it is quiet the wind turbine is still. When the turbine is moving the wind is blowing. My understanding from the experts is that, the slight additional noise of the turbine will not be audible to us over 200 feet away will not be audible to us over the sound of

the trees. There has been a comparison to the sound of a refrigerator. I am not exactly sure where that came from. I don't think it is going to sound like a refrigerator, but I don't like the sound of my refrigerator, but I can't luckily hear it from my bedroom, and I also can't hear the refrigerator of my neighbors. I am very confident that someone who lives 1,700 feet, a third of a mile from this wind turbine is never going to hear it, is never going to hear a thing, in any wind. Furthermore, I also appreciated the concerns about the visual effects of the thing. Some people think they are attractive, some think they are ugly. I am not going to presume to offer an opinion about that. I do honor the people who care about preserving the natural and rural feeling of our landscape, because I care about that too. I want to emphasize this site is deep in the woods, and this board was properly quite diligent in requiring us to do two balloon test to give an accurate sense of how visible this thing would be from different places in the area. I think that it was pretty clearly established that the wind turbine on this site will be virtually invisible from everywhere in Philipstown. It might be seen from across the river or possibly Cloudbank, seen, but small. I don't think that anybody can seriously say that it would be large over their property or casting a shadow, or in any way impairing their ability to enjoy their property.

Robert Dee- I just want to point it out. Do you (inaudible) to your neighbors who can see it. Do you think they will be affected?

James Gleick- I don't believe that they will be able to see it.

Robert Dee- You don't feel that will obstruct their view?

James Gleick- I don't think they will be able to see it.

Robert Dee- You don't think they will be able to see it?

James Gleick- No, I feel that it will be absolutely invisible from my neighbors at the bottom of the hill. Is this not what the balloon test was for? I think we discovered that it might be visible from one spot on Cloudbank. I was not here for the balloon test, those of you who were can speak to what the actual results were.

Robert Dee- It was visible from the Bear Mountain Bridge.

James Gleick- It might be visible from the Bear Mountain Bridge, but not from Route 9d down below the property.

Robert Dee- And not from your neighbors?

James Gleick- And not from the neighbors, absolutely not.

Lenny Lim- It will be able to be seen from the Appalachian Trail.

James Gleick- Yes, possibly from the Appalachian Trail.

Lenny Lim- No, it will be. I walked up to the Appalachian Trail to see what was going on, to see if I could see (inaudible) You will be able to see it from the Appalachian Trail.

Robert Dee - Which is a Historic Site.

James Gleick- Ok. And this board if it wants can make a judgement on whether the enjoyment of the hikers on the Appalachian Trail will be so impaired by a glimpse of a wind turbine on my property, and if that is a valid issue. I can't, you know what my opinion is, I have no facts to offer. I want to thank you for taking so much time to consider the issues so carefully, because I am not a lawyer, I am not sure what to make of the Towns Attorneys contribution at the beginning. I thought that we had excepted in November that this was a major project and we were applying for a special permit. If there is something new that we needed to provide.

Vincent Cestone- It was procedural things that were missed. This was the first one so there were procedural things that were missed. We are trying to cross the T's and dot the I's.

James Gleick- Ok, then I want to thank you. I know that the code on the one hand contemplates the possibility of wind energy conversion systems, and on the other hand it clearly does not provide a straight forward road map for you to make a decision.

Vincent Cestone- That is the problem. There are some things that I wanted to ask you. These gentlemen here told us that you use approximately twice the amount of electricity that I would use or Lenny would use or whatever. wouldn't it be simple to decrease your energy uses to get the same result?

James Gleick- I am not aware that our energy use is so excessive, I am not sure why it would be. We have a refrigerator, we have some computers, we have one TV, and we have air conditioning.

Vincent Cestone- Maybe that is incorrect, just had to ask the question.

James Gleick- It is a fair question. The whole point of this is that I really do care about. You know, you hear news like the news I referred to from the paper last week. If you are an individual who cares about the fate of the planet, as I think everybody in this room does. I think your tendency is to feel frustrated by news like that, because there is not that much that any individual can do. Most of the effective steps that need to be taken can only be taken by industries and governments. As individuals, I don't think that it is fair to ask us to feel guilty every time we flip a light switch. That is why my wife and I felt, here is an unusual opportunity, because of this particular site for us to all of a sudden take the majority of our electrical usage, which causes the burning of oil and gas and the release of carbon in to the atmosphere and convert that in to electrical uses that is free from releasing carbon into the atmosphere. That seems like a worth while thing that we are in a position to do.

Vincent Cestone- Thank you.

William Flaherty- You mentioned that solar panels would not work for you. There was an interesting article in the New York Times relative to renewable energy. That article solely starts itself with solar panels, nothing about wind energy what so ever. If you take a ride through various streets in our Township, you will find that more and more homes have solar panels. Every time I go for another ride I find another house with solar panels. I am wondering why it works for them, and not for you.

James Gleick- Let me be more clear. That is a good question. I don't mean that I cant put solar panels on my roof and generate a certain amount of electricity, obviously I could. The question is always balancing the cost and the savings. A certain amount of solar panels cost a certain amount, and it saves you a certain amount on your electrical bill and you have to do the math and decide for yourself if it is worth it. The amount of solar panels necessary to generate the amount of electricity that this wind turbine will produce would have been enormous, and would have been much more

than what we could fit on our roof, and much too expensive. It turns out that because the wind blows so well on this site, that the wind turbine is much more economical. If you want to provide just enough electricity to heat a swimming pool for example, I think solar panels are great for that. I am not saying that I rule out the idea of ever installing any. I am just saying why, after investigating first solar, then wind energy, we ended up feeling we had no choice, but we ended up having to go with wind energy.

Robert Dee- I am sure that you understand from your contractor, and other people from the State have talked, that it is going to decrease your electric bill by about 50 percent. It is not going to decrease it 100 percent.

James Gleick- I do understand that.

Robert Dee- This is not a town project, if it was 10 to 50 windmills that the town was going to put up, it would be a whole different thing. We have to decide, besides the law, is. It is an important role for energy, everyone in this room is for energy, we all agree. Cutting your electric bill by 50 percent compared to cutting the scenic Hudson view or maybe Appalachian Trail, or some neighbors has to balance out.

James Gleick- I agree, and that is a decision you have to make.

Robert Dee- I hope you understand that.

James Gleick- I do understand, I would ask whether the evidence that has been presented over these months indicates if it is going to have any significant deleterious effect on the scenic view.

Vincent Cestone- You sir, you had your hand up.

Chuck Clifton- My name is Chuck Clifton, and I just want to go on the record as another land owner who, I am not directly adjacent to this project, I live on South Mountain Pass Spur, which is over the top of (inaudible) down on the east side of the mountain a little bit. I just want to say that the risk of it generating noises that are perceptible, is a risk that I am not willing to take. My wife and I regularly marvel at midnight on a summer evening, how the only thing we ever hear is an occasional motorcycle on Route 9., or a truck, but those are human noises that come and go. We marvel at the incredible silence, that it is so silent that we can hear our refrigerator

downstairs sometimes. The noise floor is remarkably low, like when we hear our furnace turn on two stories below us. That is one of the things we love about living in this area. It is very precious to us, and the thought that this thing. I mean if the applicant were saying he is only going to run it when there is strong winds, and only during times of peak energy use, and he would never run it past 10 at night, because there is little energy use, so there is no point in running it unless he is going to install an 80,000 dollar system of batteries to store the power in or something. That would double the cost of his whole project. The only thing that makes sense when to run this thing is when you are doing the laundry, or when your air conditioners are running, and frankly if he has that good a breeze up there, he does not need air conditioning. We live with out them, and we live with all the windows open in the summer. We hear noises coming a mile away from route 9. We can hear the occasional motor cycle on Route 9. It is probably less then half a mile up over the hill. Prevailing winds do come from the west. As Allen was pointing out, sound travels in the air, and those sound waves would be carried more towards us, then the river, unless he is running it during a nor'easter. There is also the aspect, that everybody enjoys the beauty of the Hudson. It is a community asset. Only one person is going to enjoy the benefit of this wind turbine. I think that is a bad scenario. That is pretty much all I have to say. Thank you.

Allen Smith- Can I just add.

Vincent Cestone- You have had your turn, this lady back here, you will get a turn.

Wendy ____ - My Name is Wendy ____ I live in the North Highlands, so I am no where near the potential installation of this turbine. I feel it is important for me to speak for the rest of the community, because I also love the Hudson Valley and Philipstown, and think it is one of the most beautiful places on the Earth. I feel like we have our own National Park here. I echo the concerns of others in terms of wind turbines making noise, causing shadow flicker, killing birds, ruining habitats and destroying views. On the other hand I am amenable to other forms of alternative energy, but I worry about a structure that is so high, that it really can have a serious visual impact, and I also worry about the precedence that it would set for the town, if suddenly 100 people had applications in to build turbines on their property. I guess in conclusion, I applaud the idea that we should look for alternative sources of energy, but I worry about the effect on the town, and

how many people it would benefit, and what the cost of it would be to them. Just to conclude, I would like to quote Robert Kennedy. He was involved in the Cape Wind Project in the Nantucket Sound. Which took 9 years by the way to get approval, because people were opposed to that. I would like to quote from an editorial from the New York Times a few years ago. "Some places should be off limits to any sort of industrial development" "I understand that this is not industrial. "I would not build a wind farm in Yosemite National Park, nor would I build one on Nantucket Sound. All of us need to periodically experience wilderness, to renew our spirits, and reconnect ourselves to common history of our Nation to Humanity, and to God. The worse trap that an environmentalist can fall into is the conviction that the only wilderness worth preserving is in the Rocky Mountains or Alaska. To the contrary, our most important wildernesses are those that are closes to our densely population centers." Thank you.

Vincent Cestone-Sir?

Andy Schmar- My name is Andy Schmar with Hudson Highland Land Trust, but also a Philipstown resident. First of all I would like to thank you for the clarification on the code, because it has been uncertain on how the code did apply. I appreciate your councils clarification on that, and your plan to move forward. I am going to cherry pick just a little bit. I am not going to speak about this particular application, I am going to speak in general, and turn to our town council member, and encourage him like Dr. Finger did and others to make sure that the code is clear because of its implications. I am going to cherry pick a little from the materials that were provided to this board, one is wind letter from 2004 says, that there is no question that wind generators which require tall towers to access an unobstructed flow of wind are highly visible. This is the Wind Industry saying that. one other quote was NYSEDA letter to you all as of April 12, his last point is your decision will not just affect one project, but it will affect the future of Philipstown. I think that is an important point. Decisions like this are not just about this application. This application is just the beginning. Before that beginning, and before that subsequent, because we already heard one other potential applicant say he is going to be the next one to build. As stewards of this land we have the responsibility to look in depth and make sure we completely understand the implications. The nightmare example that can be used, shows that it is not just your town borders that you have to consider the implications, it is the (inaudible) Fort Montgomery. I am sure the residents of Fort Montgomery had no idea the implications of

that development, and I think if we all drive south on Route 9d and look at Fort Montgomery, that development really has no impact on the residents of Fort Montgomery, it affects the residents, and the visitors of this side of the river. Again we have to be careful of the implications of one decision, and its lasting impacts. It is also interesting in our code, and this goes to our Town Board, that they offer model legislation here on model wind turbines, and that might be the start point of this after your decision. You are going to have to make a decision on this on whether it is applicable and the impacts that might result from it. Then the Town Board needs to take a look at the current Zoning Code, and the lack of clarity that has been sited by several other people, and make sure that the code going forward is very clear for your board and the planning board, and for the applicants who want clarity as to what they can and can not do. If you recall 15 years ago there was a moratorium wide moratorium on cell phone (inaudible) this is similar to that. A very tall structure that is going to be very visible. I would encourage you as this progresses (inaudible) The Appalachian Trail Conference, I don't know if they have provided any, this is about 200 feet from their border, so we need to make sure that input is received as part of the application as an adjoining neighbor. They are the closes neighbor to this. We all want to make sure we don't suffer a death by 1000 cuts, so in your deliberations keep in mind obviously the long term implications of this. Find out and determine, our code is actually very clear that such uses, that it allows a variety of uses provided that such uses to not adversely affect neighboring properties, the natural environment, and our rural and historic character of the town. It sites communication towers, energy facilities and so forth. Those are the key terms that you all have to weigh here, and I don't envy you in that process, and I appreciate your deliberations on this. Thank you.

Vincent Cestone- We have been around the block, now back to you.

Allen Smith- I just want to make one point, because Mr. Gleick referred to the things that I said.

Vincent Cestone- Can you come, so it can be on the tape.

Allen Smith- I would suggest that Mr. Gleick go speak to the same homeowner that I spoke to, because he is talking about expertise versus us unknowledgeable voyeurs or whatever we might be. I spoke to the homeowner, and spent quite a bit of time with him. His concern was that

when he put the tower in he had a certain expectation as to what kind of electric was going to be delivered by the tower, and he is getting, he expected his payback to be seven years, and he thinks it is going to be about seventeen years. I know that Mr. Gleick's location is better than this homeowner, but his house is easily 10 times as large as this other one. This guy lived in a small house, and he was barely recovering 100 dollars a month on his electric bill. That is it.

Vincent Cestone- With that, you need to provide a lot of things to this board. I don't know if our next meeting on June 17th you will be ready, I doubt it, we can touch base, but I don't think with what you have to provide, and what the engineer has to do on our side you will be ready by then. If it is ok with you, I will leave you on the Agenda for June with the perception, unless you tell us otherwise, you can tell Tina that you are ready. We are just going to touch base and see where you are. Is that ok?

Tina Andress- Landolfi- They would have to have everything ready the last Monday of this month.

Vincent Cestone- We are going to touch base. I suspect we will have some public comment. We will touch base, and it would be a relatively short meeting.

Connor Kays- We are going to leave the public hearing open?

Vincent Cestone- Yes, we would have to vote as a board to close. This is not closing till all the t's are crossed and the i's are dotted.

William Flaherty- I think Vinny, based on the information that we have gotten here this evening that the applicant has a lot to do prior to the time that we can draw any conclusions and vote. I don't now if that will be accomplished by our next meeting or not.

Connor Kays- I doubt it as well.

Vincent Cestone- Who knows, the stars may align.

William Flaherty- Do you think it is possible

Connor Kays- I think if I push the engineer, I think it is possible o our end. I am not sure that the town Engineer is going to have the time he wants.

(inaudible some interference)

Vincent Cestone- We are going to continue this to our June Meeting you are welcome to speak, and we are probably going to continue into July. You are welcome to speak at both of those meetings or any one of them. With that unless there is any new business, I make a motion to adjourn.

Robert Dee- I second

Vincent Cestone- All in favor?

ALL MEMBERS WERE IN FAVOR

MEETING CLOSED AT 9:00 pm

NOTE: These minutes were prepared for the Zoning Board of Appeals and are subject to review, comment, emendation, and approval thereupon.

DATE APPROVED: _____

Respectfully Yours,
Tina Andress- Landolfi, ZBA Secretary

Proposed Project
Residential Small Wind

Mr. James Gleick
200 Long and Winding Road
Garrison, NY 10524

Date
Monday, June 10, 2013

Town of Philipstown
238 Main Street
Cold Spring New York 10516

ZONING BOARD of APPEALS

SPECIAL USE PERMIT

APPLICATION PACKAGE

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Soil Report & Full SEQRA EAF

Town of Philipstown

**238 Main Street
Cold Spring New York 10516**

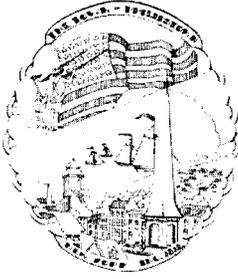
ZONING BOARD of APPEALS

SPECIAL USE PERMIT

APPLICATION PACKAGE

Project Name: Mr. James Gleick – Residential Small Wind

Date: June 10, 2013



Town of Philipstown

Planning Board
238 Main Street, PO Box 155
Cold Spring, NY 10516

Office (845) 265- Fax (845) 265-2687

Application for Special Use & Site Plan Approval

Date: October 24, 2012

TM# 82.-1-42.1

Project Name: Mr. James Gleick – Residential Small Wind

Street Address: 200 Long and Winding Road, Garrison, NY 10524

Fee Amount: _____

Received: _____

Bond Amount: _____

Received: _____

Applicant:

Name Mr. James Gleick

Address 200 Long and Winding Rd, Garrison, NY 10524

Telephone 518.398.5060

Tenant:

Name _____

Address _____

Telephone _____

Design Professional:

Name Bergey WindPower Company

Address 2200 Industrial Blvd Norman Oklahoma 73069

Telephone 405-364-4212

Surveyor:

Name Badey & Watson

Address 3063 Route 9, Cold Spring, NY 10516

Telephone 845-265-9217

Property Owner (if more than two, supply separate page):

Name Mr. James Gleick

Address 200 Long and Winding Road Garrison, NY 10524

Telephone 845-424-3909

Name _____

Address _____

Telephone _____

TM# 82.-1-42.1

Project Name: Mr. James Gleick – Residential Small Wind

Project Description: Installation of one (1) Bergey WindPower 10kW Wind Energy Conversion System (WECS) atop a 140’ Guyed Lattice tower. All energy generated from this grid tied interconnection is intended for the sole use of the resident as a means to decrease energy demand on the grid and lesson their carbon foot.

ZONING INFORMATION

175-7 Zoning District: RR

175-10 Proposed Use: Residential Renewable Energy-harness the wind to generate electricity for residential use

Proposed Accessory Use(s): Wind Energy Conversion System

175-7 Overlay Districts on the property:	<u>Yes or No</u>
175-13 Floodplain Overlay District – NFIP Map ----- (FPO)	<u>No</u>
175-18.1 Mobile Home Overlay District ----- (MHO)	<u>No</u>
175-14 Cold Spring Reservoir Water Shed Overlay ----- (WSO)	<u>No</u>
175-15 Scenic Protection Overlay ----- (SPO)	<u>No</u>
175-16 Aquifer Overlay District ----- (AQO)	<u>Yes</u>
(However, not a concern)	
175-18 Open Space Conservation Overlay District ----- (OSO)	<u>Yes</u>
(However, not a concern)	
75-35 Within 100 foot buffer of Wetlands or Watercourse -----	<u>No</u>
175-36 Steep Terrain -----	<u>Yes</u>
(However, not a concern)	
175-36 Ridge Line Protection -----	<u>No</u>
175-37 Protection Agricultural-----	<u>Verify</u>
(Letter from County)	

TM# 82.-1-42.1

Project Name:

Mr. James Gleick – Residential Small Wind

Zoning District <u>RR</u>	Required	Existing	Proposed	Complies	Variance
Minimum front yard setback					
Measured from the travel way Town Road	60'		1600'	Yes	
Measured from the travel way County/State	60'		1600'	Yes	
Minimum side yard setback North Property Line	30'		500'	Yes	
Minimum side yard setback (2) South Property Line	30'		210'	Yes	
Minimum side yard setback (3) West	30'		1574'	Yes	
Minimum rear yard setback East Property Line	50'		250'	Yes	
Maximum impervious surface coverage					
Maximum height	40'		140'	No	100'
Maximum footprint non-residential structures	4,000sf		36sf	Yes	

175-11 Density and Dimensional Regulations

SUBMISSION:

13 copies with **one electronic file in .pdf format** of the following;

1. Pre-Application meeting decision and comments
2. Application
3. Proof of Ownership
4. Site Plan
5. A long-form Environmental Assessment Form or Draft Environmental Impact Statement.
6. An agricultural data statement as defined in §175-74, if required by §175-37C.
7. The Site Plan application fee, as established by the Town Board and any required escrow deposit for review costs, as required by the Planning Board.
8. FEE: \$1,250.00 Received: _____
9. Escrow: \$2,000.00 Received: _____

Town of Philipstown Town Code Chapter 175

ARTICLE IX SPECIAL PERMITS AND SITE PLAN REVIEW

§175-60 PURPOSE AND APPLICABILITY

A. It is the policy of the Town of Philipstown to allow a variety of uses of land, provided that such uses do not adversely affect neighboring properties, the natural environment, or the rural and historic character of the Town. Many uses are therefore permitted only upon issuance of a Special Permit by the Planning Board, in order to ensure that these uses are appropriate to their surroundings and consistent with the purposes of this Chapter. Some uses are allowed by right, subject only to Site Plan approval (see Use Table in §175-10). **Communication towers, soil mines, and certain solar and wind energy facilities (see §175-30E(2)) require a Special Permit issued by the Zoning Board of Appeals.** Adult entertainment uses and uses not listed on the Use Table (if not prohibited by §175-10C) require a Special Permit issued by the Town Board. In reviewing Special Permit applications, the Town Board and Zoning Board of Appeals shall follow the procedures and standards established for the Planning Board in this Article IX.

B. Accessory uses or structures used in connection with a Special Permit or Site Plan use shall be subject to the same approval requirements as the principal structure or use. Accessory structures used in connection with an institutional use in the IC district are governed by the provisions in §175-10J.

C. Minor and Major Projects

In order to tailor the scope of a project review to the scale of a project, applications are divided into two categories, major and minor. In recognition of their lesser impact, minor projects involve simpler application materials, a more streamlined review process, and less detailed findings requirements, while major projects undergo a more detailed and rigorous review procedure because of their greater impact. The classification of major and minor only applies to projects that require site plan or special permit review. This classification system does not apply to development allowed by right without review by the Planning Board, Zoning Board of Appeals, or Town Board.

1. **A Minor Project is a Special Permit or Site Plan** application for a project that does not exceed any of the following thresholds (over a five-year period):

- a. Construction of four multi-family dwelling units or a lodging facility with six bedrooms.
- b. Construction of facilities or structures for a non-residential use covering 3,000 square feet of building footprint.
- c. Alteration of existing structures or expansion of such structures by 1,000 square feet.
- d. Conversion of existing structures totaling 5,000 square feet to another use.
- e. Alteration and active use of 10,000 square feet of land, with or without structures.
- f. Construction of a structure that is **50 feet in height above average grade level** (provided that it otherwise complies with this Chapter or is the subject of an area variance).

2. **A Major Project is a Special Permit or Site Plan** application exceeding any of the Minor Project thresholds.

D. In reviewing any project subject to special permit or site plan approval, the reviewing board should consider —Putnam County Pathways: A Greenway Planning Program Linking Putnam’s Open Space, Historic, Cultural and Economic Resources,|| as amended from time to time, as a statement of land use policies, principles and guides.

§175-61 REQUIRED SUBMISSIONS FOR SPECIAL PERMIT APPLICATIONS

Because the impact of Special Permit uses varies, the review procedure and information required to be submitted for a Special Permit varies depending upon whether it is a Major or Minor Project. The numbers of copies of materials to be submitted shall be as required under the procedural policies of the Planning Board.

A. Major Project Special Permit

An applicant for a Major Project Special Permit shall submit the following:

1. A Major Project application form.
2. A Site Plan, containing the information listed in §175-65B unless submission of certain information has been waived at a pre-application meeting.
3. A narrative report describing how the proposed use will satisfy the criteria set forth in §175-63, as well as any other applicable requirements relating to the specific use proposed.
4. A long-form Environmental Assessment Form or Draft Environmental Impact Statement.
5. An agricultural data statement as defined in §175-74, if required by §175-37C.
6. The Major Project Special Permit application fee, as established by the Town Board, and any required escrow deposit for review costs, as required by the Planning Board.
7. A letter from the Zoning Administrative Officer stating that there are no outstanding zoning violations on the property.

B. Minor Project Special Permits

An applicant for a Minor Project Special Permit shall submit the following:

1. A Minor Project application form.
2. A plot plan providing information sufficient to enable the reviewing board to make an informed decision (which may include some of the Site Plan information listed in §175-65B).
3. A brief narrative describing the proposed use.
4. A short-form Environmental Assessment Form (EAF) (unless the Planning Board determines that the proposed Special Permit is a Type I action, in which case a long-form EAF shall be required).
5. An agricultural data statement as defined in §175-74, if required by §175-37C.
6. The Minor Project application fee as established by the Town Board, and an escrow deposit (if required).
7. A letter from the Zoning Administrative Officer stating that there are no outstanding zoning violations on the property.

§175-62 PROCEDURE FOR SPECIAL PERMITS

A. Pre-application Meetings

Before filing an application, a preliminary conference with the Zoning Administrative Officer and/or the Town Planner is required to discuss the nature of the proposed use and to classify it as a Major or Minor Project. If the Zoning Administrative Officer classifies the project as a Major Project, a preliminary meeting with the Planning Board is required to discuss the nature of the proposed use and to determine the information that will need to be submitted in the Site Plan.

B. Mediation Option

At any point in a project review process the Planning Board may, if it deems appropriate and the parties consent, appoint a mediator to work informally with the applicant, neighboring property owners, and other interested parties to address concerns raised about the proposed Special Permit use. Any party may request mediation. Such mediation may be conducted by any qualified and impartial person acceptable to the parties and the Planning Board. The mediator shall have no power to impose a settlement or bind the parties or the Planning Board, and any settlement reached shall require Planning Board approval to assure compliance with all provisions of this Chapter. With the applicant's written consent, the cost, if any, of such mediation may be charged to the applicant. Such cost may also be paid by the Town, or shared by other parties with their written consent.

C. Application

1. Application for a Special Permit shall be made to the Planning Board in the manner prescribed by the Board. The Planning Board's consultant or designated Town employee shall make the initial determination as to whether or not the application is complete for the purpose of accepting it for review.

2. If an application is for a parcel or parcels on which more than one use requiring a Special Permit is proposed, the applicant may submit a single application for all such uses. The Planning Board may grant the application with respect to some proposed uses and not others. For purposes of determining whether the application is a Major or Minor Project, and for SEQRA compliance, all proposed uses on a single parcel or on contiguous or related parcels under single or related ownership shall be considered together.

3. Application for Area Variance

Notwithstanding any provision of law to the contrary, where a proposed Special Permit contains one or more features which do not comply with the dimensional requirements of this Chapter, application may be made to the Zoning Board of Appeals for an area variance pursuant to §175-59F without a decision or determination by the Zoning Administrative Officer.

*** See section 175-65 SITE PLAN REVIEW AND APPROVAL, last section in this package, for required information on the site plan.**

D. State Environmental Quality Review Act (SEQRA) Compliance

Upon receipt of application materials it deems complete, the Planning Board shall initiate the New York State Environmental Quality Review process by either circulating the application and Environmental Assessment Form to all involved agencies (if coordinated review is undertaken) or by issuing its determination of significance within 20 days. Where the proposed action may have a significant effect on the environment, the Planning Board shall issue a positive declaration and require the submission of a Draft Environmental Impact Statement (DEIS). No time periods for decision making in this Chapter shall begin to run until either acceptance of a DEIS as satisfactory pursuant to New York State Department of Environmental Conservation regulations or the issuance of a negative declaration.

E. Referral to Putnam County Department of Planning and Development and Town Conservation Board

1. Upon receipt of application materials it deems to be complete, the Planning Board shall refer to the Putnam County Department of Planning and Development any application for a Special Permit affecting real property within 500 feet of the boundary of the Town of Philipstown, the boundary of any existing or proposed County or State park or other recreational area, the boundary of any existing or proposed County or State roadway, the boundary of any existing or proposed right-of-way for a stream or drainage channel owned by the County for which the County has established channel lines, the boundary of any existing or proposed County or State-owned land on which a public building or institution is situated, or the boundary of a farm operation within an agricultural district as defined in Article 25AA the Agriculture and Markets Law, pursuant to General Municipal Law, Article 12-B, §§239-l and 239-m, as amended.

2. No action shall be taken on applications referred to the Putnam County Department of Planning and Development until its recommendation has been received, or until 30 days have elapsed after its receipt of the complete application, unless the County and Town agree to an extension beyond the 30-day requirement for the Putnam County Department of Planning and Development's review.

3. County Disapproval

A majority-plus-one vote of the Planning Board shall be required to grant any Special Permit which receives a recommendation of disapproval from the Putnam County Department of Planning and Development before the Planning Board takes action. The Planning Board shall by resolution set forth its reasons for such contrary action.

4. Upon receipt of application materials it deems to be complete, the Planning Board shall also refer to the Town's Conservation Board any application for a Major Project Special Permit or any application for a Minor Project Special Permit located within the OSO, WSO, SPO, or FPO Districts, or within a Visible Ridgeline No-Build Area or a Hillside Protection Area, together with any SEQR documents submitted with the application. The Conservation Board shall have 30 days to report its recommendations to the Planning Board after which time the Planning Board may act without receiving a recommendation. The Planning Board shall take the Conservation Board's recommendations into consideration and if it does not follow such recommendations, it shall provide a written explanation of its reasons for not doing so.

F. Notice and Hearing

1. If an agricultural data statement has been submitted, the secretary of the Planning Board shall, upon receipt of the application, mail written notice of the Special Permit application to the owners of land as identified by the applicant in the agricultural data statement. Such notice shall include a description of the proposed project and its location. The cost of mailing the notice shall be borne by the applicant.

2. The Planning Board shall hold a public hearing on a complete Special Permit application within 62 days of its submission. The Board shall publish notice of such hearing in the official newspaper at least five days prior to the date thereof. The Board shall also send notices of the hearing by certified mail to owners of properties within 200 feet of the property boundary. This notice requirement to surrounding owners may be modified by the Planning Board, at the applicant's request, in the case of properties of greater than 50 acres where only a small area is being disturbed. In such cases, notification must be sent to owners of land lying within 1500 feet of the proposed area of land disturbance and within 200 feet of the parcel's road frontage. If the application is for a property located within 500 feet of the boundary of an adjacent municipality, notice of the hearing shall be sent to the clerk of the adjacent municipality by mail or electronic transmission at least 10 days prior to such hearing, and such adjacent municipality may appear and be heard. The cost of giving all notices shall be charged to the applicant.

3. For projects classified as major special permits or major site plans, the applicant shall post a notice on a sign purchased from the Town Clerk stating that there is a pending application on the property, and providing the date, time, and place of the hearing, the place and times the application may be reviewed by the public, and a telephone number to call for further information. This sign shall be posted in public view in a conspicuous location within three days after the Planning Board establishes a public hearing date, shall be updated if more hearing dates are scheduled, and shall remain in place until the day after the hearing is closed.

G. Action

1. The Planning Board shall grant, deny, or grant subject to conditions the application for a Special Permit within 62 days after the hearing for a Major Project and within 31 days for a Minor Project. Any decision on a Major Project shall contain written findings explaining the rationale for the decision in light of the standards contained in §175-63 below. The time periods above may be extended by the Planning Board with the applicant's consent.

2. In granting a Special Permit, the Planning Board may impose any conditions which it considers necessary to fulfill the purposes of this Chapter. These conditions may include increasing minimum or decreasing maximum dimensional or area requirements, requiring the set-aside of perpetual open space land pursuant to §175-20, specifying location, character, and number of vehicle access points, requiring landscaping, planting, and screening, requiring clustering of structures and uses in order to preserve environmental resources and minimize the burden on public services and facilities, and requiring action by the applicant, including the posting of performance bonds and furnishing of guarantees to insure the completion of the project in accordance with the conditions imposed.

3. Every decision on a Special Permit shall be filed in the office of the Town Clerk within five business days after the decision is rendered and shall be a public record. A copy thereof shall be placed in the permanent file of the project and shall also be mailed to the applicant within the same five-day period.

4. The Special Permit and accompanying Site Plan shall be implemented as provided in §175-68.

H. Expiration, Revocation, and Enforcement

1. A Special Permit shall expire if the Special Permit use or uses do not commence or cease for more than 24 consecutive months for any reason, if the applicant fails to obtain any necessary Building Permits or fails to comply with the conditions of the Special Permit within 12 months of its issuance, or if its time limit expires without renewal. The Planning Board may grant an extension upon request by the applicant for good cause shown.

2. A Special Permit may be revoked by the Planning Board if the permittee violates the conditions of the Special Permit or engages in any construction or alteration not authorized by the Special Permit.

3. Any violation of the conditions of a Special Permit shall be deemed a violation of this Chapter, and shall be subject to enforcement action as provided in §175-57.

§175-63 FINDINGS REQUIRED

In granting or denying Special Permits, the Planning Board shall take into consideration the scale of the proposed project and its potential impact on the functioning of nearby farm operations. The Planning Board shall also take account of any proposed conservation easements, architectural restrictions, or other measures that would tend to mitigate potential adverse impacts and preserve or enhance the scenic and historic character of the Town. No special permit shall be granted for any property on which there exists a violation of this Chapter, including a violation of any condition of a previous municipal approval, unless the Planning Board finds that the applicant has no legal right or ability to remedy the violation or that the grant of a special permit is necessary to remedy a condition that poses a risk to public health or safety.

A. Minor Projects

A Minor Project shall be presumed to be acceptable if it complies with applicable health laws and other specific provisions of this Chapter. In order to grant a Minor Project Special Permit, the Planning Board must make a general finding that none of the criteria for Major Projects listed in Subsection B below will be violated. The Planning Board shall deny a Minor Project Special Permit if it determines that one or more of these criteria will be violated.

B. Major Project Criteria

Before granting or denying a Major Project Special Permit, the Planning Board shall make specific written findings establishing whether or not the proposed Major Project:

_____ 1. Will comply with all land use district, overlay district, and other specific requirements of this and other Chapters and regulations, and will be consistent with the purposes of this Chapter and of the land use district in which it is located.

_____ 2. Will not result in excessive off-premises noise, dust, odors, solid waste, or glare, or create any public or private nuisances.

_____ 3. Will not cause significant traffic congestion, impair pedestrian safety, or overload existing roads, considering their current width, surfacing, and condition, as well as any improvements proposed to be made to them by the applicant.

_____ 4. Will be accessible to fire, police, and other emergency vehicles.

_____ 5. Will not overload any public water, drainage, sewer system, or any other municipal facility.

_____ 6. Will not materially degrade any watercourse or other natural resource or ecosystem and will not endanger the water quality of an aquifer.

_____ 7. Will be suitable for the property on which it is proposed, considering the property's size, location, topography, vegetation, soils, natural habitat, hydrology, and, if appropriate, its ability to be buffered or screened from neighboring properties and public roads.

_____ 8. Will be subject to such conditions on operation, design and layout of structures, and provision of buffer areas as may be necessary to ensure compatibility with surrounding uses and to protect the natural, historic, and scenic resources of the Town.

_____ 9. Will be consistent with the goal of concentrating retail uses in hamlets, avoiding strip commercial development, and buffering non-residential uses that are incompatible with residential use.

_____ 10. Will not adversely affect the availability of affordable housing in the Town.

_____ 11. Will comply with applicable Site Plan criteria in §175-65D.

_____ 12. If the property is in a residential district, will have no greater overall off-site impact than would full development of the property with uses permitted by right, considering relevant environmental, social, and economic impacts.

§175-64 SPECIAL PERMIT AMENDMENTS

The terms and conditions of any Special Permit may be amended in the same manner as required for the issuance of a Special Permit, following the criteria and procedures in this Section. Any enlargement, alteration, or construction of accessory structures not previously approved shall require Site Plan review only, provided that the use does not change.

§175-65 SITE PLAN REVIEW AND APPROVAL

A. Applicability

1. Site Plan approval by the Planning Board shall be required for all permitted uses listed on the Use Table as requiring Site Plan approval only. Site Plan review shall be included as an integral part of the Special Permit approval process and no separate Site Plan approval shall be required for uses requiring a Special Permit.

B. Required Information for Site Plan

An application for Site Plan approval shall be accompanied by plans and descriptive information sufficient to clearly portray the intentions of the applicant. Minor Project Site Plans shall contain the information required by §175-67C and other information listed below if the Planning Board deems such information necessary to conduct an informed review. Major Project Site Plans shall be prepared by a licensed professional engineer, architect, surveyor, or landscape architect, and shall include the following (unless waived):

SITE PLAN CHECK LIST

_____ 1. A location map drawn at the scale of 2,000 feet to the inch or larger (or other convenient scale acceptable to the Planning Board) that shows the relationship of the proposal to existing community facilities which affect or serve it, such as roads, shopping areas, schools, etc. A vicinity map shall also be submitted that shows all properties, subdivisions, streets, and easements within 500 feet of the property. Such maps may be superimposed on a United States Geological Survey or New York State Department of Transportation map of the area.

_____ 2. An existing conditions map, showing existing buildings, roads, utilities, and other man-made features, as well as topography and all existing natural land features that may influence the design of the proposed use such as rock outcrops, single trees eight or more inches in diameter located within any area where clearing will occur, forest cover, soils (including prime and statewide important agricultural soils), and ponds, lakes, wetlands and watercourses, aquifers, floodplains, and drainage retention areas.

_____ 3. A Site Plan, drawn at a scale and on a sheet size appropriate to the project. The information listed below shall be shown on the Site Plan and continuation sheets.

_____ 4. Name of the project, boundaries, date, north arrow, and scale of the plan. Name and address of the owner of record, developer, and seal of the engineer, architect, surveyor, and/or landscape architect. If the applicant is not the record owner, a letter of authorization shall be required from the owner.

_____ 5. The location and use of all existing and proposed structures within the property, including all dimensions of height and floor area, all exterior entrances, and all anticipated future additions and alterations.

_____ 6. The location of all present and proposed public and private ways, off-street parking areas, driveways, outdoor storage areas, sidewalks, ramps, curbs, paths, landscaping, walls, and fences. Location, type, and screening details for all waste disposal containers shall also be shown.

_____ 7. The location, height, intensity, and bulb type (sodium, incandescent, etc.) of all external lighting fixtures. The direction of illumination and methods to eliminate glare onto adjoining properties must also be shown.

_____ 8. The location, height, size, materials, and design of all proposed signs in compliance with §175-39. In lieu of specific sign proposals in connection with the site plan submission, the applicant may submit and the Planning Board may approve a general sign plan and program for the premises, specifying intended locations, sizes, areas, message, design, and illumination.

_____ 9. The location of all present and proposed utility systems including:

- _____ a. Sewage or septic system;
- _____ b. Water supply system;
- _____ c. Telephone, cable, and electrical systems; and
- _____ d. Storm drainage system including existing and proposed drain lines, culverts, catch basins, headwalls, endwalls, hydrants, manholes, and drainage swales.

_____ 10. Erosion and sedimentation control plan required by §175-32 to prevent the pollution of surface or groundwater, erosion of soil both during and after construction, excessive run-off, excessive raising or lowering of the water table, and flooding of other properties, as applicable.

_____ 11. Existing and proposed topography at two-foot contour intervals, or such other contour interval as the Board shall specify. All elevations shall refer to the nearest United States Coastal and Geodetic Bench Mark. If any portion of the parcel is within the 100-year floodplain, the area will be shown, and base flood elevations given. Areas shall be indicated within the proposed site and within 50 feet of the proposed site where soil removal or filling is required, showing the approximate volume in cubic yards.

_____ 12. A landscape, planting, and grading plan showing proposed changes to existing features.

_____ 13. Land Use District boundaries within 200 feet of the site's perimeter shall be drawn and identified on the Site Plan, as well as any Overlay Districts that apply to the property.

_____ 14. Traffic flow patterns within the site, entrances and exits, and loading and unloading areas, as well as curb cuts on the site and within 100 feet of the site. The Planning Board may, at its discretion, require a detailed traffic study for large developments or for those in heavy traffic areas to satisfy the requirements of §175-40N.

_____ 15. For new construction or alterations to any structure, a table containing the following information shall be included:

- _____ a. Estimated area of structure currently used and intended to be used for particular uses such as retail operation, office, storage, etc.;
- _____ b. Estimated maximum number of current and future employees;
- _____ c. Maximum seating capacity, where applicable; and
- _____ d. Number of parking spaces existing and required for the intended use.

_____ 16. Elevations at a scale of one-quarter inch equals one foot for all exterior facades of the proposed structure(s) and/or alterations to or expansions of existing facades, showing design features and indicating the type and color of materials to be used.

_____ 17. Where appropriate, the Planning Board may request soil logs, percolation test results, and storm run-off calculations.

_____ 18. Plans for disposal of construction and demolition waste, either on-site or at an approved disposal facility.

_____ 19. Part One of a long-form Environmental Assessment Form or Draft Environmental Impact Statement.

_____ 20. Where appropriate, a cultural resource survey of resources with historic or archaeological significance.

_____ 21. A letter from the Zoning Administrative Officer stating either that there are no outstanding zoning violations on the property or that the requested site plan approval is needed in order to correct a violation.

_____ 22. Other information that may be deemed necessary by the Planning Board.

a) _____

b) _____

c) _____

C. Waivers

The Planning Board may waive or allow deferred submission of any of the information required in Subsection B above, as it deems appropriate to the application. Such waivers shall be discussed in the course of pre-application conferences. The Planning Board shall issue a written statement of waivers for all major projects. This statement shall be filed in the permanent record of the property.

175-65 D. Criteria

In reviewing Site Plans, the Planning Board shall ensure that the application complies with all applicable provisions of this Chapter, including the environmental performance standards in §175-40. The Planning Board shall also consider apply the criteria set forth below. The Planning Board may also refer for non-binding guidance to the three-volume set of illustrated design guidelines published by the New York Planning Federation in 1994, entitled *Hamlet Design Guidelines*, *Building Form Guidelines*, and *Rural Design Guidelines*. The Planning Board may also refer to the —Design Handbook|| adopted by the Philipstown Planning Board as advisory guidelines for the Route 9 Corridor as well as any other design guidelines that it adopts from time to time as non-binding advisory material. In applying the criteria contained in this subsection and the reference documents above, the Planning Board shall take into consideration the location, character, and context of proposed development and adapt these criteria to the setting (*e.g.* rural, hamlet, institutional, suburban, industrial) as appropriate.

1. Layout and Design

_____ a. To the maximum extent practicable, development shall be located to preserve the natural features of the site and to avoid wetland areas, steep slopes, significant wildlife habitats, and other areas of environmental sensitivity. The placement and design of buildings and parking facilities shall take advantage of the site's topography, existing vegetation, and other pertinent natural features. The Planning Board may require that an applicant prepare a conservation analysis as described in §175-20A of this Chapter.

_____ b. All structures in the plan shall be integrated with each other and with adjacent structures and shall have convenient access between adjacent uses. Structures shall, where practical, be laid out in the pattern of a traditional hamlet.

_____ c. Except for retail and service businesses that require visibility, the visual impact of structures from public roads shall be minimized through the use of vegetative screening, topography, and colors that blend with the natural surroundings. Structures that are visible from public roads shall be compatible with each other and with traditional structures in the surrounding area in architecture, design, massing, materials, proportion, texture, color, and placement. Building components such as windows, roof lines and pitch, doors, eaves, and parapets shall be compatible with historic structures in the Town. Vertical, double-hung windows and steeply pitched roofs are encouraged but will not be required. Rooftop and ground level mechanical equipment shall be screened from public view using materials harmonious with the building, or shall be located where they are not visible from any public ways or other adjacent properties.

_____ d. Where appropriate, setbacks shall maintain and continue the existing setback pattern of surrounding properties.

_____ e. The Planning Board shall encourage the creation of landscaped parks or squares easily accessible by pedestrians.

_____ f. Trademarked architecture which identifies a specific company by building design features shall be prohibited, unless the applicant can demonstrate that the design is compatible with the historic architecture of the Town or the Building Form Guidelines.

_____ g. Impacts on historic and cultural resources shall be minimized.

_____ h. Newly installed utility service systems and service modifications necessitated by exterior alterations shall be installed underground. When feasible, existing aboveground utility service systems shall be placed underground.

_____ i. Buildings shall have a finished exterior on all sides.

_____ j. Metal buildings that are principal buildings (larger than a small storage building in an unobtrusive location) shall be of color consistent with earth tones; shall have sufficient fenestration and trim to break continuums of metal wall areas; and shall have brick, stone, wood trim or composite materials providing a similar appearance, and features combined with the basic metal enclosure. A complete package of elevations shall accompany any proposal for a metal building.

2. Landscaping and screening. Landscaping shall be provided and permanently maintained as follows:

_____ a. All areas of the lot not covered by buildings and other structures, outside storage and approved paving shall be suitably landscaped with trees and/or shrubs, lawns or other suitable landscaping or shall be left as natural terrain, if not disturbed by filling, grading or excavation.

_____ b. In the HC and OC districts, a strip of land not less than 20 feet in width and located in the area required for a building setback from a residence district boundary line, or all of such setback area on the lot if less than 20 feet in width, shall be left and maintained in its natural state if already wooded or shall be landscaped with evergreen trees planted to grow into a dense evergreen buffer strip within five years.

_____ c. In the M district, a strip of land not less than 30 feet in width and located in the area required for a building setback from a residence district boundary line, or all of such setback area on the lot if less than 30 feet in width, shall be left and maintained in its natural state if already wooded or shall be landscaped with evergreen trees planted to grow into a dense evergreen buffer strip within five years.

_____ d. Off-street parking and loading areas shall be provided with landscaped planting islands within or border landscaping adjacent to such area in such a manner as to enhance the appearance of the area. Any parking area accommodating 20 or more cars shall be provided with not less than one tree for each 20 cars or fraction thereof, which trees shall be not less than three inches diameter at breast height and 10 feet in height.

_____ e. Landscaping, including grading, provided in the area required for a building setback from the street line or center line of U.S. Route 9 shall be of a type, size and height as to avoid obstruction of minimum sight lines along the highway as well as from access driveways onto the highway, whether located on the lot or any other lot, as specified by the State Department of Transportation.

_____ f. All landscaping materials shall be of a type and/or species suitable for the location of the lot in the Town and suitable for the soil conditions on the lot and shall be planted and maintained in accordance with good landscaping practice. Landscaping shall be designed to facilitate conservation of the environment and preservation of community aesthetic character. This shall be accomplished through the use of native plant material and the retention of existing natural vegetation, thereby reducing or eliminating the need for irrigation, pesticides, herbicides, and fertilizers.

_____ g. All landscaping, including growing materials, that are specified on an approved landscape plan for a site shall be well maintained to carry out the intent of the landscape plan. Failure to maintain healthy landscaping associated with a site plan approval will be a violation of said approval.

_____ h. Trees, shrubs and other plant materials which die or are otherwise not in a condition to fulfill the approved landscape plan shall be replaced in the next planting season by similar plant material.

_____ i. Fences and walls used for landscaping and screening shall be made of natural materials such as wood, stone or brick or otherwise effectively landscaped.

_____ j. Landscaping shall be an integral part of the entire project area and shall buffer the site from and/or integrate the site with the surrounding area, as appropriate.

_____ k. Existing native tree stock eight or more inches in diameter at breast height shall be protected and preserved to the extent possible to retain valuable community natural resources and promote energy conservation by maximizing the cooling and shading effects of trees. The preservation of mature plant species, hedge rows, wetlands, and woodlots shall be encouraged and included as a design element in the development of the site.

_____ l. If deemed appropriate for the site by the Planning Board, shade trees at least six feet tall and two-inch caliper shall be planted and maintained at 20- to 40-foot intervals along roads at a setback distance acceptable to the Highway Superintendent.

3. Parking, Circulation, and Loading

_____ a. Roads, driveways, sidewalks, off-street parking, and loading space shall be safe, and shall encourage pedestrian movement.

_____ b. Vehicular and pedestrian connections between adjacent sites shall be provided to encourage pedestrian use and to minimize traffic entering existing roads. The construction of connected parking lots, service roads, alleys, footpaths, bike paths, and new public streets to connect adjoining properties shall be required where appropriate.

_____ c. Off-street parking and loading standards in §175-38 shall be satisfied.

_____ d. Access from and egress to public highways shall be approved by the appropriate highway department, including Town, County, and State.

_____ e. All buildings shall be accessible by emergency vehicles.

_____ f. Parking spaces shall have wheel stops or curbs to prevent injury to trees and shrubs planted in landscaped islands.

_____ g. Bicycle parking spaces and racks shall be provided in an area that does not conflict with vehicular traffic. Designated van/car pool parking, and other facilities for alternatives to single occupancy vehicle use shall be provided wherever possible.

_____ h. In developments where links to schools, churches, shopping areas, trails, greenbelts, and other public facilities are feasible, or where a trail connection is recommended in the Comprehensive Plan or in a Town Open Space Plan, a trail corridor shall be reserved on the approved Site Plan for this purpose.

_____ 4. Reservation of Parkland

For any Site Plan containing residential units, the Planning Board may require the reservation of parkland or payment of a recreation fee pursuant to Town Law, §274-a(6).

5. Outside Storage

Any areas for outside storage (including temporary storage of waste materials; storage and display of merchandise, supplies, machinery and other materials; and outside manufacture, processing or assembling of goods; but excluding areas for parking of registered motor vehicles in daily use) shall be shown on the site plan and located and screened as follows:

_____ a. In the HC and OC districts, outside storage areas shall not extend into the area required for a building setback from a street line or from the center line of U.S. Route 9, as determined under § 175-

30(J), or from a residential district boundary line. Outside storage shall be enclosed (except for necessary access drives) by buildings and/or fences, walls, embankments or evergreen shrubs or trees so as to screen the storage area from view from any other adjacent lot or any street. In no case shall the height of outside storage exceed the height of the approved screening. Screening shall be of a density as to be at least 75% effective in screening such view, at the time of occupancy, except that when evergreens are used, such height and density shall be achieved within five years after establishment of the outside storage area.

_____ b. Outside storage on properties in the HC or OC districts shall not exceed 20% of the lot area located in such district.

_____ c. In the M District, outside storage areas shall not extend into the area required for a building setback from a property line, or a residence district boundary line, and shall not exceed 15% of the lot area located in the industrial M District.

6. Miscellaneous Standards

_____ a. Buildings and other facilities shall be designed, located, and operated to avoid causing excessive noise on a frequent or continuous basis.

_____ b. Drainage of the site shall recharge ground water to the extent practicable. The peak rate of surface water flowing off-site shall not increase above pre-development conditions and shall not adversely affect drainage on adjacent properties or public roads.

_____ c. Applicable requirements for proper disposal of construction and demolition waste shall be satisfied, and any necessary permits or agreements for off-site disposal shall be obtained.

_____ d. No materials shall be placed below the finished grade of a site other than utilities, sand, gravel, rocks, and soil that are uncontaminated by any solid waste or hazardous materials. Materials that were previously contaminated and have been reconditioned shall not be permitted under this Subsection (e), except that decontaminated material may be used as a base for road or parking lot construction, provided that such decontaminated material does not pollute groundwater or surface water.

_____ e. Structures shall be located, constructed, and insulated to prevent on-site noise from interfering with the use of adjacent properties. Similarly, buildings shall be situated to prevent off-site noise from intruding on new development. Methods for blocking noise shall be used where appropriate, and shall include fencing, walls, and natural buffers, such as berms and landscape planting with trees and large shrubs.

_____ f. Lighting shall comply with the standards in §175-40L.

Town of Philipstown

238 Main Street
Cold Spring New York 10516

Zoning & Planning Board

PREAPPLICATION MEETING

for

Special Use and Site Plan Applications

Project Name: 200 Long & Winding Rd

Meeting Date: 5/28/13

Meeting held and confirmed by : S. Jainchill, PLANNER

In attendance:

Doug Passeri, Applicant Representative
Greta Passeri, Applicant Representative
John Van Tassel, Town Board Member
Paula Claire, ZBA Member
Ron Gainer, Town Engineer
Susan Jainchill, Town Planner
Kevin Donahue, Code Enforcement Officer
Tina Landolfi, ZBA Secretary

Determine Special Use Permit and/or Site Plan application is;

Major X Minor _____ Amendment _____

1. Discuss of proposal and scope of work ✓
2. Discuss existing and proposed uses ✓ - SINGLE FAMILY DWELLING.
3. Determine zone and uses to be approved - ACCESSORY USE - WIND ENERGY CONVERSION SYSTEM
PR
4. Review fee schedule format through process -
5. Determine fees for submission
6. Review escrow through process
7. Determine escrow for submission
8. Determine waivers
9. Review overlays:

- | | |
|---|----------------------------------|
| a. 175-13 Floodplain Overlay District – NFIP Map ----- (FPO) | NO |
| b. 175-18.1 Mobile Home Overlay District ----- (MHO) | NO |
| c. 175-14 Cold Spring Reservoir Water Shed Overlay ----- (WSO) | NO |
| d. 175-15 Scenic Protection Overlay ----- (SPO) | NO. |
| e. 175-16 Aquifer Overlay District ----- (AQO) | YES - BUT NOT CONCERN |
| f. 175-18 Open Space Conservation Overlay District ----- (OSO) | YES - " " |
| g. 175-35 Within 100 foot buffer of Wetlands or Watercourse ----- | NO |
| h. 175-36 Steep Terrain ----- | YES - " " |
| i. 175-36 Ridge Line Protection ----- | NO |
| j. 175-37 Protection Agricultural ----- | VERIFY - LETTER FROM COUNTY REG. |

10. ZBA Special Use Permit FEE and Escrow

- | | |
|--|--------|
| a) 175-17 Soil Mining - \$500 + Escrow | |
| b) 175-62 Special Use Permit Minor - \$500 + Escrow | |
| (1) 175-62 Special Use permit Major - \$500 + Escrow \$2000 | \$2500 |
| 2) Conservation Board Referral ----- COMPLETE | |
| (3) Full Environmental Assessment Form - \$250 | \$250 |
| 4) Environmental Impact Statement - \$1,000 | |
| (5) Public Hearing - \$250 | \$250 |
| (6) Final or Conditional Final Approval - \$250 | \$250 |
| 7) Re-approval of Final or Conditional Final Approval - \$250 | |
| 8) Request for extension of time - \$250 | |
| TOTAL | \$2500 |

200 Long and Winding Road

Pre Application Meeting Notes (RECORDED BY S. JAINCHILL)

Date:

May 23, 2013

In attendance:

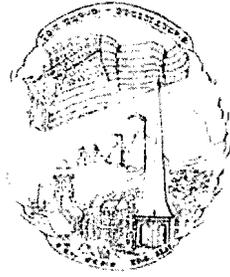
Doug Passeri, Applicant Representative
Greta Passeri, Applicant Representative
John Van Tassel, Town Board Member
Paula Claire, ZBA Member
Ron Gainer, Town Engineer
Susan Jainchill, Town Planner
Kevin Donahue, Code Enforcement Officer
Tina Landolfi, ZBA Secretary

Notes on proposed project:

- Wind turbine as accessory use.
- Blade is a 11' Radius
- Property is 43 Acres
- Appalachian trail is nearby
- Foundation would be a 6.5' x 6.5' concrete pad, 18" x 18" x 18" triangle base at ground level

Notes on discussion of recommendations for application materials :

- Allowable in RR but requires a Special Permit due to height.
- Professionals provided recommendations for development of visual tools to communicate proposed project, photographic comparison, scale elevation diagrams, line-of-sight analysis sections, etc.
- Professional staff/consultants provided recommendations to establish need for height based on technical information
- Issues of noise generation should be addressed
- Locate nearby Agricultural uses is any
- Identify waivers required
- Provide site plan drawing sheet for proposal (i.e. 2' x 3' sheet) based on existing survey



Town of Philipstown

Code Enforcement Office
238 Main Street, PO Box 155
Cold Spring, NY 10516

Office (845) 265- 5202 Fax (845) 265-2687

October 1, 2012

Doug Passeri
70 County Route 7
Pine Plains, NY 12567

RE: Building Permit - Wind generator on a 140 foot lattice tower
Owner: James Gleick
200 Long and Winding Road, Garrison NY
ID# 82.-1-42.1

A review of your building permit application for the construction of a wind generator on a 140 foot lattice tower at 200 Long and Winding Road, Garrison NY, reveals that the Code of the Town of Philipstown, section 175-30 E. (2) requires a Special Use Permit from the Zoning Board of Appeals before a building permit can be processed;

175-30 E. (2) Solar energy facilities, communications towers, and wind energy conversion systems may exceed height limits in the Dimensional Table, provided that they comply with applicable sections of this Article VII. Vegetation planted on green roofs may also exceed height limits. Any wind energy conversion system that exceeds 40 feet in height and any solar energy facility or wind energy conversion system that is used to generate electricity primarily for off-site consumption shall require a special permit from the Zoning Board of Appeals.

Further be advised that according to the Code of the Town of Philipstown, section 175-60 C. (1) (f) this application for Special Use Permit will be deemed a Major Project as it exceeds 50 feet in height.

175-60 C. (1) (f) A minor project is a special permit or site plan application for a project that does not exceed any of the following thresholds (over a five-year period):

(f) Construction of a structure that is 50 feet in height above average grade level (provided that it otherwise complies with this chapter or is the subject of an area variance).

After receipt of a Special Use Permit from the Zoning Board of Appeals the application for a building permit can be processed. If you have any question you may contact my office at (845) 265-520.

Thank you,

Kevin Donohue, CFM
Code Enforcement Officer

175-30. Supplementary dimensional regulations.

E. Height exceptions.

(2) Solar energy facilities, communications towers, and wind energy conversion systems may exceed height limits in the Dimensional Table, provided that they comply with applicable sections of this Article VII. Vegetation planted on green roofs may also exceed height limits. Any wind energy conversion system that exceeds 40 feet in height and any solar energy facility or wind energy conversion system that is used to generate electricity primarily for off-site consumption shall require a special permit from the Zoning Board of Appeals.

175-60. Purpose and applicability.

A. It is the policy of the Town of Philipstown to allow a variety of uses of land, provided that such uses do not adversely affect neighboring properties, the natural environment, or the rural and historic character of the Town. Many uses are therefore permitted only upon issuance of a special permit by the Planning Board, in order to ensure that these uses are appropriate to their surroundings and consistent with the purposes of this chapter. Some uses are allowed by right, subject only to site plan approval (see Use Table in § 175-10). Communication towers, soil mines, and certain solar and wind energy facilities [see § 175-30E(2)] require a special permit issued by the Zoning Board of Appeals. Adult entertainment uses and uses not listed on the Use Table (if not prohibited by § 175-10C) require a special permit issued by the Town Board. In reviewing special permit applications, the Town Board and Zoning Board of Appeals shall follow the procedures and standards established for the Planning Board in this Article IX.

175-10. Allowable uses.

D. Accessory uses. Uses customarily incidental and subordinate to a principal use shown on the Use Table Editor's Note: The Use Table is included at the end of this chapter, shall be allowed by the same permit process as the principal use, unless otherwise indicated on the Use Table. (For example, if a light industrial use requires a special permit in a particular zone, then a service business operated as an accessory use to it would also require a special permit.) Such accessory uses may be on the same lot, on adjoining lots, or on lots that face each other across a street. Noncommercial recreational uses shall be permitted as an accessory use in all districts, provided that they do not create noise, traffic, dust, odor, or other impacts that exceed those normally associated with single-family residential uses. If there is no principal use on a residential lot, a use that is typically a residential accessory use, such as a residential garage, swimming pool, tennis court, or tool shed, may be allowed by special permit granted by the Zoning Board of Appeals. Attached or detached garages associated with single-family residences shall not exceed 1,000 square feet in footprint area. Solar and wind energy conversion systems producing electricity and/or heat primarily for on-site use, including those with net metering, shall be considered customary accessory uses to all principal uses, except that wind energy conversion systems which exceed otherwise applicable height limits shall be considered major wind energy conversion systems allowable only by special permit from the Zoning Board of Appeals.

175-74. Use of words generally; defined terms.

WIND ENERGY CONVERSION SYSTEM -A mechanized system which converts wind energy into electrical or mechanical power.

To: Philipstown Planning Board
From: Conservation Board (CB) & Wetland Inspector
Re: Gleick, 200 Long and Winding Rd.
Tax Map # 82.-1-42.1
Date: 4-8-13

Dear ZBA:

The CB and the Wetland Inspector/Natural Resource Officer have read and reviewed the information submitted by Hudson Valley Wind Energy regarding placement of a residential wind turbine on the above mentioned property.

At our March 12 meeting, we met with a representative of the turbine installation company and discussed the proposal. We considered impacts on the viewshed, migratory birds, bats and resident wildlife, local habitats, and the effect of ambient noise produced by the turbine. Overall, we have had our questions answered satisfactorily, and have no objection to the proposed installation of a residential-use wind turbine of this scale and size.

Please feel free to contact us if you need further information.

Eric Lind
Conservation Board Chair

David Klotzle
Wetland Inspector/Natural Resource Officer

Hudson Valley

Energy LLC

70 County Route 7, Pine Plains,
New York 12567
Office 518.398.5060 Cell 518.821.9761
hvwindenergyllc@airprint.net

"Where the Wind Blows Just Right"

January 24, 2013

To Whom It May Concern:

James Gleick 200 Long and Winding Road, Garrison, New York 10524 has entered into contract with Hudson Valley Wind Energy, LLC, of 70 County Route 7, Pine Plains, New York 12567

This letter is to authorize Hudson Valley Wind Energy, LLC to act on my behalf as my contractor and agent in acquiring information, obtaining NY State and Federal funds for renewable energy small wind projects, agreements, permits, and certifications pertaining to the construction & installation of a Grid Tied BWC Excel-S 10kW wind energy conversion system (WECS).

I, James Gleick, authorize Hudson Valley Wind Energy, LLC, as my contractor and agent for construction and installation.

James Gleick
Customer Signature:

Date:

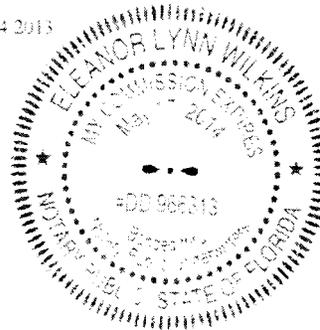
1/25/2013

Contractor Signature

Date: 1/24/2013

Notary:

Eleanor Lynn Wilkins
January 25, 2013





PUTNAM COUNTY RECORDING AND ENDORSEMENT PAGE
(THIS PAGE FORMS PART OF THE INSTRUMENT)

1345 0273

RECORD & RETURN TO:
(Name, Address, & Zip)

TYPE OR PRINT IN BLACK INK ONLY

William R. Clemons Esq
155 Willow Street
Brooklyn N.Y. 11201

GRANTOR/MORTGAGOR
James Geist and Carol Ann Geist
TO
James Cleck and Cynthia Malone
GRANTEE/MORTGAGEE

DO NOT WRITE BELOW THIS LINE

INSTRUMENT TYPE: DEED MORTGAGE SAT ASMT OTHER

RECORDING FEES	# OF PAGES
RCD FEE	12.00
STAT CHG	5.00
REC MGMT	5.00
CROSS REF	
CERT/COPY	
TOTAL	27.00

RESERVE FOR TIME STAMP

JOSEPH L. PELOSO JR.
PUTNAM COUNTY CLERK
96 JUL -9 PM 12:31

DEED TRANSFER TAX

CONSIDERATION \$740,000.
TOWNSHIP Philipstown

RECEIVED	TP-584 (X)
\$ 2,960.00	\$6.00
REAL ESTATE	
TT# 2924	E&A ()
TRANSFER TAX	\$25.00
PUTNAM COUNTY	

PUTNAM COUNTY CLERK'S OFFICE

RECORDED ON July 9, 1996

LIBER 1345 PAGE 273 AND EXAMINED.

Joseph L. Peloso
JOSEPH L. PELOSO, JR.
PUTNAM COUNTY CLERK

MORTGAGE TAX

MORTGAGE AMOUNT _____

TOTAL TAX _____

SERIAL NUMBER _____

AFFIDAVIT FILED ()

MORTGAGE TAX DISTRICTS:

TOWN OF CARMEL
TOWN OF KENT
TOWN OF PATTERSON
TOWN OF PHILIPSTOWN
TOWN OF PUTNAM VALLEY
TOWN OF SOUTHEAST
UNAPPORTIONED

MORTGAGE TYPES:

A COMMERCIAL/VACANT LAND
B 1 - 2 FAMILY
C UNDER \$10,000
D CREDIT UNION/PERSONAL MTG
E 3 - 6 UNITS
N EXEMPT

The foregoing instrument was endorsed for record as follows. The Property affected by this instrument is situated in the County of Putnam, NY. A true copy of the original recorded 7-9-1996 at 12:31 PM.

Dennis J. Sant
DENNIS J. SANT
COUNTY CLERK

1345 0274

THIS INDENTURE, made the 9th day of July, nineteen hundred and ninety-six

BETWEEN JAMES J. GEIST and CAROL BERG GEIST, both residing
at 210 Riverside Drive, New York, New York 10025,

party of the first part, and

JAMES GLEICK and CYNTHIA M. CROSSEN
79 State Street, Brooklyn, New York 11201,

party of the second part.

WITNESSETH, that the party of the first part, in consideration of TEN DOLLARS (\$10.00)

dollars.

lawful money of the United States, and other valuable consideration paid

by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or

successors and assigns of the party of the second part forever.

PARCEL I

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate,

lying and being in the in the Town of Philipstown, County of Putnam
and State of New York that is known and described as Parcel I
on that certain Subdivision Plat prepared for James J.
and Carol Berg Geist..., which was filed in the Putnam
County Clerk's Office on December 9, 1994 as Filed Map #2637.

PARCEL II

ALL that certain plot, piece or parcel of land, with the
buildings and improvements thereon erected, situate, lying
and being in the Town of Philipstown, County of Putnam,
State of New York that is known and described as Parcel 2
on that certain Subdivision Plat prepared for James J. and
Carol Berg Geist..., which was filed in the Putnam County
Clerk's Office on December 9, 1994 as Filed Map #2637.

BEING the same premises as described in a certain deed dated
February 7, 1985 made by JUNE M. PETERSEN to JAMES J. GEIST
and CAROL BERG GEIST and recorded in Liber 840 of deeds at
page 223 in the Putnam County Clerk's Office on the 4th day
of March 1985 and the June 7, 1996 survey by Badey and Watson.

EXCEPTING THEREFROM the premises described in a certain deed
dated November 5, 1987 made by JAMES J. GEIST and
CAROL BERG GEIST to PETER HOFMANN, recorded in Liber 986
of deeds at page 86 in the Putnam County Clerk's Office on
the 2nd day of December, 1987.

TOGETHER with all right, title and interest, if any, of the party of the first part of, in and to any streets and roads abutting the above-described premises to the center lines thereof,

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, the heirs or successors and assigns of the party of the second part forever.

AND the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

AND the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

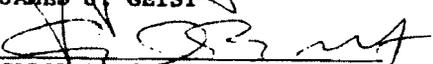
The word "party" shall be construed as if it read "parties" whenever the sense of this indenture so requires.

IN WITNESS WHEREOF, the party of the first part has duly executed this deed the day and year first above written.

IN PRESENCE OF



JAMES J. GEIST

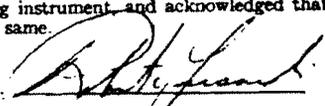


CAROL BERG GEIST

1340 210
STATE OF NEW YORK, COUNTY OF PUTNAM ss: STATE OF NEW YORK, COUNTY OF ss:

On the 9th day of July, 19 96, before me personally came JAMES J. GEIST and CAROL BERG GEIST
On the day of , 19 , before me personally came

to me known to be the individual s described in and who executed the foregoing instrument, and acknowledged that they executed the same.
to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that executed the same.


ROBERT C. LUSARDI
Notary Public, State of New York
No. 4887801
Qualified in Putnam County
Commission Expires July 31, 1997

STATE OF NEW YORK, COUNTY OF ss: STATE OF NEW YORK, COUNTY OF ss:

On the day of , 19 , before me personally came
to me known, who, being by me duly sworn, did depose and say that he resides at No.
On the day of , 19 , before me personally came
the subscribing witness to the foregoing instrument, with whom I am personally acquainted, who, being by me duly sworn, did depose and say that he resides at No.

that he is the of
that he knows

, the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the board of directors of said corporation, and that he signed his name thereto by like order.
to be the individual described in and who executed the foregoing instrument; that he, said subscribing witness, was present and saw execute the same; and that he, said witness, at the same time subscribed his name as witness thereto.

Bargain and Sale Deed

WITH COVENANT AGAINST GRANTOR'S ACTS

TITLE NO. AC 96 00085

JAMES J. GEIST and
CAROL BERG GEIST
TO
JAMES GLEICK and CYNTHIA M. CROSSEN

The land affected by the within instrument lies in:
SECTION 82
BLOCK 1
LOT 42.1 and 42.2
COUNTY OR TOWN PUTNAM/PHILIPSTOWN

RECORDED AT THE REQUEST OF
Lawyers Title Insurance Corporation

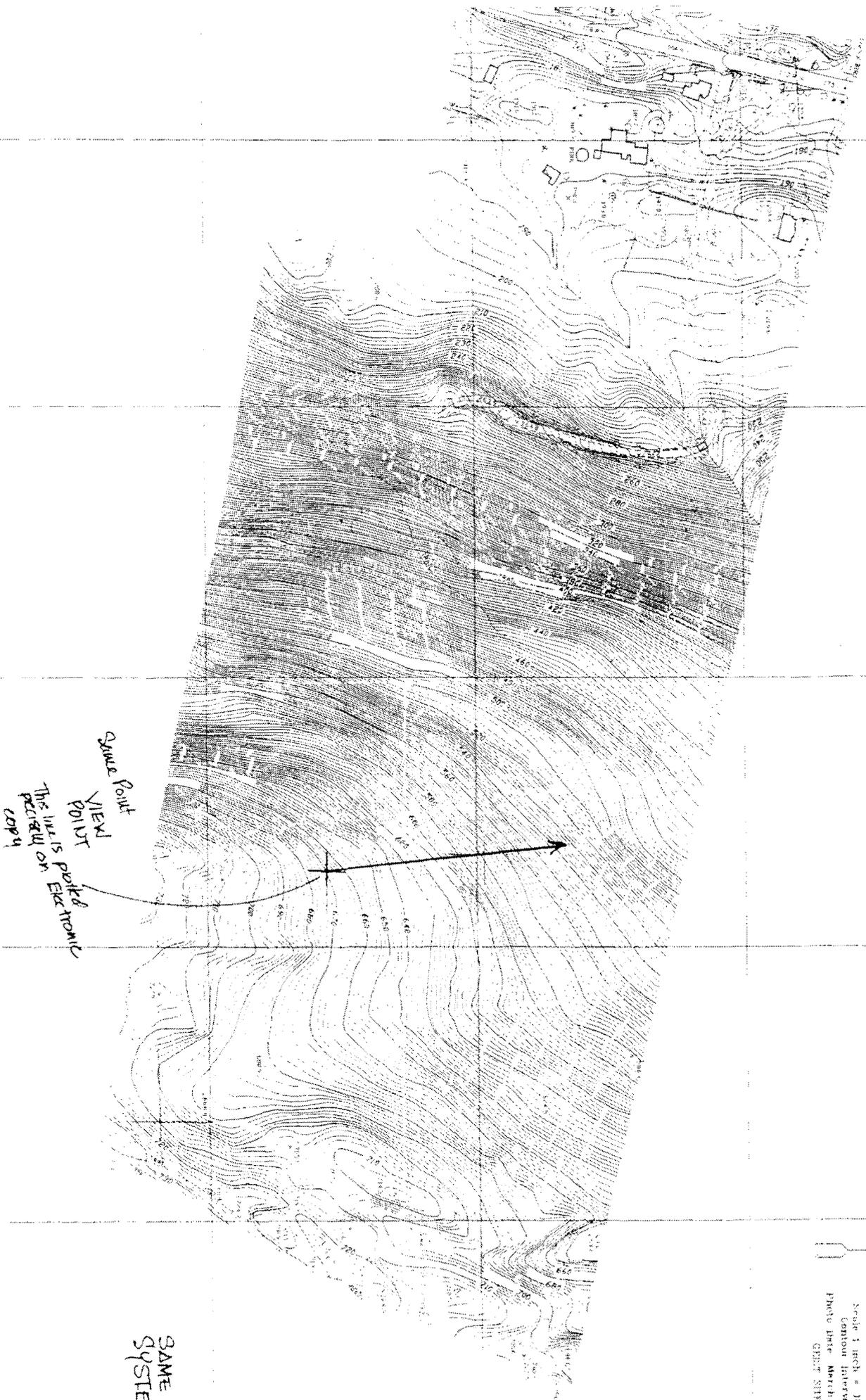
RETURN BY MAIL TO

WILLIAM R. COLEMAN, ESQ.
155 Willow Street
Brooklyn, New York 11201
(718) 875-8555

STANDARD FORM OF
NEW YORK BOARD OF TITLE UNDERWRITERS
Distributed by
Lawyers Title Insurance Corporation

Reserve This Space For Use of Recording Office





SAME POINT
VIEW
POINT
This hill is peak'd
precisely on Electronic
copy

SAME NOC
SYSTEM

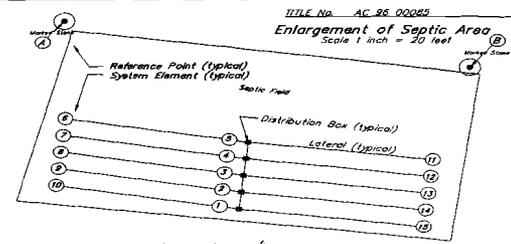
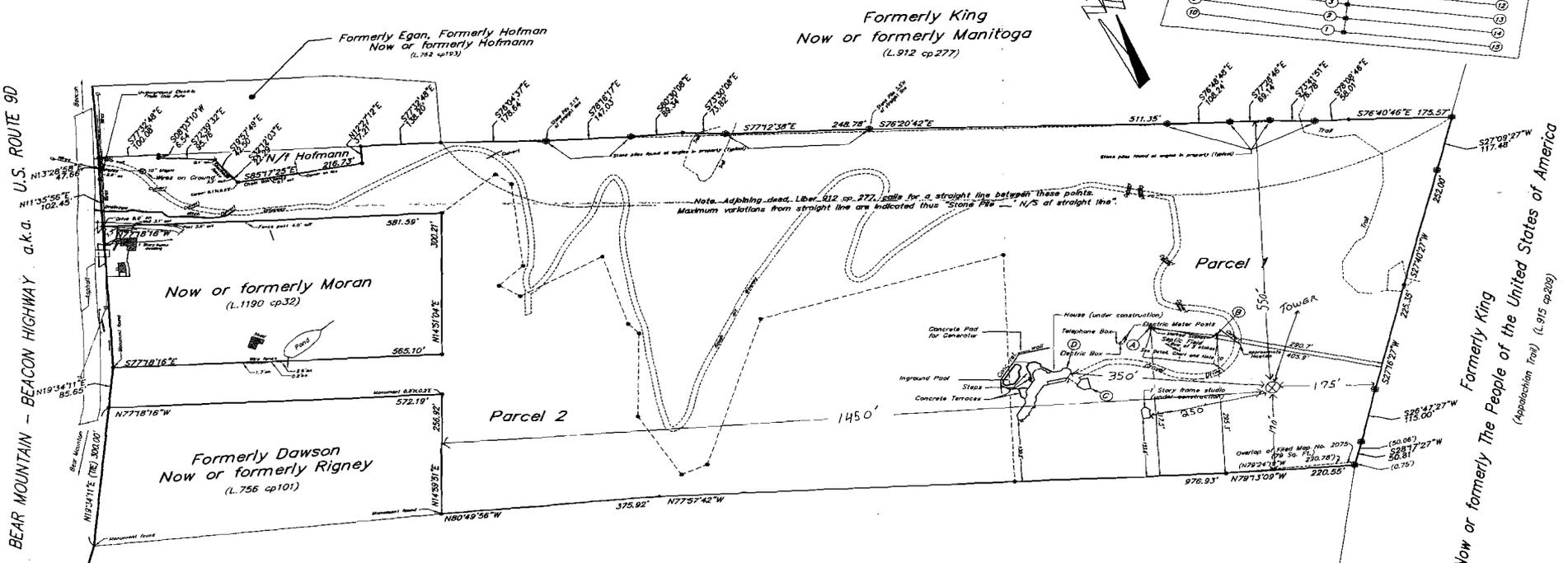


PHOTOGRAPHED BY
Geomaps
INTERNATIONAL
Scale 1 inch = 100 ft
Caption Interval 2'
Photo Date MARCH 23
GRID SITE

Drawing Name: L511251B
 P.L.O. No. 10491
 Checked by: J.C.W.
 Drawn by: J.C.W.
 FILE No. 81-130
 T.M.: 65-01-02.1 (202) 82-00-01-47 (NEW)
 CE-DRAWING: MOKEY 402500 674220

TABLE SHOWING SEPTIC SYSTEM RECOVERY DISTANCES
(SEE NOTE 10)

REFERENCE POINT	SEPTIC SYSTEM ELEMENT														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	83	79	75	71	67	55	42	47	52	59	114	116	118	121	124
B	82	78	74	71	68	114	115	117	120	122	36	42	47	54	60
C	165	168	171	174	176	141	137	133	129	125	220	217	215	212	210
D	198	197	188	200	202	158	154	152	150	148	250	248	247	246	245



Total Area = 31.742 Acres

SURVEY OF PROPERTY
PREPARED FOR
JAMES GLEICK & CYNTHIA CROSSEN

SITUATE IN THE
TOWN OF PHILIPSTOWN
PUTNAM COUNTY
NEW YORK

SCALE 1 in. = 100 ft. JUNE 7, 1996

We hereby certify that the survey shown hereon was completed by us on June 7, 1996 that this map was completed on June 11, 1995 and that this survey has been prepared in accordance with the existing Code of Practice for Land Surveys adopted by The New York State Association of Professional Land Surveyors, Inc. Last revised on May 5, 2000. See Note 11.

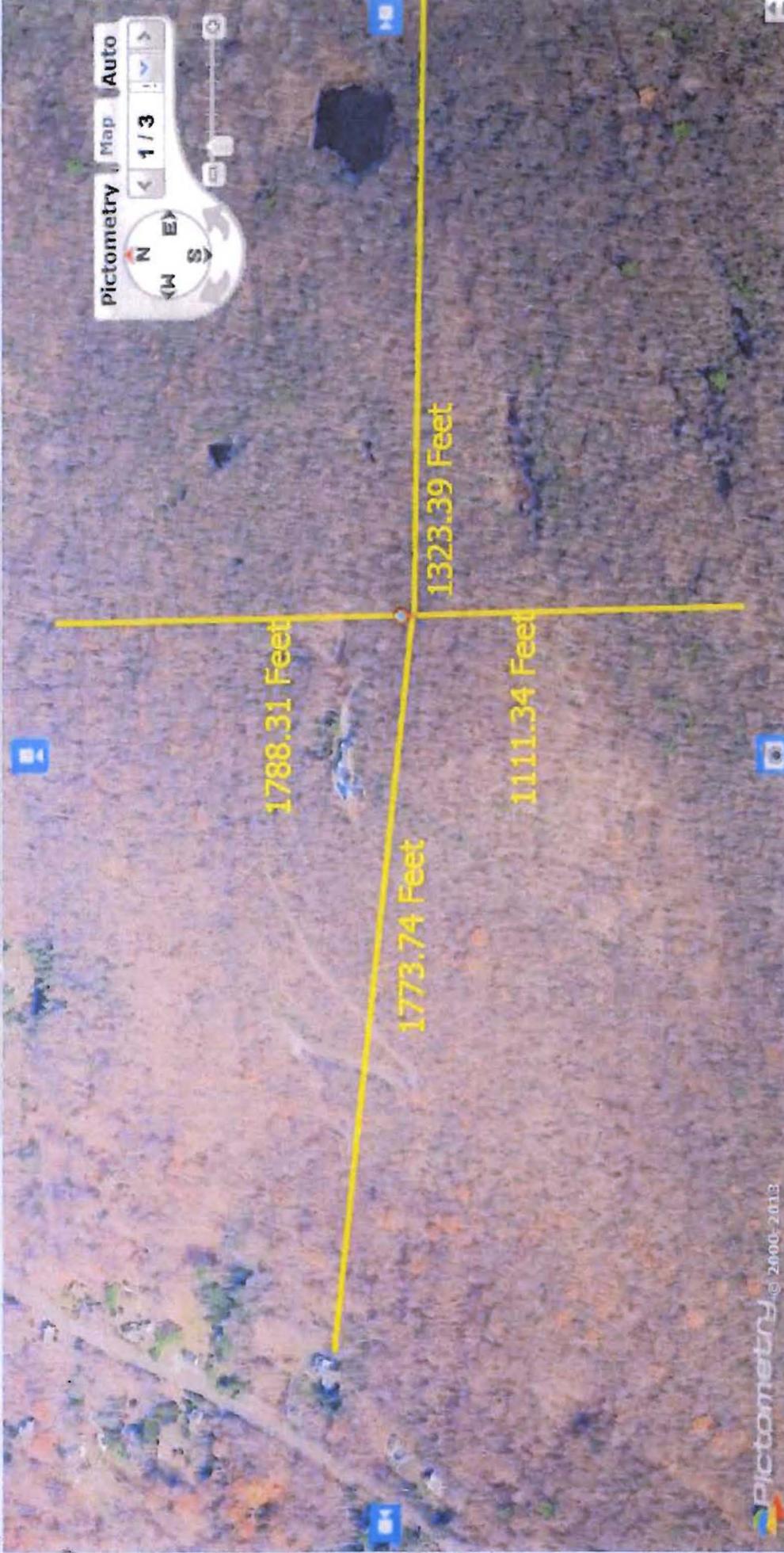


BADEY & WATSON
SURVEYING & ENGINEERING, P.C.
Shah
NEW YORK STATE LICENSED LAND SURVEYOR
LICENSE NO. 48167



FILE No. 81-130

BADEY & WATSON, Surveying & Engineering, P.C.
U.S. Route 9 (814) 265-6231
Gold Spring, New York 10516 828-1800
738-3577
(914) 265-4426 (Fax)



Sec 2



HUDSON VALLEY WIND ENERGY LLC

Douglas Passeri ~ 581.821.9761

Small Wind / Bergey WindPower Excel-S GL
10kW Wind Energy Conversion System (WECS)
140' Guy Lattice Tower

MEASUREMENTS FOR

Mr. & Mrs. James Gleick
200 Long and Winding Road
Garrison, New York 10516

Lat: 41.34360 Long: -73.94788 Elevation: 720.80'

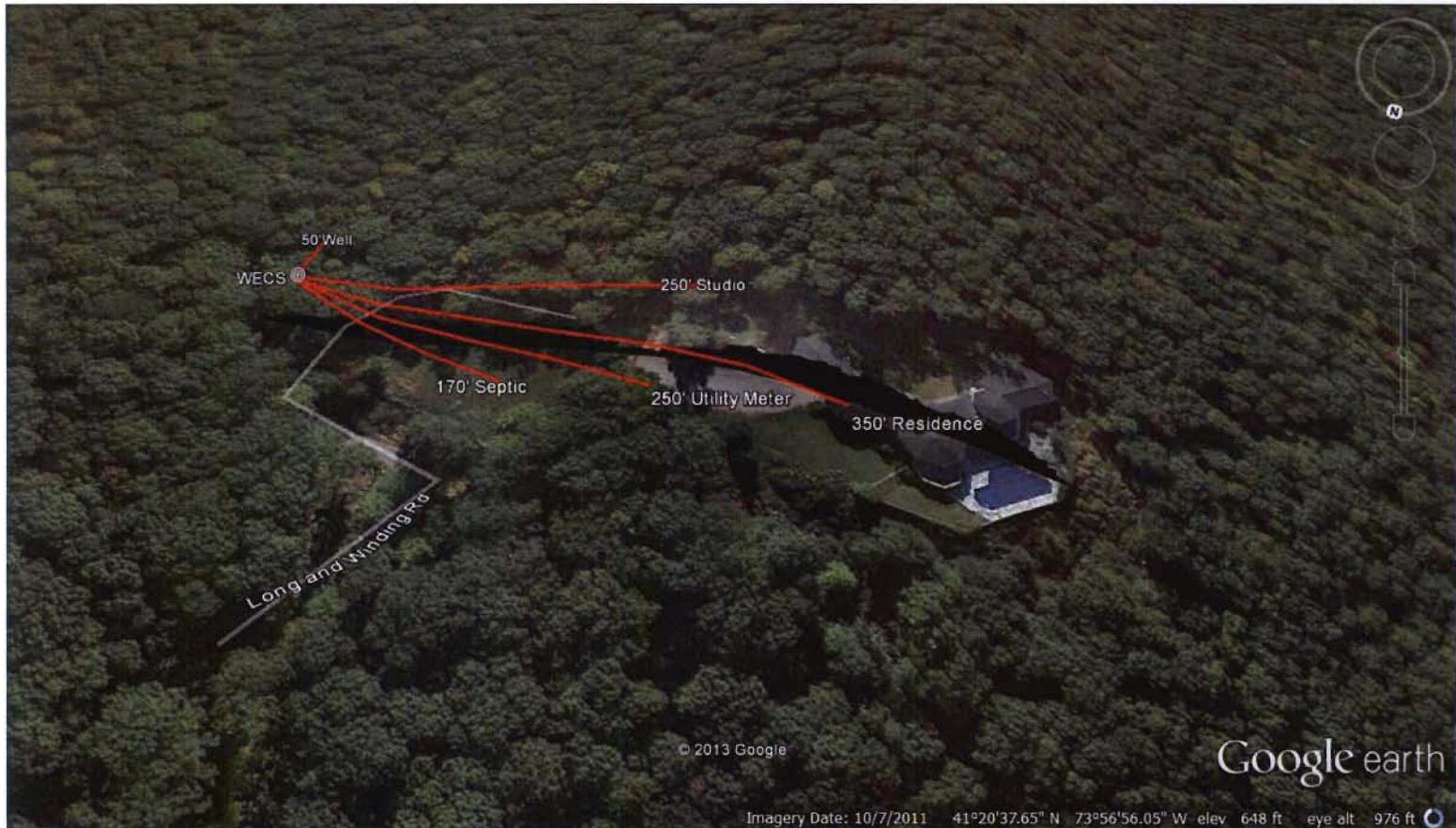
Property Lines

Base of tower to **North** Property Line 550'
Base of tower to **East** Property Line 175'
Base of tower to **South** Property Line 170'
Base of tower to **West** Property Line 1450'

Base Pad Measurements

Base of tower **NW** to Utility 250'
Base of tower **NW** to Gleick Residence 350'
Base of tower **NW** to Studio 250'
Base of tower **NW** to Inverter/Panel Located in Shed by Utility 250'
Base of tower **NW** to Septic 170'
Base of tower **NE** to Well 50'
Base of Tower to **West** Town Road 1,700'

The proposed installation is distanced as required and does not affect agricultural districts, scenic protected areas, ridgelines, open spaces or watersheds.



50' Well
WECS

250' Studio

170' Septic

250' Utility Meter

350' Residence

Long and Winding Rd

© 2013 Google

Google earth

Imagery Date: 10/7/2011 41°20'37.65" N 73°56'56.05" W elev 648 ft eye alt 976 ft

Putnam County, NY Tax Map

39 2.36 AC.

AC.

4
AC. CAL.

45
10.29 AC.

42.2
10.21 AC.

42.1
21.53 AC.

Parcels



Road Names

Road Lines



Railroads



Schools



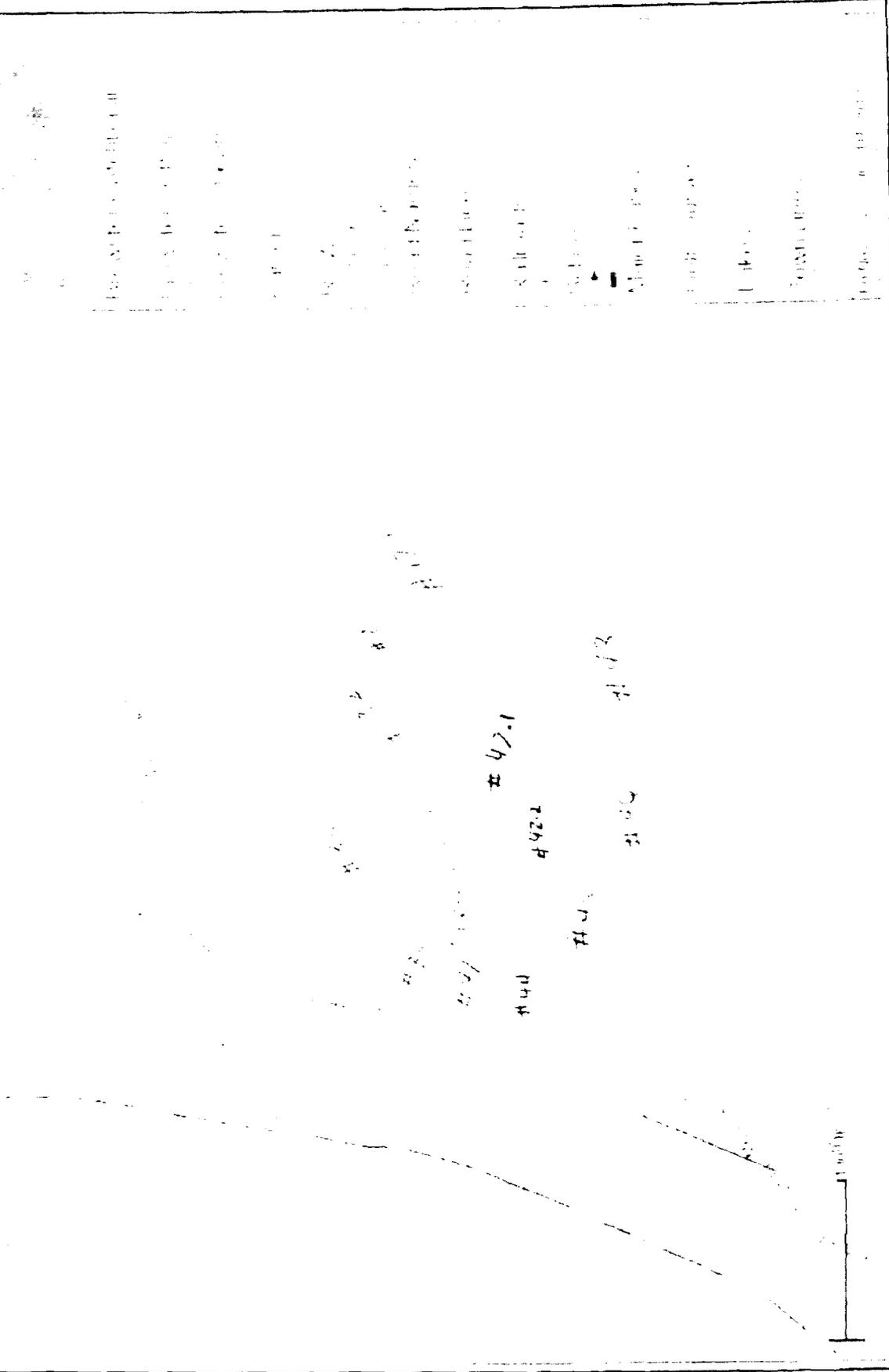
Town Lines

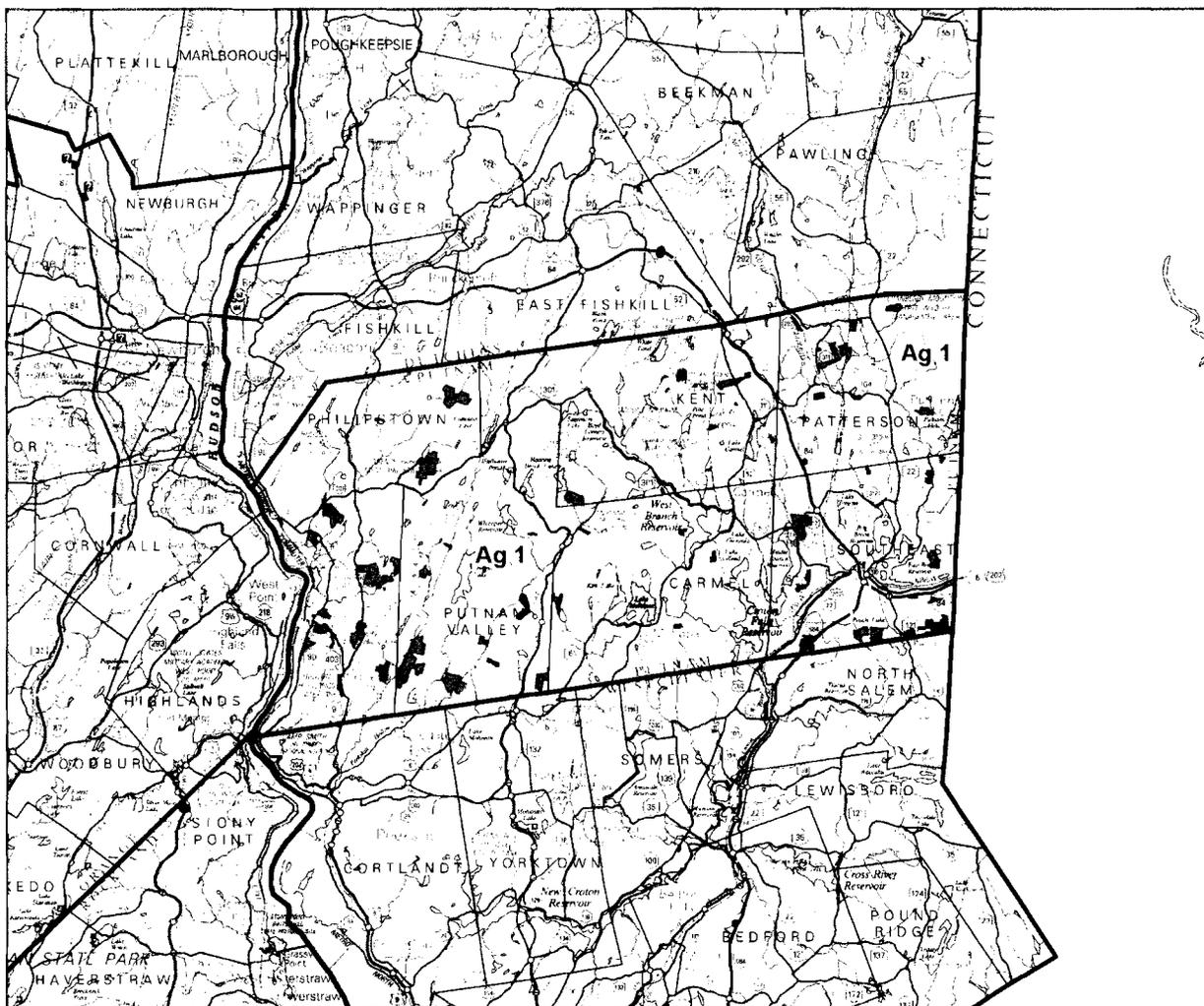


200 ft

Thu Sep 27 11:13:32 EDT 2012

Putnam County, NY Tax Map





MAP PROJECTION
UTM Zone 18, NAD83 meters



KEY

Ag. District 1

DISTRICT CERTIFICATION and TOWNS

DISTRICT 1 CERTIFIED 8/20/2003

Carmel	Philipstown
Kent	Putnam Valley
Patterson	Southeast

MAP SOURCE INFORMATION

Map created at Cornell IRIS (Institute for Resource Information Sciences) <<http://iris.css.cornell.edu>> for the NYS Department of Agriculture and Markets
Agricultural Districts boundary data is available at CUGIR (Cornell University Geospatial Information Repository) website:
<<http://cugir.mannlib.cornell.edu>>

Base Map: state250_bw.tif 1998
Scale: 1:250,000; County boundaries imported from the file nysshore.e00 from the NYSGIS Clearinghouse website:
<<http://www.nysgis.state.ny.us>>

**Contains data copyrighted by the
NYS Office of Cyber Security**

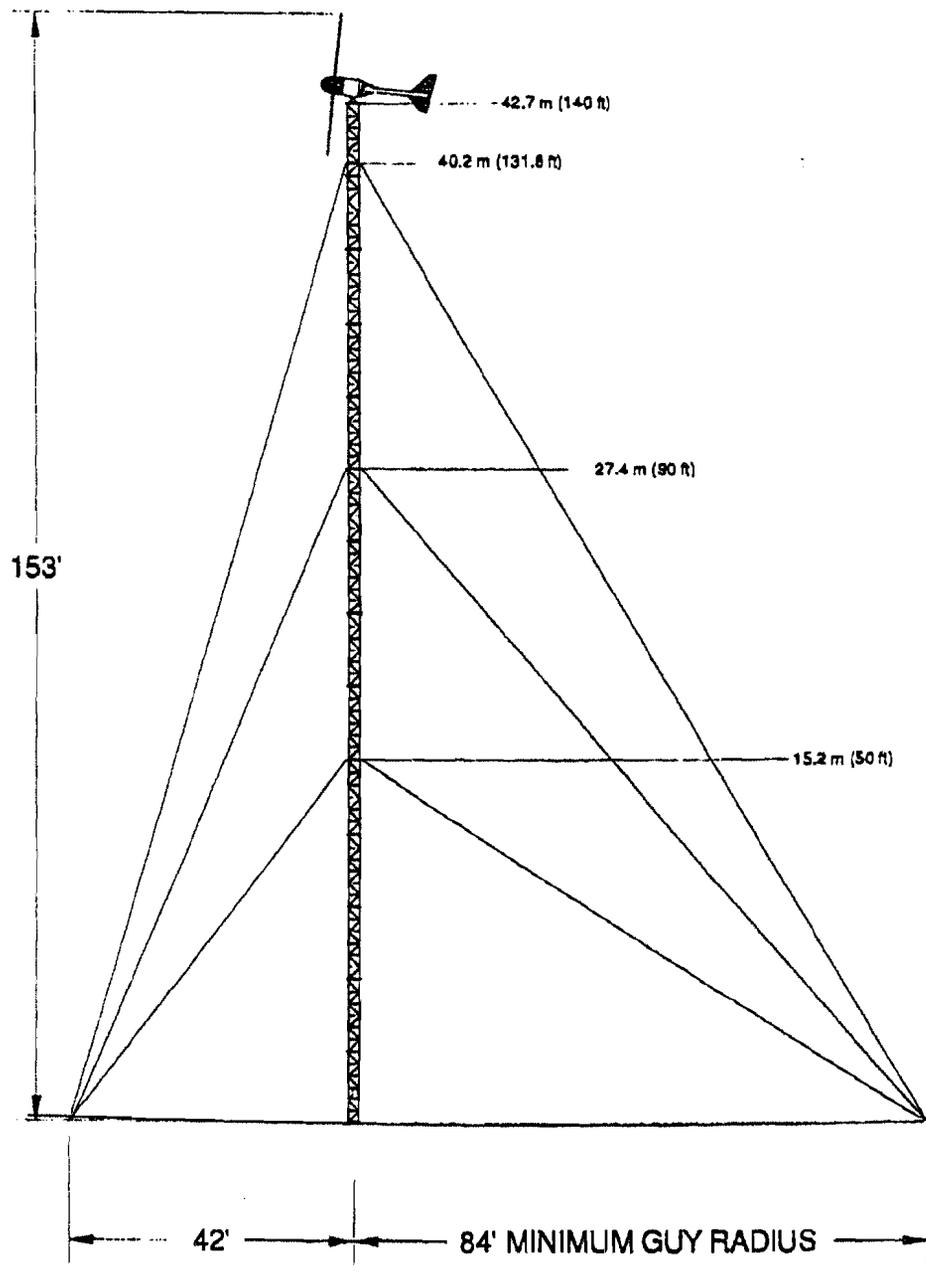
DISCLAIMER

This is a general reference to Agricultural District boundaries; not a legal substitute for actual tax parcel information.

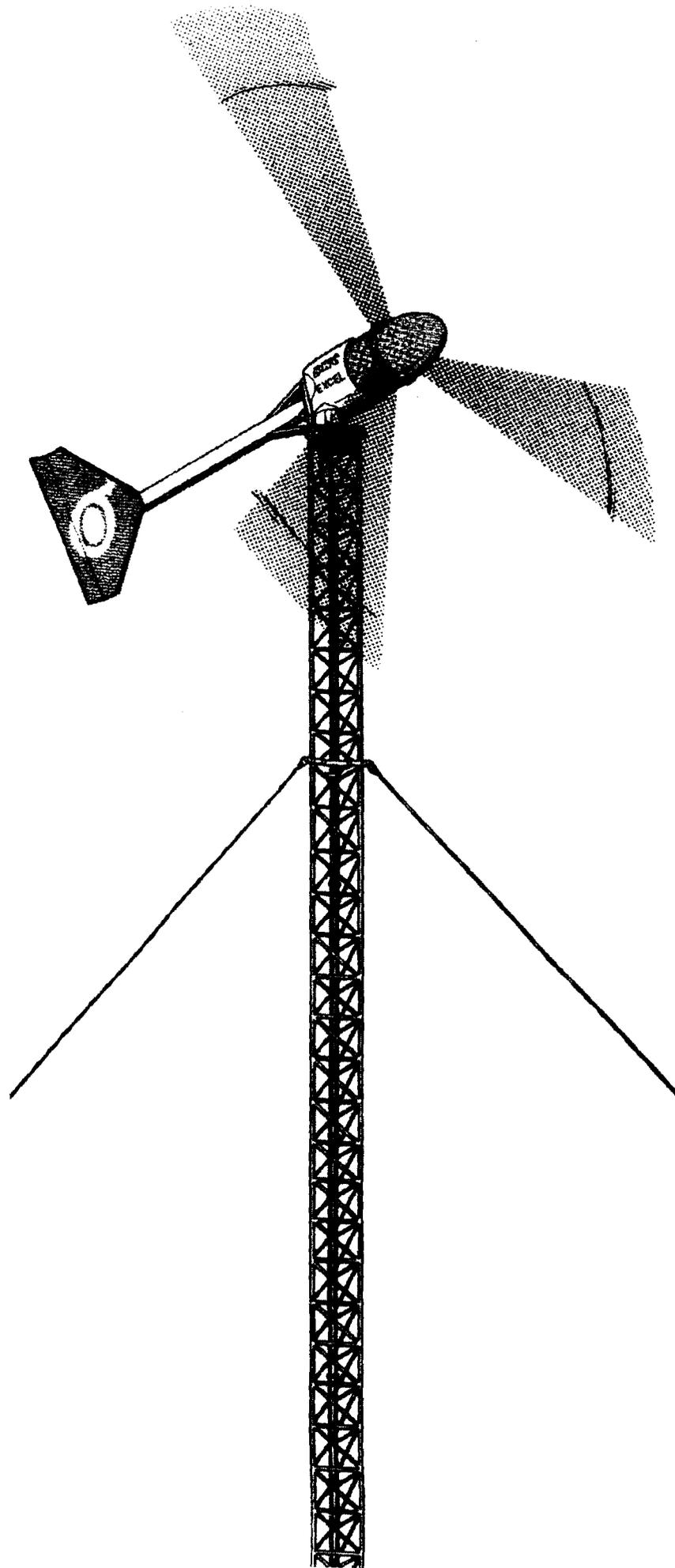
Boundaries as certified prior to January 2010

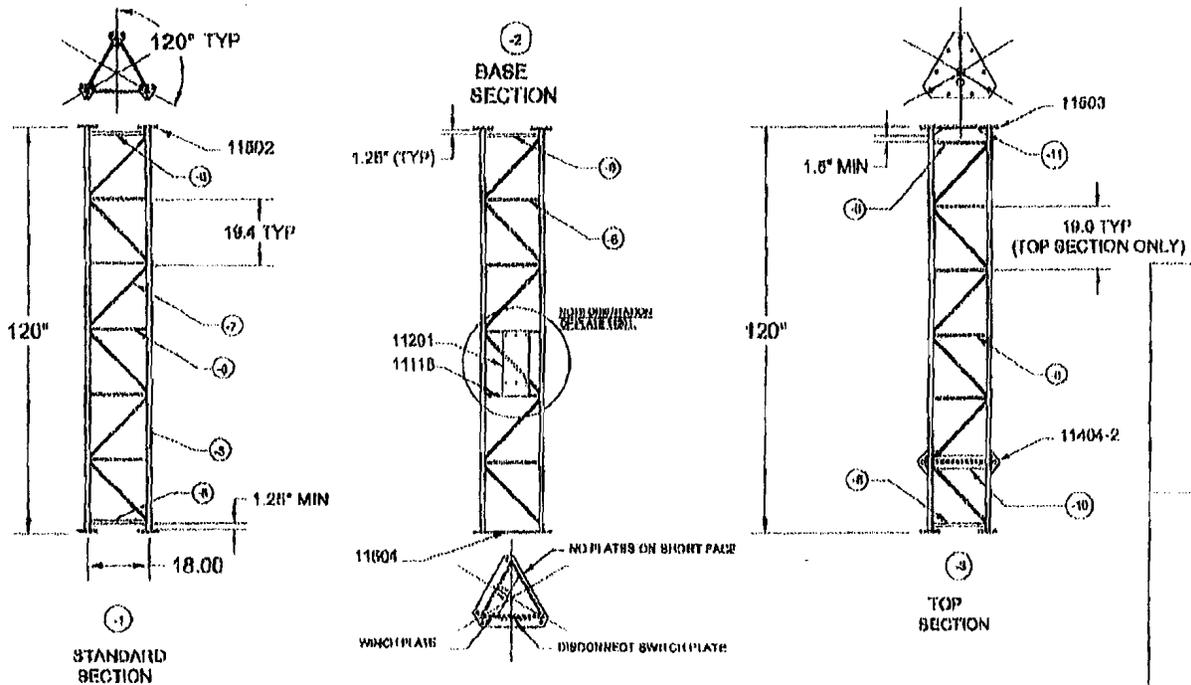
Open Enrollment Annual Additions are not included in this data. Check with county agencies to confirm the status of individual parcels.

Sec
3



43 m (140 ft) Tower





NOTES:
 1. MATERIAL - STEEL, A662-48K OR A6 NOTED.

NO. REV.	DATE	BY	CHKD.	DESCRIPTION		
1	1	12	40	30	121.8	140
1	1	10	30	70	111.8	120
1	1	8	40	91.8	100	
1	1	8	40	71.8	90	
1	1	4	30	51.8	80	
1	2	1	PHOT	SECOND	110/119	

NO.	FROM	TO	DESCRIPTION	REVISION	
1	1	1	11604	BASE PLATE	0.75" ASB
1	1	1	11603	TOP PLATE	0.75" ASB
3	1	4	11602	TRANSOM FLANGE	0.75" ASB 0.80
3	1	1	11604-2	GRV LUG	0.75" ASB
1	1	1	11201	SWITCH DOWN PIVOT	1.28" ASB
1	1	1	11110	WIND BRACKET	0.25" ASB
3	1	1	111	TOP BRACKET	0.4375" ASB
3	1	1	110	GRV BRACE	0.25" ASB
3	3	4	9	GRV (20)	3/4" DIA
10	10	10	7	BRACKET	3/4" DIA
10	10	10	6	GRV (18)	3/4" DIA
9	9	9	8	GRV (18)	3/4" DIA
9	9	9	8	GRV (18)	3/4" DIA
9	9	9	8	GRV (18)	3/4" DIA
9	9	9	8	GRV (18)	3/4" DIA
9	9	9	8	GRV (18)	3/4" DIA

TOLERANCES UNLESS OTHERWISE SPECIFIED

.X = ± .000
 .XX = ± .030
 .XXX = ± .010

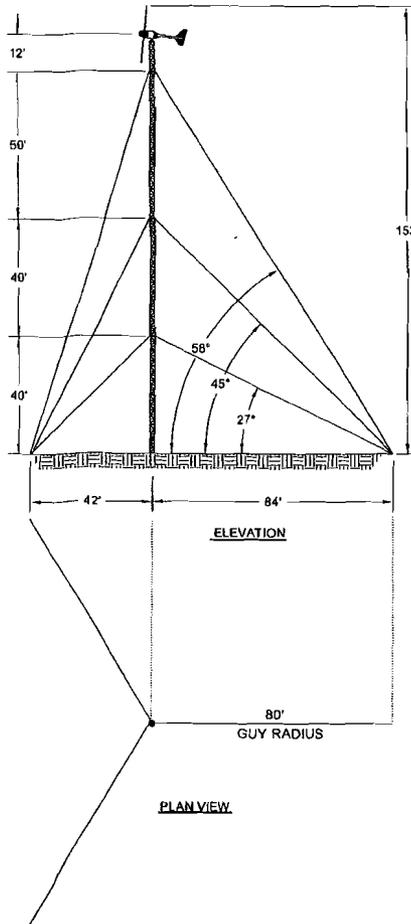
BERGEY WINDPOWER

DESIGNER: K. G. C. (88-10-1801)
 CHECKED: NONE
 APPROVED: NONE
 DATE: NONE

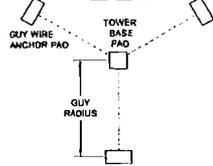
TITLE: **GL-18 TOWER SECTIONS**

NO. REV. 11500 I

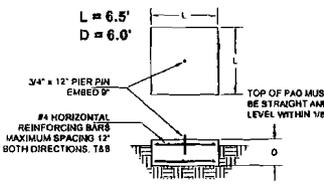
PAGE 1



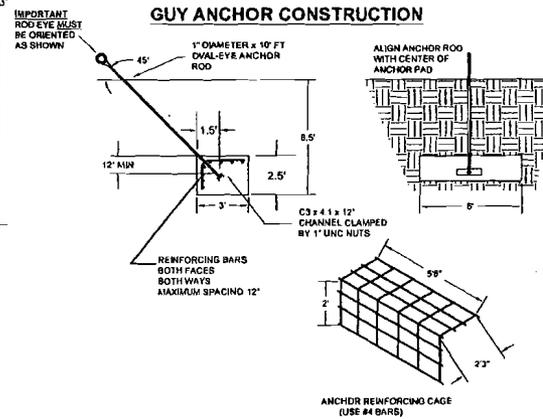
FOUNDATION LAYOUT



TOWER BASE PAD CONSTRUCTION



GUY ANCHOR CONSTRUCTION



Foundation Notes:

1. Concrete: 2500 psi minimum ultimate strength
2. ASTM A-615 Grade 40 deformed reinforcing bars, 1/2" minimum diameter, two faces, both ways, 12" O.C. maximum spacing
3. Minimum concrete cover on all reinforcing bar is 2" top, 3" all other locations
4. Compact fill in 8" lifts to minimum 100 psf
5. Water table below all concrete at all times
6. Soil bearing strength 1500 psf minimum.
7. No inspection of concrete / rebar placement required per CBC 1701.5.1 and 1701.5.4.

Design Criteria

1. CBC-2007 compliant
2. Design Basic Wind Speed: 85 mph
Design Exposure Class: C
3. Rotor Thrust: 2400 lb max
4. Turbine Weight: 1200 lb
5. Maximum Torque: 250 ft-lb @ 300 rpm
6. Furling Moment: 875 ft-lb
7. No Ice Accumulation

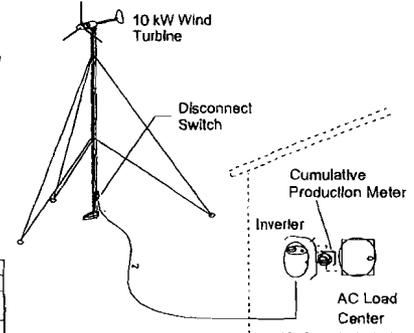
Notes and Requirements

1. An approved Accessory Wind Energy Review along with any conditions from the Planning Division is required to be submitted at the time of permit application.
2. A plot plan is required. Submit individual plot plans for approval at the time of permit application. Tower height and system height setbacks from the property lines shall be clearly identified on the plot plan submitted for review. In no case shall the property line setbacks be less than equal to the system height which includes the turbine and height of the blade in the 12:00 position.
3. The following height limitations shall apply to all accessory wind energy towers, provided that the application for such a system includes evidence that the proposed height does not exceed the height recommended by the manufacturer or distributor of the system:

Land Use District	Valley Area	Mountain Area	Desert Area
RS and RM	52.5'	52.5'	52.5' -one system allowed
RL (on parcels less than 2.5 acres)	65'	65'	80' -one system allowed
RL (on parcels 2.5 acres to less than 5 acres)	65'	65'	100' -one system allowed
RL-5 or greater, AG, RC	80'	80'	120' -one system allowed

Additional unit may be allowed at rate of one unit for every 10 acres to a max of three units. Units shall be separated by a minimum of 240'.

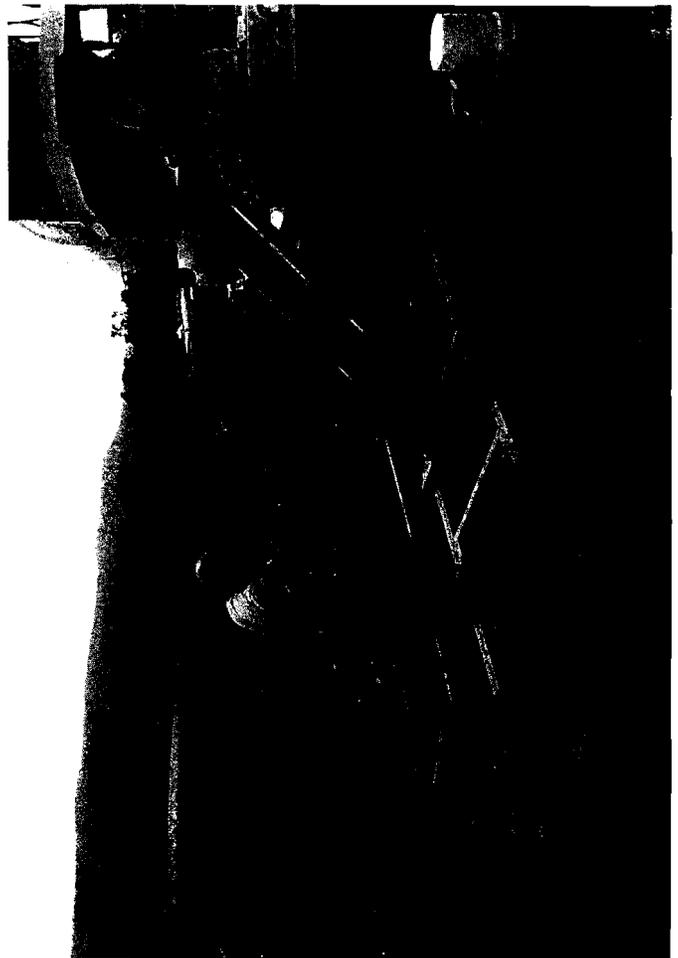
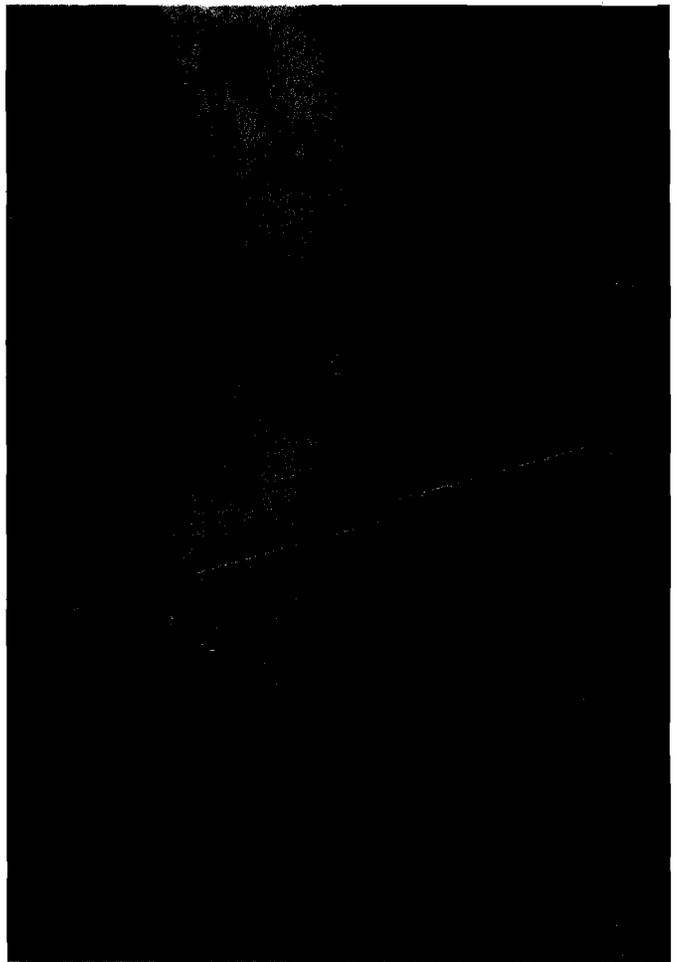
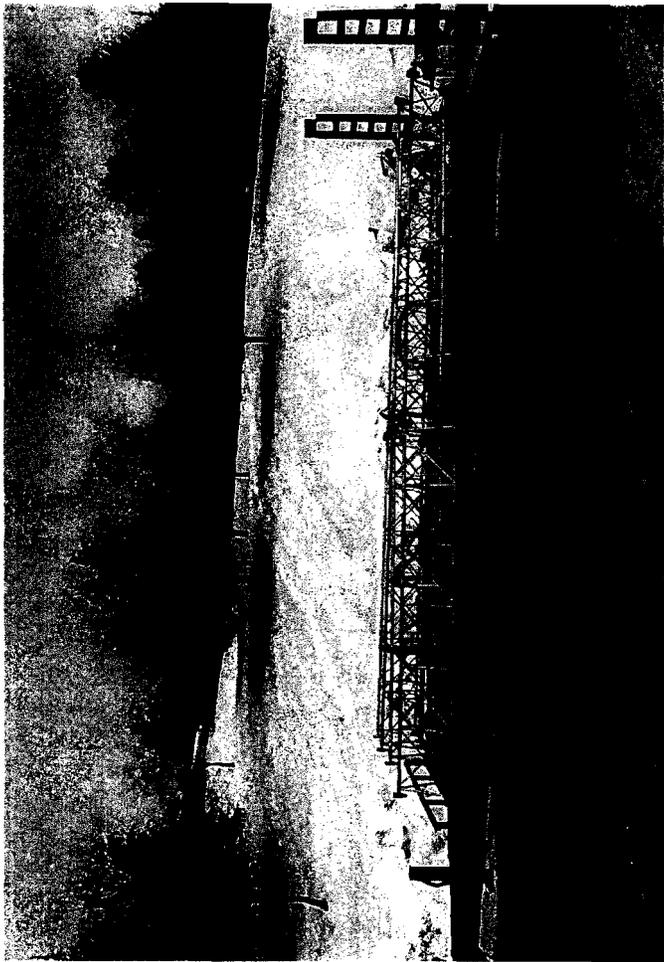
4. Any climbing apparatus must be located at least 12' above the ground, and the tower must be designed to prevent climbing in the first 12 feet.
5. No protected trees or plants shall be removed. No drainage course shall be obstructed. No land clearing will be conducted as part of this plan.
6. A grading plan, if required, shall be approved separately.
7. All footings are to be in undisturbed soil.
8. This stock plan is not approved to use soil bearing pressure exceeding 1,000 psf. Soil bearing capacity shall be not less than 1,000 psf.
9. Water table to be below concrete at all times.
10. Special foundation design or detailing may be necessary due to various analysis performed on certain tracts. It will be the applicant's responsibility to research and ascertain that no special foundation, soil or site conditions exist as stipulated for various tracts throughout the county.
11. Plan not approved for construction in any expensive or critical soil area.
12. Plan not approved for construction in areas required to have seismic studies.
13. Plan not approved if listing or approvals of any proposed material, appliance devices are void, cancelled, or delisted.
14. San Bernardino approved Fabricator #205.
15. Concrete: 2,500 PSI MINIMUM ultimate strength.
16. ASTM-A615 Grade #40 deformed reinforcing bars 1/2" minimum diameter (#4). Minimum concrete coverage 3" bottom, 2" top.
17. A-325 Tower Bolts require a Special Inspector. The special inspector application must be submitted prior to permit issuance. The Special Inspector must be approved by San Bernardino County prior to work being done. Submit Special Inspector's report for review prior to final.
18. The installation and owner's manual shall be on file with the Building & Safety office and a copy shall be available to the Inspector on the jobsite.



Material Specifications

1. Tower Legs: ASTM A529 Grade 50
Minimum yield stress 50,000 psi
2. Tower Flanges: ASTM A572 Grade 50
Minimum yield stress 50,000 psi
3. Tower Braces: ASTM A529 Grade 50
Minimum yield stress 50,000 psi
4. Tower Bolts: ASTM A325 construction grade
Minimum tensile stress 120,000 psi
Minimum yield stress 92,000 psi
5. Anchor Rods: A. B. Chance 1" Oval-eye
Minimum tensile strength 36,000 lb

BERGE WINDPOWER	
DRAWN A. F. W. 09-29-2010	TITLE SUMMARY SHEET
CHECKED	10 kW ON GL18-140 TOWER
APPROVED	DWG NO.
SCALE NONE	1400-XL-GL18-140

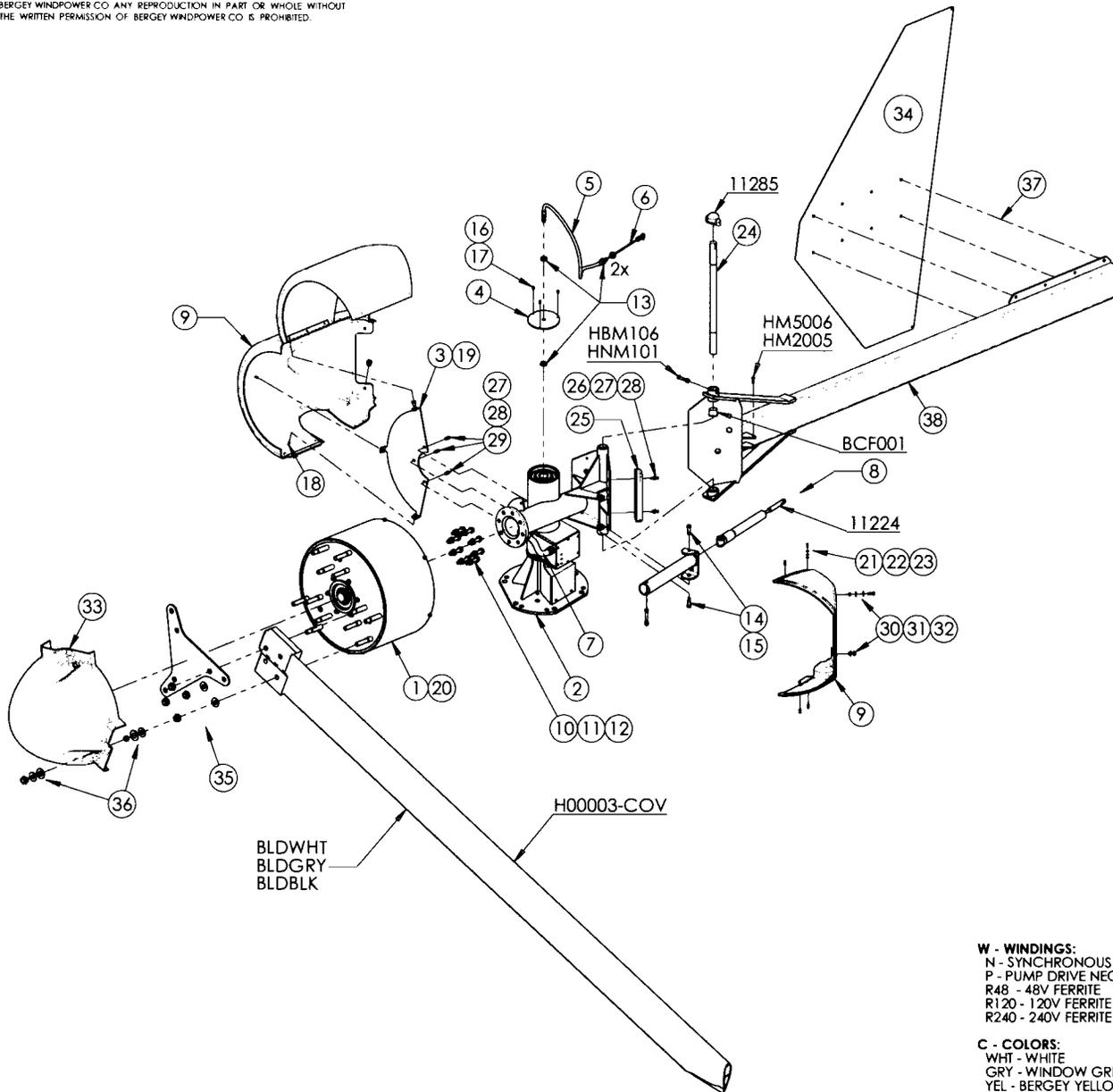


8 7 6 5 4 3 2 1

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF BERGEY WINDPOWER CO. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF BERGEY WINDPOWER CO. IS PROHIBITED.

REV DESCRIPTION DATE APPROVED

REVISIONS



ITEM	QTY	PART NO	DESCRIPTION	FLUID APP
38	1	11036	TAIL BOOM ASSEMBLY	N/A
37	1	HK0002	TAIL ASSEMBLY HARDWARE KIT	VARIES
36	1	HK0003-S	SPINNER HARDWARE KIT	NONE
35	1	HK0003-B	BLADE HARDWARE KIT	NONE
34	1	11020-C	TAIL FIN	N/A
33	1	11275-C	SPINNER, XL STUD MTG	N/A
32	4	HN5004	NUT, 5/16-24 HEX NYLOCK SS	ANTI-SIEZE
31	8	HW5002	WASHER, FLAT 5/16" ID x 7/8" OD	N/A
30	4	HB5006	BOLT, 5/16-24 x 1" HH SS	ANTI-SIEZE
29	3	HB4010	BOLT, 1/4-20 x 1" HHCS SS	ANTI-SIEZE
28	10	HW4004	WASHER, 1/4" ID x 1/2" OD FLAT SS	N/A
27	7	HN4004	NUT, 1/4-20 NYLOCK SS	VARIES
26	4	HB4023	SCREW 1/4-20 COATED ALLOY SHCS	NONE
25	2	11009	BUMPER, TAIL	N/A
24	1	11276	TAIL PIVOT PIN - EXCEL X-BOLT	NONE
23	8	HW2001	WASHER, #8 FLAT SS	N/A
22	4	HN2002	NUT, #8-32 NYLOCK SS	NONE
21	4	HS2002	SCREW, #8-32 x 3/4" PHP MS SS	NONE
20	3	ALR107	ALT LEAD RING LUG UNINS 6AWG #10	N/A
19	3	HNM0604	WELL NUT RUBBER, M6-1	NONE
18	3	HBM0601	SCREW, M6-1x25 HHCS SS	NONE
17	3	HW3001	WASHER, #10 SAE FLAT SS	BLUE LOCTITE
16	3	HS3002	SCREW #10-32 x 1/2" CAP SH SS	BLUE LOCTITE
15	2	HN6002	NUT, 3/8-16 JAM NYLOCK SS 18-8	ANTI-SIEZE
14	2	HB8001	BOLT, SHOULDER, 1/2x1" SH, SS	ANTI-SIEZE
13	4	HN9004	NUT, 9/16"-12 JAM PATTERN ZPS	BLUE LOCTITE
12	16	HWM141	WASHER, M14 FLAT, SS	N/A
11	8	HNM141	NUT, M14-2.0 NYLOCK SS	BLUE LOCTITE
10	8	HBM141PLT	BOLT, M14-2 x 70mm HH G8.8 ZP	BLUE LOCTITE
9	1	11227-C	POWERHEAD NACELLE ASSY	N/A
8	1	11225	DAMPER ASSEMBLY	N/A
7	1	11140	ALTERNATOR LEAD CONDUIT ASSY	N/A
6	1	11110	FURLING CABLE ASSEMBLY -XL	DRY LUBE
5	1	11109	CONDUIT, FURLING CABLE	N/A
4	1	11084GALV	VERTICAL TUBE CAP GALV	N/A
3	1	11105GALV	BRACKET, NACELLE GALV	N/A
2	1	11001	MAINFRAME ASSEMBLY	N/A
1	1	11002-W-C	ALTERNATOR ASSEMBLY	N/A

W - WINDINGS:
 N - SYNCHRONOUS NEO
 P - PUMP DRIVE NEO
 R48 - 48V FERRITE
 R120 - 120V FERRITE
 R240 - 240V FERRITE

C - COLORS:
 WHT - WHITE
 GRY - WINDOW GREY
 YEL - BERGEY YELLOW
 CUS - CUSTOM

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:

DECIMALS	ANGLES
.X = ± .060	.X = ± 1.00°
.XX = ± .030	.XX = ± 0.50°
.XXX = ± .010	.XXX = ± 0.25°

CAD GENERATED DRAWING.
 DO NOT MANUALLY UPDATE.

APPROVALS DATE

DRAWN PGV 7/26/12

CHECKED TEH 7/26/12

MATERIAL --- RESP ENG ---

FRESH --- MFG ENG ---

DO NOT SCALE DRAWING QUAL ENG ---

BERGEY WINDPOWER CO

**EXPLODED
 EXCEL 7.5/10kW
 WIND TURBINE**

SIZE DWG. NO. **11017EXP** REV **0**

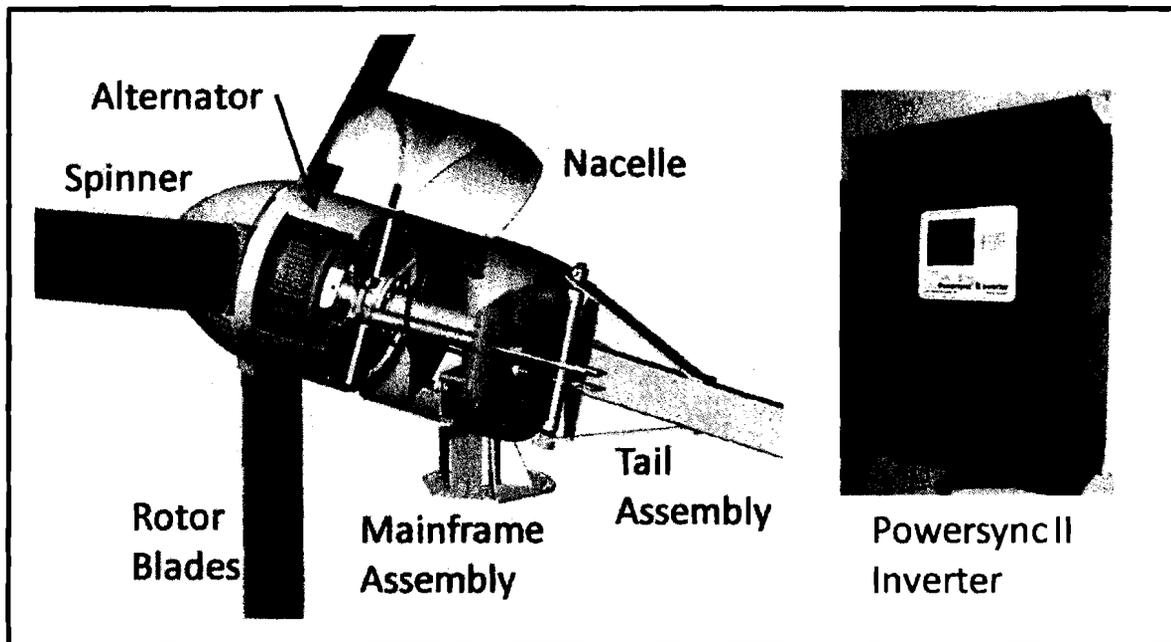
SCALE CAD FILE

SHEET 1 OF 1

SYSTEM DESCRIPTION

The Bergey EXCEL 10 is an upwind horizontal-axis wind turbine designed for distributed generation applications, connected to the power grid on the customer's side of the utility meter. The complete unit consists of the following major components, as shown in the figure below:

1. Spinner
2. PowerFlex® Blades
3. Alternator
4. Mainframe
5. Yaw Bearing
6. Slip-ring and Brushes
7. Tail Assembly
8. Nacelle Assembly
9. Furling Winch
10. Powersync II Inverter



10 Year Limited Warranty

BWC Excel Wind Turbine

Bergey Windpower Company

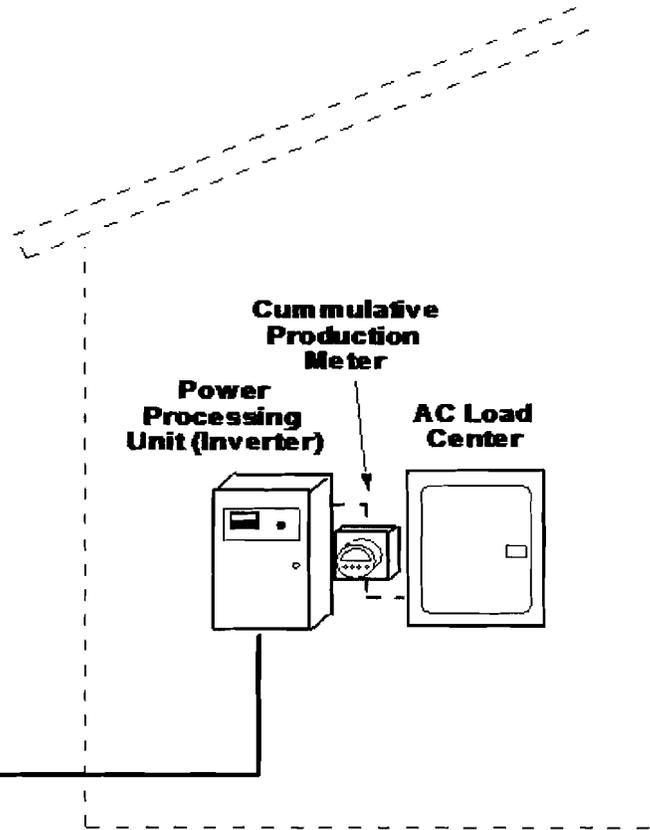
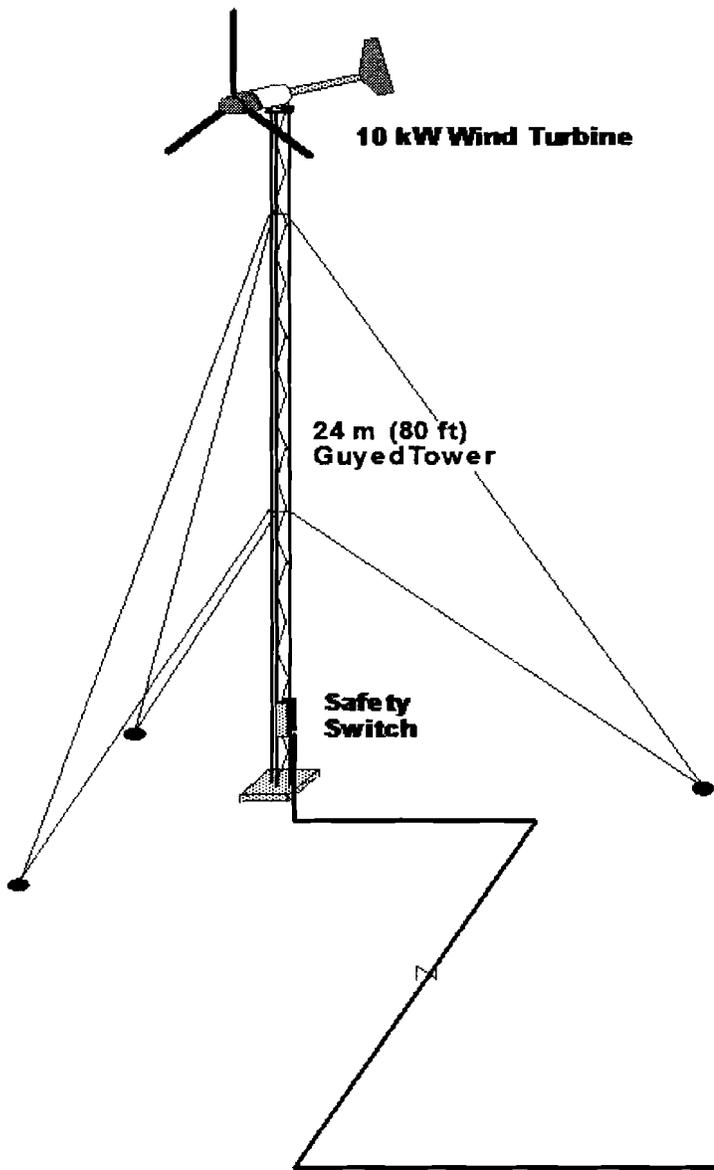
Wind turbines, their associated electronics and towers supplied by Bergey Windpower Company (BWC) are warranted against defects in design, material and workmanship under normal use for which intended. BWC Excel wind turbines and blades carry a ten (10) year warranty after date of installation. Electronic components and towers supplied by BWC carry a five (5) year warranty after date of installation. During the warranty period BWC will repair or replace, at its discretion, defective components or assemblies. BWC will also pay one-way shipping charges. For customers not in the USA, shipping and insurance charges will be pre-paid to the port of entry into the customer's country. This limited warranty is transferable and covers only products shipped after January 1, 2009.

Warranty coverage is extended only to customers who have submitted a properly completed BWC Warranty Registration Form and acceptable proof of correct system installation as requested in the BWC Registration Form. Customer must also perform and document recommended inspections and any maintenance tasks that may be identified during inspections.

This limited warranty does not cover:

1. Towers and equipment, materials or supplies not manufactured or supplied by BWC;
2. BWC equipment that has been modified without prior factory approval;
3. Repairs performed by personnel not authorized by BWC;
4. Damage resulting from use of equipment not supplied by BWC;
5. Damage or loss of function sustained during periods when wind speed exceeds 60 m/s (135 mph);
6. Acts of God;
7. Incidental or consequential damages.

This limited warranty is in lieu of all other BWC guarantees or warranties expressed or implied. No employee, agent, dealer, or other person is authorized to offer warranties on behalf of BWC. BWC reserves the right to make design changes, improvements and additions to its products without obligation to install such in products previously manufactured.



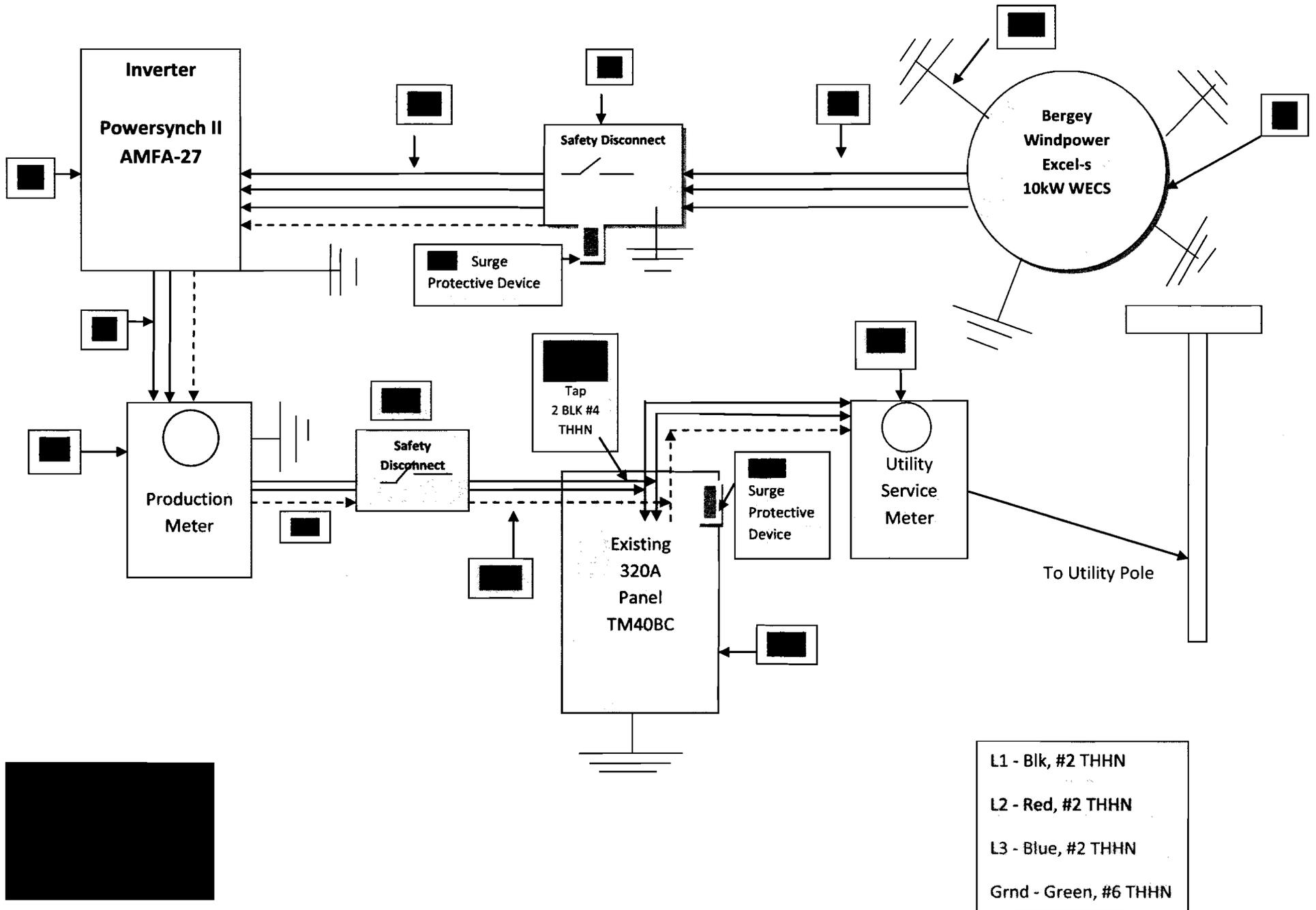
Hudson Valley Wind Energy, LLC #3183

Mr. James Gleick

200 Long and Winding Rd, Garrison, NY 10524

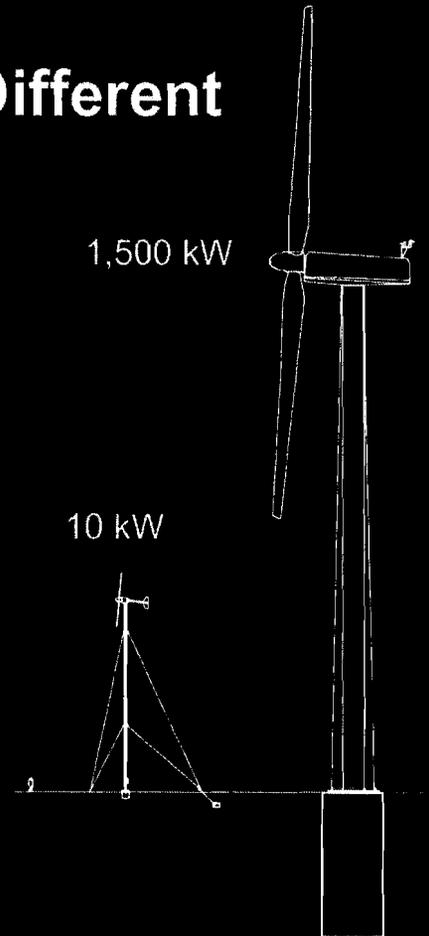
Small Wind - 10kw 3 line wiring diagram page 2, foot notes

1. *Bergey Windpower 10kw Excel-S Turbine* installed on a 140' guyed lattice tower. All wire will be copper.
2. (4) 5/8 grounding rods (one per tower leg or guyed cable & one for tower) #8 insulated grounding wire to tower base
3. (3) #4 THHN MC armored jacketed cable, for tower wiring to tower mounted disconnect.
4. Wind Turbine Safety Disconnect, NEMA 3R 3 pole-600 volt 60A fused disconnect switch, Square D #H362-RB/Equiv, Fuses 45A-FRS-R-45. Labeled - "**Warning High Voltage Revolving Machinery**" approximately 5ft above grade.
- 4a. Surge Protective Device UL 1449 Voltage protective rating.
5. 2" RIDGID schedule 40 PVC conduit with (3) #2 THHN with a #8 insulated ground wire total distance to customer panel is 311' plus 140' tower height with a 1% voltage drop per conductor and a 11% fill percentage.
6. Tier Electronics Inverter, Powersynch II model #AMFA-27 mounted in shed by Production meter
7. (2) #2 THHN MC armored jacketed cable (1) #8 THHN insulated ground wire to cumulative production meter.
8. Type AB1, form 2S, 200 CL, 240 V, 3W, 60 Hz. Production meter
9. (2) #6 THHN MC armored jacketed cable (1) #8 insulated ground wire to Disconnect Switch
10. Lockable NEMA 3R 240 Volt 60Amp fused "Wind Turbine Disconnect switch" Disconnect labeled: **HIGH VOLTAGE Wind Turbine Disconnect**
- 10a. Surge Protective Device UL 1449 Voltage protective rating.
11. (2) #6 THHN MC armored jacketed cable (1) #8 insulated ground wire
12. Supply Tap - L1 & L2 and ground taped with Polaris IPLDS (UL Listed) - Labeled **Caution this Equipment is supplied by more than one Power Source**
13. Existing 320A Square D model TM40BC/TM40200CU
14. 320A 120-240V single phase utility service - Labeled **"Danger this panel is supplied by more than one Source of Power"**



Small Wind Turbines Are Different

- **Utility-Scale Wind Power**
600 - 1,800 kW wind turbines
 - Installed on wind farms, 10 – 300 MW
 - Professional maintenance crews
 - 13 mph (6 m/s) average wind speed
- **Small Wind Power**
300 W - 250 kW wind turbines
 - Installed at individual homes, farms, businesses, schools, etc.
 - On the “customer side” of the meter, or off the utility grid entirely
 - High reliability, low maintenance
 - 9 mph (4 m/s) average wind speed



THE SCALE OF WIND POWER

942'

344'

390'

262'

242'

164'

122'

100'

Model U-66
3.0MW

The turbine model generates power for sites with average 11 mph wind speeds. Suitable for moderate and offshore environments. Suitable for sites with an average height of 100-150m.

GE 1.5MW

The turbine model generates power for sites with average 11 mph wind speeds. Suitable for moderate and offshore environments. Suitable for sites with an average height of 100-150m.

Model V93
2.0MW

The turbine model generates power for sites with average 11 mph wind speeds. Suitable for moderate and offshore environments. Suitable for sites with an average height of 100-150m.

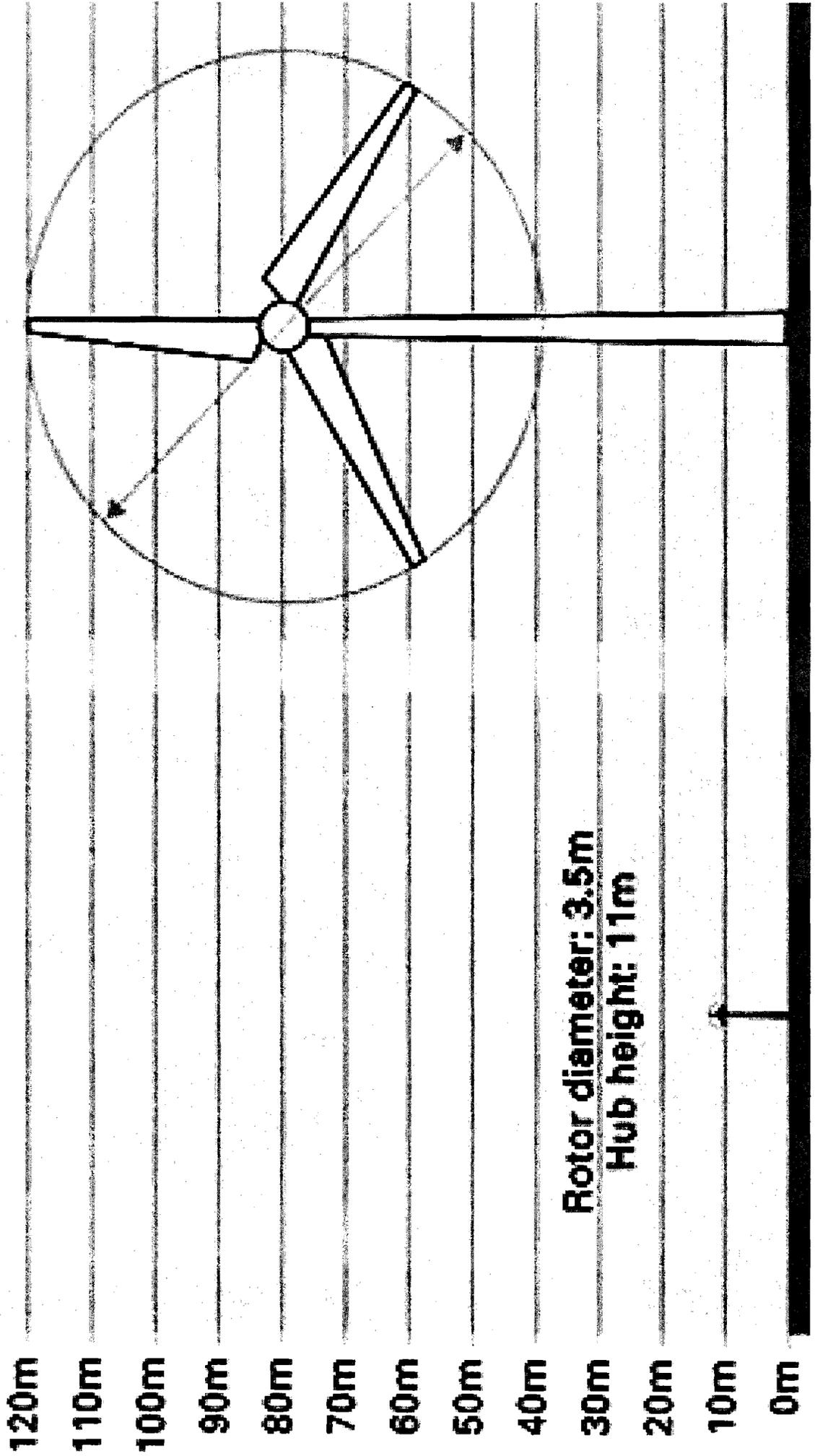
Model V93
2.0MW

The turbine model generates power for sites with average 11 mph wind speeds. Suitable for moderate and offshore environments. Suitable for sites with an average height of 100-150m.

Example small turbine

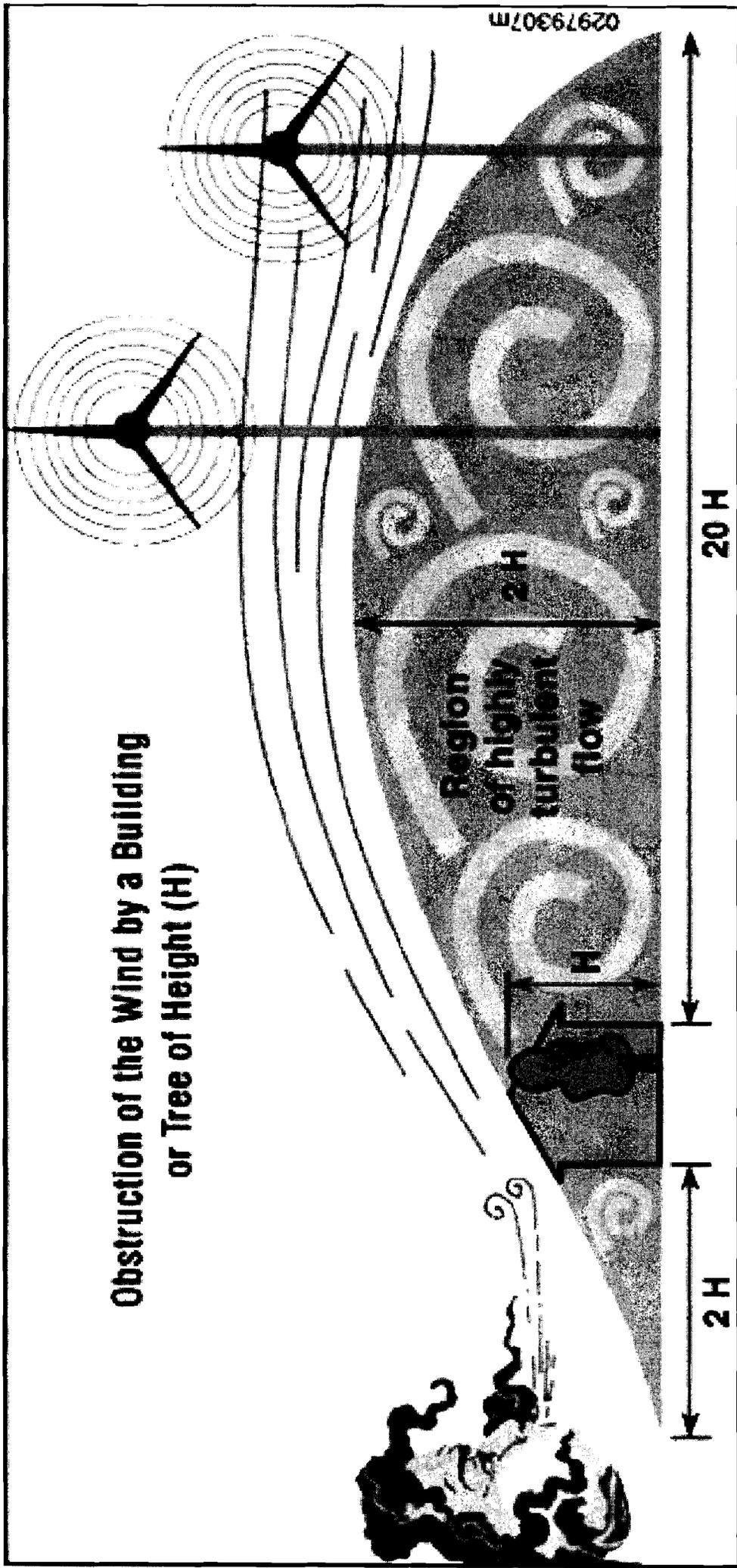
Example utility-scale turbine

Rotor diameter: 82m
Hub height: 78m



Rotor diameter: 3.5m
Hub height: 11m

Obstruction of the Wind by a Building or Tree of Height (H)





Wind Professional Wind Resource Report

9/13/2012 9:06:09 AM

Landowner: James Gleick
 Location: 300 Long and Winding Road Garrison, NY
 Installer: Douglas Passeri

Wind Resource

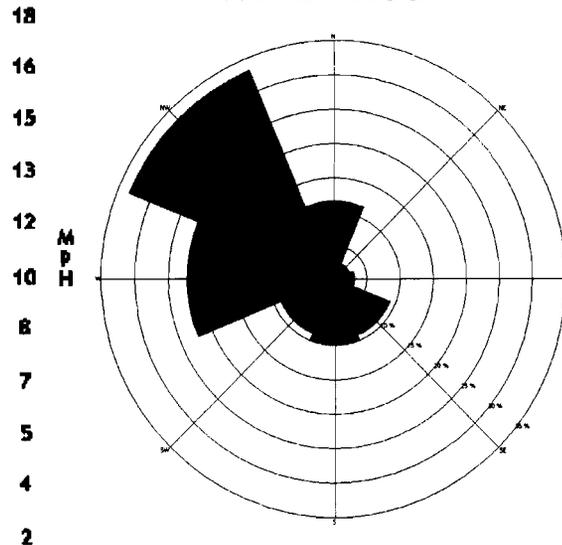
Average Annual Wind Speed at 140ft (42.67 m) = 11.44 mph (5.11 m/s)
 Weibull k = 2.33, Weibull A = 5.77, Roughness = 0.9 m

100ft Wind Resource Map



Latitude = 41.34315° , Longitude = -73.94812° , Elevation= 720.80ft (220 m)

Wind Rose



System Description and Energy Production

Hub Height: 140 ft
 Turbine: Bergey Excel (10 kW, 23 ft RD, Powersync II inverter, Neodymium alternator)
 Gross Energy Production at 140ft: 10433 kWh - 15778 kWh

Turbulence Induced Losses

Sector	Roughness	% Energy	% TI	%Loss of Total
N	1	11.55	x	26.6 = 3.1
NE	0.4	2.46	x	21.4 = 0.5
E	1	3.04	x	26.6 = 0.8
SE	1	9.03	x	26.6 = 2.4
S	1	9.84	x	26.6 = 2.6
SW	1	8.73	x	26.6 = 2.3
W	1	22.14	x	26.6 = 5.9
NW	0.3	33.21	x	20.2 = 6.7
Total				24.4

Total System Losses

Loss	Estimated
Turbulence Intensity Loss	24.4%
Availability Loss	2.0%
Additional Loss	0.0%
Total Loss(TL)	25.9%
Maximum Loss*	31.1%
Minimum Loss*	20.7%

*Maximum and minimum range represents a 20% uncertainty in estimating the above losses

Gross Energy x (1 - Total Loss) = Net Energy

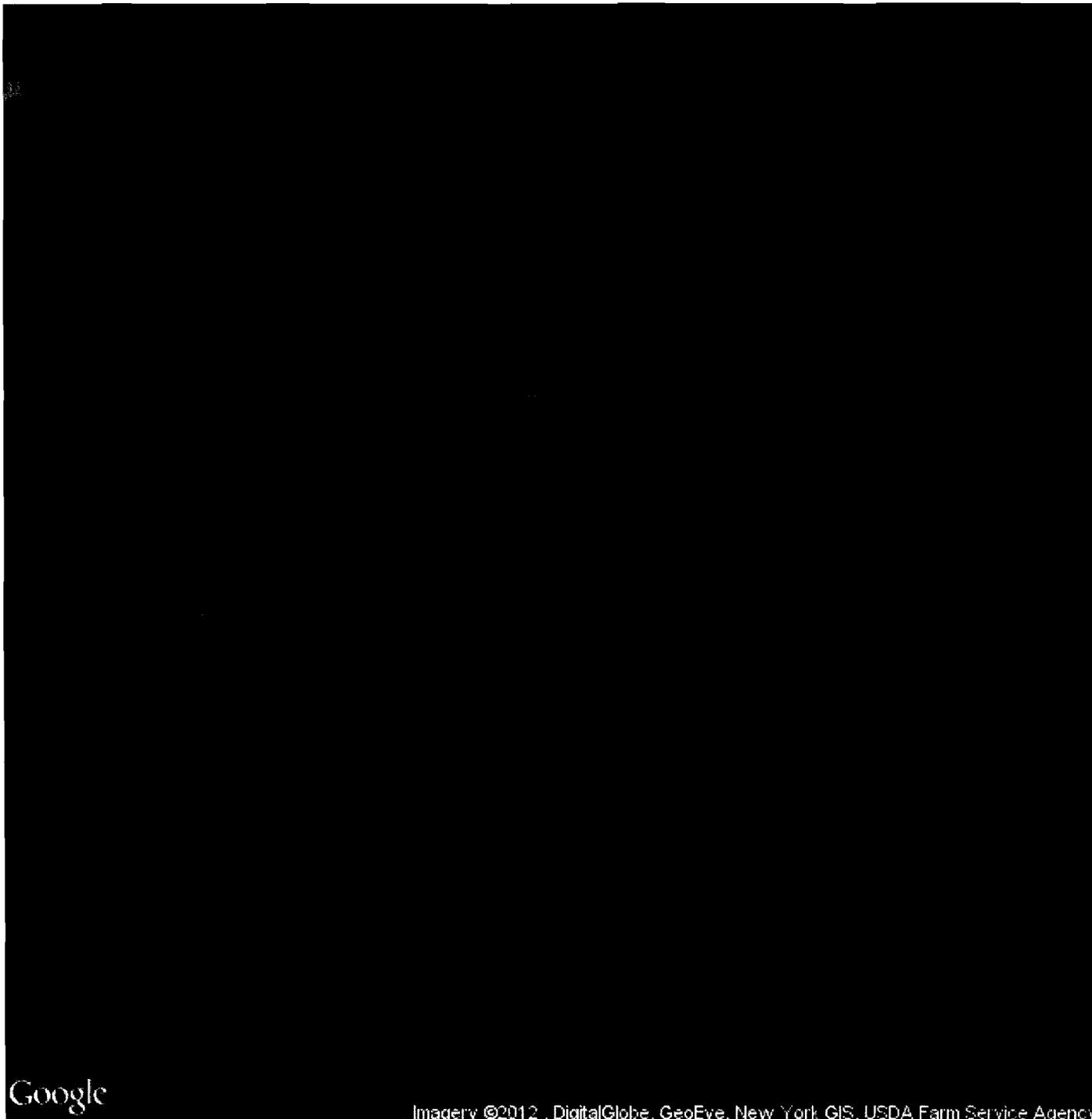
10433 kWh x (1 - Maximum Loss) = 7193 kWh -> Low Estimate

12967 kWh x (1 - Total Loss) = 9612 kWh -> Medium Estimate

15778 kWh x (1 - Minimum Loss) = 12512 kWh -> High Estimate

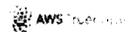
Satellite Image with Wind Rose Overlay

Each ring in the wind rose represents approximately 200ft on the Google map



Google

Imagery ©2012 . DigitalGlobe, GeoEye, New York GIS, USDA Farm Service Agency

 **IMPORTANT NOTICE AND DISCLAIMER:** The wind map and wind rose were created by [AWS Truepower, LLC](#) using the [MesoMap®](#) system and historical weather data. Annual energy estimates were calculated using the local wind resource, estimated loss factors, and a generic power curve. For more information on the program's methodology, please refer to the [Help](#) page. AWS Truepower and NYSERDA do not guarantee the above estimates and are not responsible for the contents of this report. For applications requiring greater accuracy, the wind resource estimates should be confirmed by measurement. For more information on NYSERDA wind incentives, please refer to [NYSERDA's webpage](#).

WINDLETTER

THE MONTHLY JOURNAL OF THE AMERICAN WIND ENERGY ASSOCIATION

Volume 23 Issue No. 5 - May 2004

SMALL TURBINE COLUMN:

Aesthetic Issues and Residential Wind Turbines

--Mick Sagrillo, Sagrillo Power & Light

One issue that seems to come up repeatedly at zoning hearings for residential wind turbines is aesthetics. This turns out to be a remarkably difficult issue to deal with. Anyone who has tried to deal with aesthetics in a public hearing knows only too well why art has never been created by a committee.

What is aesthetically pleasing is, by definition, an emotional issue. Something that strongly appeals visually to one person may invoke a completely opposite reaction in another. Many people report that they find wind turbines aesthetically appealing, even mesmerizing. To these folks, wind turbines fit right into the landscape. Others, however, just plain don't want to look at them sticking up in the air.

It's not that there aren't other tall objects on the landscape that attract our attention. AWEA's *Permitting Small Wind Turbines: A Handbook* mentions that: "Communities already accept water towers, billboards, relay towers, and utility lines as part of the landscape." Add to that silos on farms across the country, and a plethora of communications towers.

However, there are two major differences between these structures and residential wind systems. First, they don't move, as the blades of a wind turbine do. And second, many of the aforementioned are built without the community's input because they are either permitted uses or are exempt from zoning hearings. Given the opportunity to stop the erection of yet another structure in their viewshed, many disgruntled homeowners are only too willing to avail themselves of the opportunity to intercede negatively at a zoning hearing on a residential wind system.

There are some things that a potential residential wind system owner can do to make their wind system as unobtrusive as possible. It might be in the best interest of all for a wind system applicant to offer up some concessions at a hearing to assure the public that the wind system will intrude into the neighborhood as little as possible. A list of these might include the following assurances:

1. The wind system will not be painted a garish color, like "hunter orange" or "electric chartreuse." Wind turbines are painted by the manufacturer, and those colors have been thoroughly considered from two angles: to make sure that they blend in with the environment and to make them distinctive from other wind turbine models. In practice, the first takes precedence over the second. Manufacturers shy away from painting their products in fluorescent colors, to keep them from being intrusive on the skyline.

Towers are most often made of galvanized steel. They come from the factory bright and shiny, but soon weather to a muted gray color, which readily blends in with the sky. Several locations across the country require towers to be painted green to blend in with the surrounding vegetation.

In almost all the circumstances that I have seen where this was required, the green tower stands out far more than does a weathered-gray, unpainted galvanized tower.

2. The wind system will not sport any advertising other than the manufacturer's logo, which is usually on the tail or body of the turbine. People don't want a Nike swoosh blazing from above, flashing neon beer signs, or a tower painted like a Coke can in their neighborhood. Most people feel that corporate advertising is already too pervasive and intrusive. Abide by their simple wish to keep the neighborhood clear of such objectionable logos.
3. In a similar vein, the tower should not support any signs, other than perhaps some cautionary signs at the base.
4. The turbine should not be flooded with focus lighting, as is frequently seen with billboards. Remember, the goal is to minimize the perceived intrusiveness of the wind system, not to call attention to it when folks are trying to star-watch after dusk or at 3 a.m. when the neighborhood is asleep. The objective is low visibility, not intrusiveness.

Since residential turbines are mounted on towers in the 80-foot to 120-foot and higher range to take advantage of increased wind speeds, shorter towers should not be on the table, as this essentially makes a cost effective project decidedly less so.

Most people seeking to install wind systems live in either residential or rural areas. While these suggestions might seem like concessions to some, they are really perfectly logical for anyone living next to a tall visible structure like a wind turbine and tower. Think of how you would react if your neighbors put up a fire-engine red cell tower, complete with corporate advertising cascading down the tower, and lit up day and night for all to have to see. Pretty repulsive. Remember to consider your neighbors' concerns when "decorating" your tower.

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[Editors Note: The opinions expressed in this column are those of the author and may not reflect those of AWEA staff or board.]

WINDLETTER

THE MONTHLY NEWSLETTER OF THE AMERICAN WIND ENERGY ASSOCIATION
Volume 23 Issue No. 10 - October 2004

SMALL TURBINE COLUMN:

Residential Wind Turbines and Property Values

--Mick Sagrillo, Sagrillo Power & Light

Doing battle with the Not-In-My-Back-Yard crowd (NIMBYs) at zoning hearings can be a never-ending occupation. Whenever a myth-pulled-out-of-thin-air or wild accusation by wind opponents is debunked by examining the facts, another one arises. This is part of the NIMBY strategy.

One accusation that occasionally arises at zoning hearings for residential wind turbines is that neighboring property values will decrease if the turbine is installed. The rationale is that the neighborhood view shed will be compromised due to the installation of a home-sized wind turbine, and, as a result, the neighbors will not be able to sell their property for its true value. This is "one of the most widespread NIMBY issues with wind farm siting," according to AWEA executive director Tom Gray.

The hypothesis about diminished property values actually comes from opponents of commercial utility-scale wind farms, and has been around for a number of years in that arena. Fortunately, several studies have been done analyzing the speculation that property values have diminished in the wake of wind farm developments. One study done by the Renewable Energy Policy Project (REPP) titled, "The Effect Of Wind Development On Local Property Values," presents data to counter the threat of decreased property values. The REPP study "found no evidence that property values decreased as a result of wind farms." Quite the contrary, "for the great majority of projects the property values actually rose more quickly in the view shed than they did in the comparable community. Moreover, values increased faster in the view shed after the projects came online than they did before."

There is no question that wind generators, which require tall towers to access an unobstructed flow of wind, are highly visible. But does visibility necessarily equate to reduced property values? Lots of human-made structures are visible in the immediate and distant horizon, including buildings, silos, grain elevators, water towers, telephone and utility poles, transmission line towers, bill boards, and communication and cell phone towers.

The upshot of studies like the REPP report is that there was no evidence that property values in general decreased as a result of the wind farms. Residential wind turbines, with very small rotor areas and tower heights relative to wind farm turbines are even less obvious on the landscape than larger commercial turbines, and most other human-made structures.

If this is the case, why do NIMBYs use such arguments at zoning hearings for a residential wind turbine? The answer is obvious: any doubt that the NIMBYs can instill into the minds of the zoning officials might help defeat – or at least delay – anything they don't want in their neighborhood, be it a housing development, a new road, a utility power line, or a wind turbine. The game the NIMBYs play is all about delay and obfuscation in an attempt to thwart the applicant, or simply make him or her go away.

In AWEA's "Permitting Small Wind Turbines: A Handbook," residential turbine manufacturer Mike Bergey is noted as saying that "in 20 years of business he's never heard of a customer's wind turbine

adversely affecting the value of neighboring real estate.” A survey of other manufacturers and dealers supports Bergey's statement. In fact, quite the opposite might be true. David Blittersdorf, quoted in the same handbook, notes that his new neighbors bought the house next door because Blittersdorf's machine indicated to them that “the community cared about the environment.”

What a positive attitude and interesting counter-viewpoint to the NIMBY's muddled contention that the installation of a residential wind turbine will ruin the neighborhood's property values.

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[Editors Note: The opinions expressed in this column are those of the author and may not reflect those of AWEA staff or board.]

Points of Reference *measured in dBA or decibels

- 0 The softest sound a person can hear with normal hearing
- 10 normal breathing
- 20 whispering at 5 feet
- 30 soft whisper
- 50 rainfall
- 60 normal conversation
- 110 shouting in ear
- 120 thunder

Home

- 50 refrigerator
- 50 - 60 electric toothbrush
- 50 - 75 washing machine
- 50 - 75 air conditioner
- 50 - 80 electric shaver
- 55 coffee percolator
- 55 - 70 dishwasher
- 60 sewing machine
- 60 - 85 vacuum cleaner
- 60 - 95 hair dryer
- 65 - 80 alarm clock
- 70 TV audio
- 70 - 80 coffee grinder
- 70 - 95 garbage disposal
- 75 - 85 flush toilet
- 80 pop-up toaster
- 80 doorbell
- 80 ringing telephone
- 80 whistling kettle
- 80 - 90 food mixer or processor
- 80 - 90 blender
- 80 - 95 garbage disposal
- 110 baby crying
- 110 squeaky toy held close to the ear
- 135 noisy squeeze toys

Work

- 40 quiet office, library
- 50 large office
- 65 - 95 power lawn mower
- 80 manual machine, tools
- 85 handsaw
- 90 tractor
- 90 - 115 subway
- 95 electric drill
- 100 factory machinery
- 100 woodworking class
- 105 snow blower
- 110 power saw
- 110 leafblower
- 120 chain saw, hammer on nail
- 120 pneumatic drills, heavy machine
- 120 jet plane (at ramp)
- 120 ambulance siren
- 125 chain saw
- 130 jackhammer, power drill
- 130 air raid
- 130 percussion section at symphony
- 140 airplane taking off
- 150 jet engine taking off
- 150 artillery fire at 500 feet
- 180 rocket launching from pad

Recreation

- 40 quiet residential area
- 70 freeway traffic
- 85 heavy traffic, noisy restaurant
- 90 truck, shouted conversation
- 95 - 110 motorcycle
- 100 snowmobile
- 100 school dance, boom box
- 110 disco
- 110 busy video arcade
- 110 symphony concert
- 110 car horn
- 110 - 120 rock concert
- 112 personal cassette player on high
- 117 football game (stadium)
- 120 band concert
- 125 auto stereo (factory installed)
- 130 stock car races
- 143 bicycle horn
- 150 firecracker
- 156 capgun
- 157 balloon pop
- 162 fireworks (at 3 feet)
- 163 rifle
- 166 handgun
- 170 shotgun



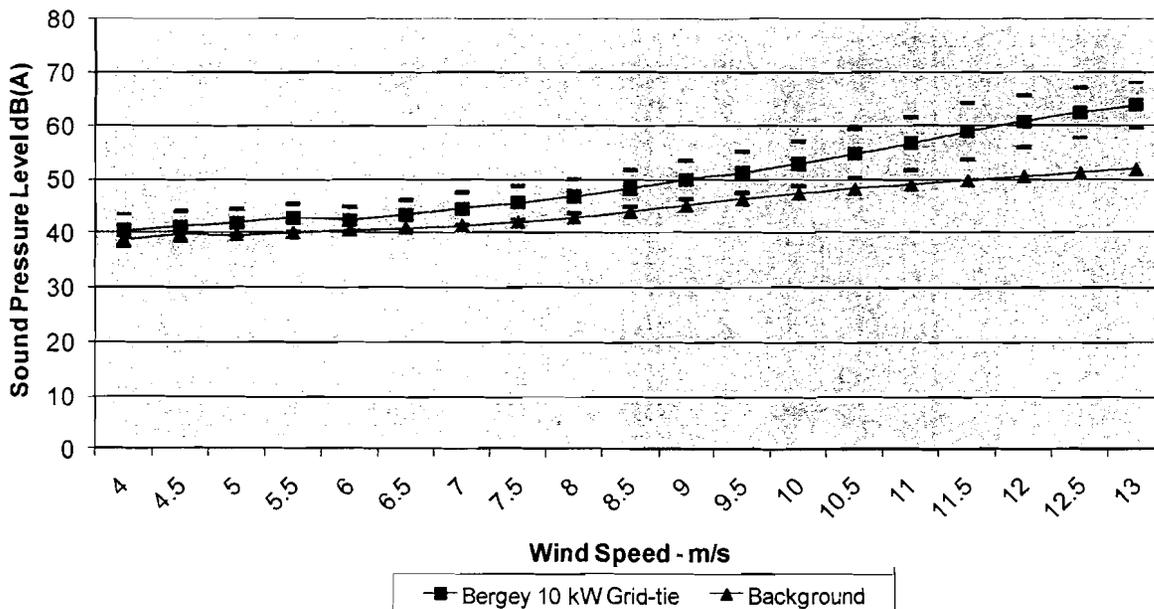
July 14, 2010

Acoustic Characteristics of the Bergey Excel-S 10 kW Wind Turbine

The following noise level data were taken by the USDA Agricultural Research Service in Bushland, Texas. USDA-Bushland is a contractor to the U.S. Department of Energy and has been field testing small wind turbines since the 1970's. This acoustics testing was conducted in support of certification of the BWC Excel-S to AWEA 9.1-2009. Per the AWEA standard, the tests were conducted in accordance with IEC 61400-11, "Wind Turbine Generator Systems, Part 11 - Acoustic Noise Measurement Techniques".

The sampling microphone was a calibrated Larson Davis Model 824, which was placed 34.2m (112 ft) from the base of the 30m (100 ft) wind turbine tower. The slant distance was 46m (151 ft). Wind speed was taken at a height of 10 m (33 ft)

Noise Data Collected on Bergey 10 kW Grid-tie, 30.5 m tower
USDA-ARS Lab near Bushland, TX (June 2010)



The data range provided is 4 m/s – 13 m/s because the calculation of the turbine component of the total sound pressure was calculated using background sound data at the same site from an earlier test on another brand of wind turbine and that test range was 4 – 13 m/s. Background sound levels must be taken with the wind turbine shutdown and that is more difficult to achieve on the Bergey Excel than the other brand previously tested. New background sound data over a wider range is currently being gathered. We do not believe there will be any significant differences in the results when this newer background data is available.

The calculation of the wind turbine contribution to total sound levels follows the guidelines in IEC 61400-11.

For a typical 5 m/s (11.2 mph) average wind speed site the wind speed will be below 11 m/s (25 mph) over 95% of the time. In this range the Excel-S wind turbine will add just 1 – 6 dBA to the background. As a general rule it takes 3 dBA added before a person will perceive a separate noise source.

AWEA Rated Sound Level: 52.1 dBA

The Rated Sound Level is the sound level at 60 m (197 ft) that the wind turbine will not exceed 95% of the time in a 5 m/s (11 mph) average wind speed site. The previous version of the BWC Excel-S had an AWEA Rated Sound Level of 54.7 dBA. The new version is quieter because the more powerful neodymium alternator has reduced the rated rotor speed from 300 RPM to 240 RPM.

The Sound Power Level is the total noise right at the source – the top of the tower. For the BWC Excel-S turbine the Sound Power Level corresponding to the AWEA Rated Sound Level is 91.0 dBA. Sound diminishes with distance. The Sound Pressure Level is the sound a listener would hear at the distance given, in this case 60m (197 ft)

The binned sound pressure and sound power level data is provided on the following page.

**2010 Excel-S Acoustics Test Data
Bushland, 46 m Slant Distance**

Wind Bin (m/s)	Recorded Sound Pressure Level (dBA)	Std Dev	Backgrd Sound Pressure Level* (dBA)	Turbine Sound Pressure Level (dBA)	Turbine Sound Power Level (dBA)
1	37.08	0.35			
1.5	36.14	0.55			
2	36.70	1.68			
2.5	38.57	3.05			
3	39.18	3.03			
3.5	39.94	3.27			
4	40.39	3.04	38.7	40.39	78.5
4.5	41.06	2.75	39.55	41.06	79.2
5	41.76	2.47	39.48	41.76	79.9
5.5	42.71	2.66	39.84	42.71	80.9
6	43.51	2.66	40.31	42.21	80.4
6.5	44.56	2.81	40.67	43.26	81.4
7	45.75	3.01	41.2	44.45	82.6
7.5	46.87	3.10	41.87	45.57	83.7
8	48.08	3.24	42.65	46.78	84.9
8.5	49.55	3.41	43.72	48.25	86.4
9	51.04	3.60	44.91	49.83	88.0
9.5	52.40	3.78	46.14	51.23	89.4
10	53.92	4.17	47.17	52.89	91.0
10.5	55.53	4.53	48.13	54.66	92.8
11	57.31	4.92	48.91	56.63	94.8
11.5	59.35	5.22	49.73	58.85	97.0
12	61.07	4.88	50.48	60.67	98.8
12.5	62.69	4.71	51.17	62.37	100.5
13	64.02	4.24	51.85	63.75	101.9
13.5	65.44	3.79			
14	66.60	3.29			
14.5	67.39	3.12			
15	68.10	3.04			
15.5	68.92	3.40			
16	69.60	3.18			
16.5	70.02	2.63			
17	71.42	1.82			
17.5	71.79	1.71			
18	71.53	3.22			
18.5	72.14	2.30			
19	73.00	1.13			
19.5	70.10	4.93			
20	62.00	0.00			

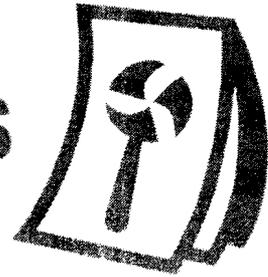
* - From 2006 test on another turbine

Sound Levels at a Distance from the Turbine

Sound Power Level is defined as the sound level at a distance of 1 meter (3.3 ft) from the source, which we take as the center of the rotor or, in other words, hub height. As a person gets farther and farther away from the wind turbine, the intensity of the sound they will hear reduces as the square of the distance. The following table provides the AWEA Rated Sound Levels at different distances from the base of the turbine, assuming a 30m (100 ft) tower. These levels do not include a contribution from background noise levels.

Distance from Turbine (meters)	Distance (feet)	Slant Distance (m)	Sound Press. Level (dBA)
30	98.42	42.4	53.5
60	196.85	67.1	49.5
90	295.27	94.9	46.5
120	393.70	123.7	44.2
150	492.12	153.0	42.4
180	590.55	182.5	40.8
210	688.97	212.1	39.5
240	787.40	241.9	38.4
270	885.82	271.7	37.4
300	984.25	301.5	36.5
330	1,082.67	331.4	35.6
360	1,181.10	361.2	34.9
390	1,279.52	391.2	34.2

SMALL WIND FACTSHEETS



How Much Noise Do Small Wind Systems Make?

Few moving parts

Most residential-sized wind generators are direct-drive devices with few moving parts. Unlike the utility-scale turbines used in wind farms, they do not have high-speed transmissions. Thus, most of the sound that comes from a residential sized wind turbine is aerodynamic noise caused by the blades passing through the air. The noise level of most modern residential turbines measures close to the ambient noise levels under average wind conditions. It is audible, if you are out of doors and listening for it, but no noisier than your average refrigerator.

Most residential turbines do not begin turning until a certain threshold, or "cut-in" wind-speed is reached - typically about 7 m.p.h. So, on a calm, windless day (or night), the turbine is still and silent.

Background noise masks aerodynamic sounds

Just how audible depends on the distance of the listener from the turbine - and also on the level of existing background noise, including traffic, farm machinery, barking dogs, children playing, lawn mowers, and even the environment itself. Residential-sized wind turbines are variable speed devices, turning faster and thus creating more sound as wind speed increases. At the

same time, the wind itself creates sound, rustling through trees, shrubs, and fields, and even rattling buildings. These natural back-ground sounds also increase with wind speed, thereby effectively masking much of a small turbine's aerodynamic sound. The sound of a wind turbine may be distinguishable from ambient (background) noise even though it is not louder. However, the same can be said for all of the other components of ambient noise, including things like barking dogs, traffic, kids playing, tractors, and even trees.

Sound levels fall with distance

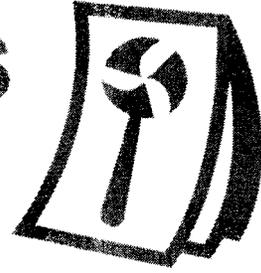
Sound levels fall off significantly with distance. In one sound test carried out on a Bergey Windpower 10 kW BWC Excel wind system at a distance of 300 feet and in 25 mph winds, the BWC Excel generated sound with a 54 dB(A) to 55 dB(A) rating, making the wind generator barely audible over the 52.5 dB(A) rating of the surrounding environment's background noise. At about 500 feet, the BWC Excel sound rating was 53 dB(A), making it just another part of the background sound.

In another instance, sounds from a 10-kW Jacobs wind system were measured by a representative of the Clinton (Iowa) Detective Bureau. "In wind speeds between 16 mph and 36 mph and at a position only 50 feet from the wind generator, the decibel meter registered the



For more information, contact AWEA at windmail@awea.org or call 202-383-2500.
Visit our web site at www.awea.org, or write us at 122 C Street, NW, Washington, DC 20001.

SMALL WIND FACTSHEETS



continued...

sound of the wind generator between 55 dB(A) and 59 dB(A). The detective noted that, 'at this location, the sound output from the generator was observed to be partially masked by the sounds from the rustling of leaves in the trees.' When the decibel meter was pointed at the trees (which were 300 feet away), the meter registered the tree sounds at 60 dB(A) to 62 dB(A)." The conclusion: "the wind generator sounds were 'inconsequential in total noise emission.'"

References

Mick Sagrillo, Windletter Feb/Mar 1997

Other Fact Sheets Available on Small Wind Energy:

What is Small Wind?

Do Small Wind Systems Kill Birds?

What About Visual Impact?

Small Wind Systems and Public Safety

How Do Small Wind Systems

Affect Property Values?



For more information, contact AWEA at windmail@awea.org or call 202-383-2500.
Visit our web site at www.awea.org, or write us at 122 C Street, NW, Washington, DC 20001.



Sec
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Wind Power Overview



Audubon's Position on Wind Power

Summary: Audubon strongly supports properly-sited wind power as a clean alternative energy source that reduces the threat of global warming. Wind power facilities should be planned, sited and operated to minimize negative impacts on bird and wildlife populations.

Rationale: The Intergovernmental Panel on Climate Change (IPCC) has clearly stated that the impacts of climate change are here now and will get worse.[1] Scientists have found that climate change has already affected half of the world's wild species' breeding, distribution, abundance and survival rates.[2] By mid-century, the IPCC predicts that climate change may contribute to the extinction of 20-30 percent of all species on earth.

In order to prevent species extinctions and other catastrophic impacts of climate change, scientists say we must reduce global warming emissions by at least 80 percent by 2050. Reducing pollution from fossil fuels to this degree will require rapidly expanding energy and fuel efficiency, renewable energy and alternative fuels, and changes in land use, agriculture, and transportation. To avoid catastrophe, we need to do all of these.

Wind power is an important part of the strategy to combat global warming. Wind power is currently the most economically competitive form of renewable energy. As of December 2011, it provides nearly 47,000 megawatts of power in the United States, enough to provide electricity for more than 12 million households. With the current transmission infrastructure, the Department of Energy estimates that wind has the potential to generate 20 percent of the nation's energy.[3] Every megawatt-hour produced by wind energy avoids an average of 1,220 pounds of carbon dioxide emissions. If the United States obtains 20 percent of its electricity from wind power by 2020, it will reduce global warming emissions equivalent to taking 71 million cars off the road or planting 104 million acres of trees. Expanding wind power instead of fossil fuels also avoids the wildlife and human health impacts of oil and gas drilling, coal mining and fossil fuel burning.

Protecting Birds and Wildlife: While Audubon strongly supports wind power and recognizes it will not be without some impact, production and transmission facilities must be planned, sited and operated in concert with other actions needed to minimize and mitigate their impacts on birds and other wildlife populations. Several federal and state laws require this and the long-term sustainability of the wind industry depends on it. Wind power facilities impact birds from direct collisions with turbines and related facilities, such as power lines. Wind power facilities can also degrade or destroy habitat, cause disturbance and displacement, and disrupt important ecological links. These impacts can be avoided or significantly reduced, however, with proper siting, operation and mitigation.

Audubon supports the adoption of federal and state guidelines on the study, siting, operation and mitigation of wind power. Guidelines should provide developers, permitting agencies and conservation groups with the legal, technical and practical steps needed to minimize impacts on birds and other wildlife. Guidelines should provide the following essential elements:

- Minimum pre-permitting study requirements and guidance on study methods, frequency and acceptable data sources to ensure that wind power is sited in appropriate locations
- Clearly delineated siting criteria that designate areas where wind power should not be allowed, such as Important Bird Areas, major migratory corridors, wilderness areas, national parks, wildlife refuges, and other sensitive habitat such as wetlands and riparian corridors
- Clearly defined monitoring and mitigation requirements in permits, with periodic reviews and requirements for adaptive management if impacts significantly exceed levels allowed by permit
- Guidance on cumulative population impacts assessment and mitigation.

Audubon also encourages wind developers and permitting agencies to consult with wildlife experts, including Audubon staff and local chapters, to help inform study and siting decisions.

[1] Climate Change 2007: Impacts, Adaptation and Vulnerability, published on April 6, 2007 by the Intergovernmental Panel on Climate Change at <http://www.ipcc.ch>. People from over 130 countries contributed to the IPCC Fourth Assessment Report over the previous 6 years. These people included more than 2500 scientific expert reviewers, more than 800 contributing authors, and more than 450 lead authors.

[2] Camille Parmesan and Gary Yohe, University of Texas at Austin, as cited in Audubon November-December 2007.

[3]www.windenergyfoundation.org



Audubon CALIFORNIA

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Sacramento, CA 95825
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July 17, 2001

Assemblyman John Longville
Room 3123, State Capitol
Sacramento, CA 95814

Re: AB 1207: Support

Dear Assemblyman Longville:

The National Audubon Society-California is pleased to support your AB 1207 which requires cities and counties to consider the siting and operation of a small wind energy system as a "use by right" if it meets the specified requirements. We have been asked by your bill sponsors to comment on the potential significant effect of AB 1207 and small wind energy on bird populations in California.

Audubon's main objective is the protection of birds and other wildlife and their habitat. We are also interested in supporting legislation that helps California deal with its current energy crisis, and that supports renewable forms of energy.

Audubon has a long history of working with the wind power industry in an effort to study and minimize the impacts of wind power development on birds and wildlife habitat. It is true that there is a correlation between bird deaths and large wind turbine farms. For example, in a recent eleven month research on Altamont, they found that 95 birds died from the wind turbines.

Unlike large-scale wind turbine operations with hundreds or thousands of turbines, AB 1207 encourages the use of small-scale wind turbines that produce approximately 50 kilowatts versus 1 megawatt of energy produced by large-scale wind turbines.

Unlike large-scale wind turbines (100 meters tall), small-scale wind turbines (30 meters tall) are a lot shorter and will not be used in the construction of large wind farms in California. The problems associated with large-scale turbines are that they are often times in the height range of migrating birds. The turbine blades also move at very high speeds, which is hard to detect by birds moving along a traditional migratory route.

We cannot assure you that there will be no bird deaths from small-scale wind turbines, but the numbers will reflect a death toll similar to the deaths caused by other stationary objects that birds routinely fly into, not the large death tolls seen with large wind turbine farms.

We do not feel that there is any significant threat to bird populations from small-scale wind turbines, and are pleased to support your AB 1207.

Sincerely,

John McCaull
Legislative Director

Staples Copy Center #242

From: Douglas Passeri [hwindenergyllc@fairpoint.net]
To: Staples Copy Center #242
Cc:
Subject: Fwd: Birds
Attachments:

Sent: Tue 5/28/2013 7:55 PM

Doug

Again forwarded message:

From: Chartfin2@aol.com
Date: May 28, 2013, 7:13:53 PM EDT
To: hwindenergyllc@fairpoint.net
Subject: Birds

Doug,

You asked me to comment on birds flying into our windmill located at our home, 96 Ballymount Dr, Millerton, NY. Since we have had our windmill up, July 2012, we have had no occurrence of any bird or birds that have flown into our windmill and died or were injured. In fact, the birds enjoy sitting on the wires during the day.

Because we have a large pond we were concerned because we have large flocks of geese that land here. But again we have had no occurrence of a goose or geese that have flown into our windmill. If it hasn't happened yet then I think if it ever did it would be a total freak accident. Since we have had the windmill up there has to have been thousands of geese that have flown by and again no occurrence at all.

Thanks
Charlie

Charles J Westcott
96 Ballymount Dr
Millerton, NY 12546

Staples Copy Center #242

From: Douglas Passeri [hvwindenergyllc@fairpoint.net]
To: Staples Copy Center #242
Cc:
Subject: Fwd: Bergey turbine killing birds
Attachments:

Sent: Tue 5/28/2013 7:50 PM

Doug

Begin forwarded message:

From: Ray Wendover <wendoverslawnservice@yahoo.com>
Date: May 28, 2013, 4:19:48 PM EDT
To: Douglas Passeri <hvwindenergyllc@fairpoint.net>
Subject: Re: Bergey turbine killing birds

No I have never noticed any dead birds to answer your question they don't go near the turbine thanks. Ray Wendover

Sent from my iPhone

On May 28, 2013, at 12:44 PM, Douglas Passeri <hvwindenergyllc@fairpoint.net> wrote:

Hey Ray , have you ever noticed if your Bergey 10kw gl tower killing any birds. Can you please get back to me ASAP.

Thanks,

Doug

Staples Copy Center #242

From: Douglas Passeri [hwindenergyllc@fairpoint.net]
To: Staples Copy Center #242
Cc:
Subject: Fwd: Bird strikes
Attachments:

Sent: Tue 5/28/2013 7:49 PM

Doug

Begin forwarded message:

From: "dagersh_92@yahoo.com" <dagersh_92@yahoo.com>
Date: May 28, 2013, 6:41:39 PM EDT
To: Hwindenergyllc@fairpoint.net
Subject: Bird strikes

Doug,

I have never seen any evidence of even a single bird strike since my turbine has been installed.

Michael Gershon

From: tracy lamanec

Sent: Wednesday, May 29, 2013 1:30 PM

To: HVWE

Subject: RE: Birds Killed by Small Wind Turbines

This is my answer to Doug's question as to whether I had any evidence of birds being killed by the wind turbine:

In the approximately six months since the wind turbine was installed, I have seen no evidence of any birds being killed by it. In that time, I would estimate that, on average about once a week, birds bang into my picture window and patio doors. About half of those collisions are fatal. I don't think the frequency of those collisions has changed as a result of the wind turbine. There seems to have been fewer birds around over the past year or so which goes back to before the wind turbine was installed and has been the subject of discussion of bird watchers.

I have noticed some impacts on bird behavior that the wind turbine has had. The trees and shrubs that were pruned or removed for the tower no longer provide perching or nesting sites for either the songbirds or the sparrow hawks that preyed on them. Birds will occasionally perch briefly on the support cables or on the tower. When it is sunny, I have seen birds feeding on the ground for seeds or bugs get spooked if the shadow of the wind turbine hits them or avoid feeding in the area of the lawn struck by the shadow.

I think that the danger to birds posed by wind turbines is greatly exaggerated by opponents grasping at any argument to support their cause. They don't want to see wind turbines when they look out through their bird killing glass walls and patio doors.

Tracy

Base Pad South



Base Pad East



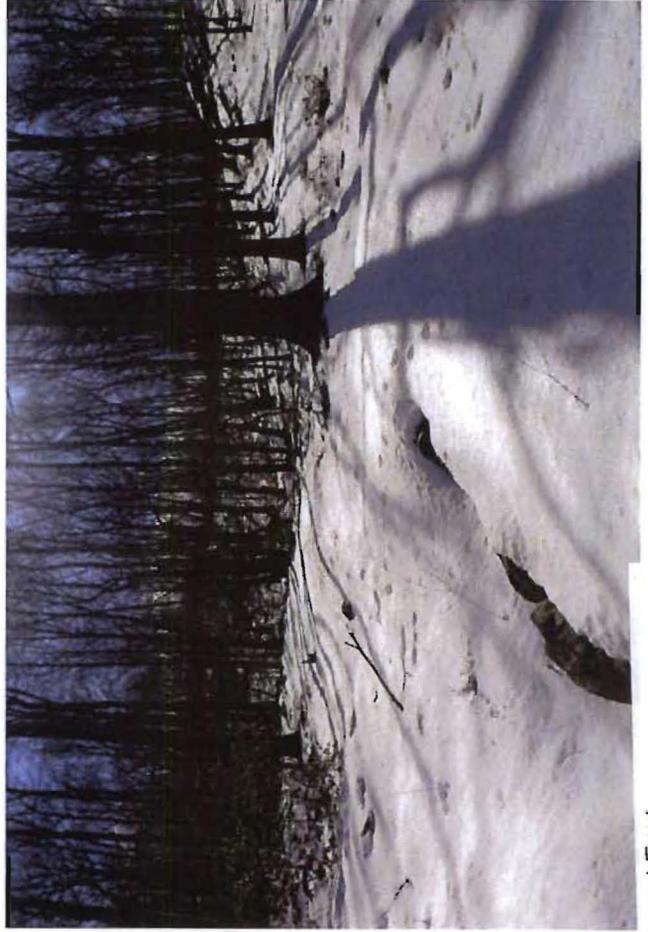
SEC 7

Base Pad North



Base Pad West





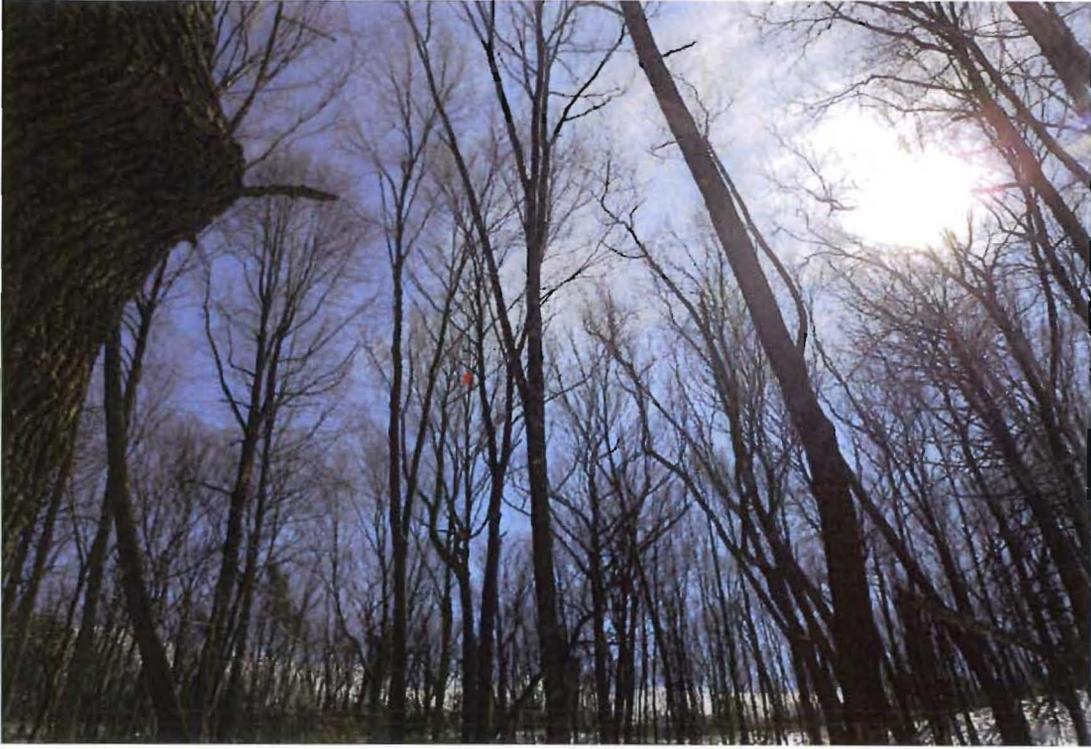
View from North and East
100 & 300 yds to Base Pad

AW



View from South and West
100 & 300 yards to Base Pad

Glenn Falcon Test pt
North View at 100 & 300 yards



Gleick Balloon Test
East View at 300 & 100 yards



Gleick Balloon Test *18*
South View at 300 & 100 *100* yards



Gleick Balloon Test
West View From Base Pac 300 yards



Gleick Balloon Test
West View From Base Pac 100 yards

View from Cloudbank Rd. South Balloon Test



View from 9D_Mandalay Rd. Looking East Gleick Balloon Test



View looking up from Bottom of Gleick Driveway



9D Looking East at Balloon Test



Mr. & Mrs. James Gleick
200 Long and Winding Rd.
Garrison, NY 10524

10kW Residential Small Wind
140' Guyed Lattice Tower

TREE REMOVAL

Decrease Obstructions and Wind Turbulence

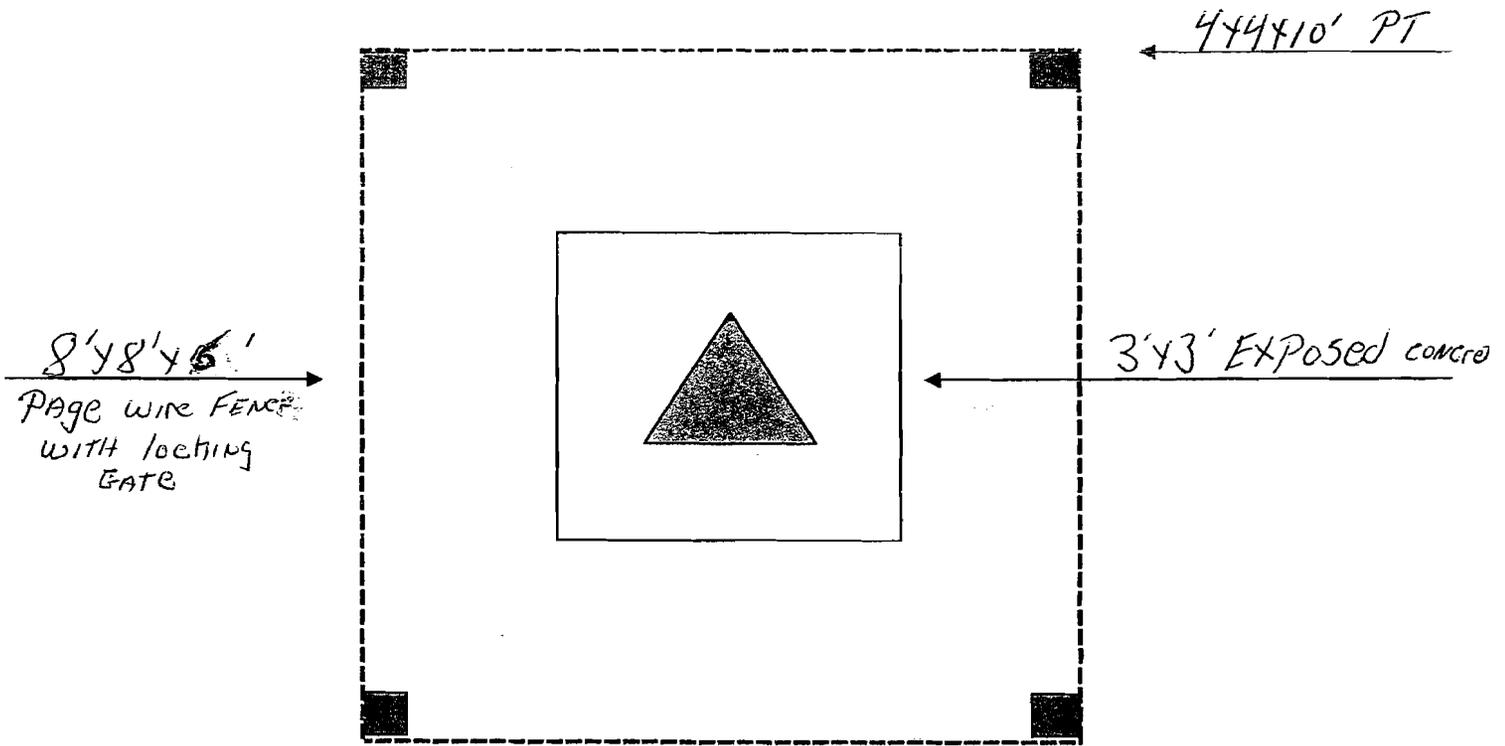
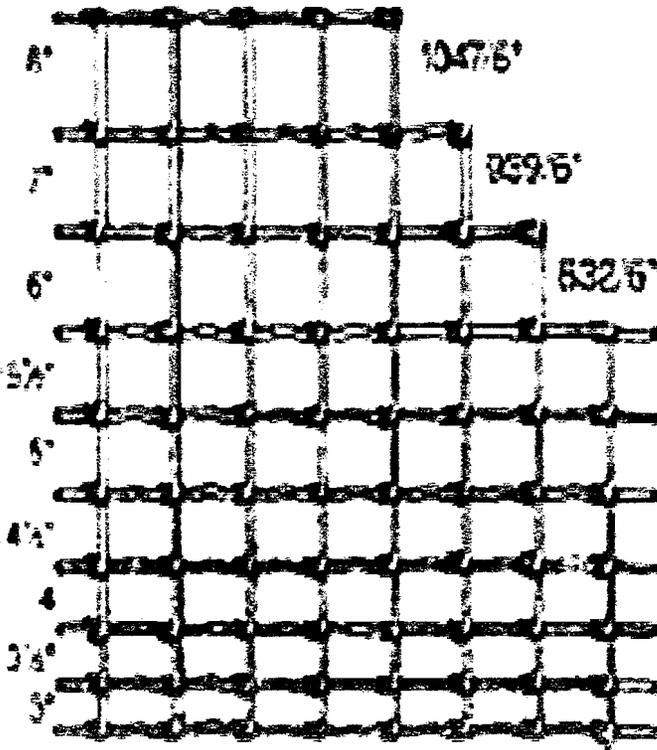
The Gleick residential small wind project will require tree removal only in the direct foot print area of the tower base pad - a 6 x 6 (36 sq ft) area, and in 160' radius which is less than a half-acre that includes the three anchor pads.

This small wind project meets criteria as stated in the Philipstown Code:

Chapter 159. TIMBER HARVESTING AND FOREST MANAGEMENT

Under § 159-6. Exempt operations. A timber harvesting permit is not required for the following operations:

- A.** The cutting, removal or harvesting of trees or timber from an area of two acres or less in size on any lot or from a contiguous area of two acres or less in size on adjacent lots.
- E.** The cutting or removal of timber or trees in connection with a bona fide operation for which a special use permit has been issued pursuant to Town Code Chapter 175, Article XI.





FAQ for Small Wind Systems



General Information about Small Wind Systems

Small Wind Turbines are electric generators that use the energy of the wind to produce clean, emissions-free power for individual homes, farms, and small businesses. With this simple and increasingly popular technology, individuals can generate their own power and cut their energy bills while helping to protect the environment. Unlike utility-scale turbines, small turbines can be suitable for use on properties as small as one acre of land in most areas of the country.

What size turbine is needed to power an entire home? On average, a typical American home would require a small turbine with a 5-kilowatt (kW) generating capacity to meet all its electricity needs. A machine of this size has a diameter of approximately 18 feet. The exact size needed to power a home, however, can range from 2 kW to 10 kW (12-25 ft. diameter) based on a home's energy use, average wind speeds, and the turbine's height above ground (which affects its productivity).

How tall are they? The average height of a small wind turbine (of any capacity) is about 80ft. (about twice the height of a neighborhood telephone pole), with a range of 30-140 ft. Generator size and tower height are not generally related; a 5-kW turbine could be on a tower anywhere from 30-140 ft. in height, for example.

What is the average payback period? The length of the payback period depends on the turbine, the quality of wind at the installation site, prevailing electricity rates, and available financing and incentives. Depending on these and other factors, the time it takes to fully recover the cost of a small wind turbine can take anywhere from 6 to 30 years.

How much do they cost? The purchase and installation of a system large enough to power an entire home costs, on average, \$30,000, but the price can range from \$10,000 to \$70,000 depending on system size, height, and installation expenses. The purchase and installation of very small (<1 kW) off-grid turbines generally cost \$4,000 to \$9,000, and a 100-kW turbine can cost \$350,000. The federal government and many states have rebate or tax credit programs in place to encourage investment in small wind (see <http://dsireusa.org>).

What happens when the wind does not blow? For grid-connected systems, the user will not notice a difference when the wind is not blowing. The utility provides electricity when the wind does not blow, and any extra electricity the turbine generates is sent back to the utility system to be used by a neighbor. Off-grid turbines store power in batteries for on-demand use and are often complemented by solar electric panels to provide more consistent generation.

Do I need to take wind measurements? Taking detailed measurements to gauge your wind resource is usually unnecessary. Individual installers/dealers or manufacturers can determine whether your property is suitable for a system by inspecting the surrounding area.

FOR MORE INFORMATION,
PLEASE CONTACT

Ron Stimmel
Small Wind Advocate

rstimmel@awea.org
202-383-2546

For a complete list of
AWEA member
equipment providers see:
www.awea.org/smallwind/smsyslst.html



FAQ for Small Wind Systems

How much land and wind are required? Will my town let me install a turbine?

Installers recommend sites with average wind speeds of at least 12 mph, but specific land requirements vary from place to place. Zoning codes sometimes impose a minimum requirement on lot size or on the distance a turbine may be placed from a property line, and may vary depending on the height of the proposed turbine. Also, it is essential to have a site with unobstructed access to winds, which most often requires higher towers, larger land lots, and non-urban locations. Currently, less than 1% of all small wind turbines are used in urban applications partly due to zoning restrictions, but mostly because wind quality is much poorer in densely built environments. Contact your turbine factory dealer or see AWEA small-wind permitting guide at www.awea.org/smallwind for help navigating the permitting process.

How does the rated capacity of a small wind system compare to its actual performance?

Rated capacity indicates the rate of energy production at a given wind speed, so the answer depends on wind speed and the turbine. A more accurate indicator of energy production, however, is blade length. A 5-kW turbine (average residential size, 18ft. rotor diameter) produces around 10,000 kWh per year in 12-mph average winds, which is about 100% of what an average U.S. home requires. At the larger end of the spectrum, a 100-kW turbine (60ft. diameter) in these conditions will generate around 250,000 kWh per year.

Are batteries or other storage needed?

For very small systems, yes, but not for residential-scale turbines or larger. There are two types of systems: those connected to the electricity grid ("on-grid") and those used off-grid for battery charging or backup power. Most systems sold today are off-grid, but demand is rising for on-grid systems which essentially use the grid as a "battery": when the wind blows, the owner uses electricity from the turbine; when winds are low and consumption is high, the owner uses electricity from the grid. A small wind turbine is more commonly used in conjunction with solar photovoltaic technology than it is with a battery storage system.

How are small wind systems maintained?

Routine inspections are performed once every few years of a turbine's 20+-year lifespan. A professional installer or trained technician (usually the manufacturer or dealer that sold the turbine) maintains the turbine and tower through physical inspections, though some turbines can be monitored remotely from a home computer.

How can I advocate for good policies?

AWEA, our members, and our allies actively engage state and federal lawmakers to promote good policies for small wind, such as tax credits, streamlined zoning and permitting, net metering, and standardized grid interconnection rules. Grassroots activism is a key component of our efforts. To join, visit the following links:

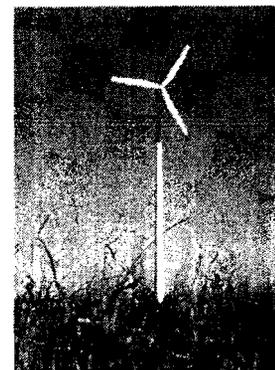
www.awea.org/legislative/grassroots_activities.html

www.awea.org/smallwind/toolbox2/drawer_2_promotion.html

Where can I go for more information?

The American Wind Energy Association has a toolbox of information on its Web site for people interested in installing a small wind system at www.awea.org/smallwind. On this site, you can find advice from an expert, some state-specific information about buying and installing a small wind turbine, success stories, technical information, and much more.

Also see "Wind Turbine Buyer's Guide" by Mick Sagrillo and Ian Woofenden in *Home Power* magazine (June/July 2007) http://www.homepower.com/view/?file=HP131_pg38_Sagrillo.



DWEA Model Zoning Ordinance, Final

Permitted Use Regulation for Small Wind Turbines

Section 1 Purpose

It is the purpose of this regulation to promote the safe, effective and efficient use of Small Wind Energy Systems that are installed to reduce the on-site consumption of utility-supplied electricity.

Section 2 Findings

The [city, town or county] recognizes the common good of small distributed wind systems and finds that wind energy is an abundant, renewable, and nonpolluting energy resource. Its conversion to electricity will reduce our dependence on nonrenewable energy resources, encourage stewardship and conservation of our non-renewable energy resources for future generations and decrease the air and water pollution that results from the use of conventional energy sources. Small distributed wind energy systems enhance the reliability and power quality of the electrical grid, reduce peak power demands, and help diversify the State's energy supply portfolio. Small distributed wind systems also make the electricity supply market more competitive by promoting customer choice, as well as fostering economic stability through job creation which encourages the growth of local, small businesses.

The State of _____ has enacted a number of laws and programs to encourage the use of small-scale renewable energy systems including rebates, net metering, property tax exemptions, feed-in-tariffs, and solar easements [as appropriate]. However, many existing zoning ordinances contain restrictions that discourage the installation of small wind turbines and substantially increase the time and costs required to obtain necessary zoning and/or construction permits.

Therefore, we find it necessary to standardize and streamline the proper issuance of zoning and building permits for Small Wind Energy Systems so that this clean, renewable energy resource can be utilized in a cost-effective, responsible and timely manner.

Section 3 Definitions

- 3.1 Small Wind Energy System: A wind energy conversion system consisting of a wind turbine, Tower and associated control or conversion electronics, which has a Rated Power Output of 100 kW or less.
- 3.2 Total System Height: The height above grade of the fixed portion of the Tower, plus the wind turbine and extending to the uppermost reach of the rotor.
- 3.3 Rated Power Output: The power output of a wind turbine at a constant Hub Height wind speed of 11m/s (25 mph).
- 3.4 Tower: A guyed or freestanding structure, anchors and foundation that is specifically engineered to support a small wind turbine.

- 3.5 Hub Height: Height of the center of the wind turbine rotor above the terrain surface. For a vertical axis wind turbine, the Hub Height is the height of the equator plane.
- 3.6 Obstruction: Anything that interferes with the laminar (straight, smooth) flow of wind, causing a level of turbulence that could interfere with the proper function and/or productivity of a small wind turbine.
- 3.7 Swept Area: projected area perpendicular to the wind direction that a rotor will describe during one complete rotation.

Section 4 Permitted Use

Small Wind Energy Systems shall be a permitted use in all zoning classifications where structures of any sort are allowed; subject to certain requirements as set forth below:

- 4.1 System Height: Wind turbine systems shall be allowed to be tall enough to facilitate proper function. Specifically, they shall adhere to the industry standard that the entire wind turbine should be at least 30' above both (a) any Obstruction within a 500' radius, and (b) the surrounding tree height.
 - 4.1.1 Minimum System Height: In no case shall the Hub Height be less than 60'. In cases where the manufacturer's minimum Hub Height recommendation is higher than 60', that recommendation shall be used as the minimum allowable Hub Height.
 - 4.1.2 Maximum System Height: There is no limitation on system height, except as imposed by FAA regulations and the required setbacks.
 - 4.1.3 Building Mounted Systems: Wind turbines mounted on buildings are still required to follow the industry standard that the entire wind turbine should be 30' above all Obstructions within a 500' radius of the turbine, including the structure to which it is mounted, and the surrounding tree height.
- 4.2 Setback: Local building and zoning ordinances for structures shall be followed with the express provision that that no part of the wind system structure, including guy wire anchors or any other appurtenance may extend closer than ten (10) feet to any property boundary line. No setback requirement shall exceed the Total System Height as measured to the center of the base of the Tower.
 - 4.2.1 Neighboring inhabited dwelling: The Small Wind Energy System shall be located at least the Total System Height from any existing, neighboring, inhabited dwelling.
 - 4.2.2 Neighboring property line: The Small Wind Energy System shall follow all setbacks, unless written permission is obtained from the existing owner of the affected adjoining property at the time of application.
 - 4.2.3 Overhead power lines and other setbacks: Wind turbines shall follow existing ordinances for structures in regard to setback from overhead utility lines, roads, easements public buildings and other utilities, provided the setback requirement shall not exceed the Total System Height.

- 4.2.4 Multiple wind turbines: Applications for multiple small wind turbines on a single property shall follow manufacturer or installer recommendations regarding minimum separation between turbines.
- 4.3 Access: To prevent unauthorized climbing, climbing pegs shall be removed from the lower ten (10) feet of the Tower, or ladder access shall be restricted. Fences shall not be required as they deny critical access to the Tower base.
- 4.4 Signage: A "Danger, High Voltage" sign shall be installed where it is clearly visible by persons standing near the tower base.
- 4.5 Sound: During normal operation, Small Wind Energy Systems shall not exceed (a) the sound levels allowed in existing zoning ordinances for the township or municipality; or if no clause exists, (b) five (5) dBA over ambient sound as measured at the closest neighboring inhabited dwelling that exists or is permitted for construction at the time of permit application for the wind energy system. This sound level may be exceeded during short-term events, such as utility outages and storms. Complainant shall bear the burden of proof until and unless the wind turbine system has been proven to be out of compliance with the ordinance.
- 4.6 Certified Wind Turbines: Small wind turbines with Swept Areas up to 200m² shall be certified to the most current version of AWIEA 9.1 by the Small Wind Certification Council or a Nationally Recognized Testing Laboratory. Applications for provisionally certified or non-certified turbines with Swept Areas over 200m² must include a description of the safety features and sound emissions of the turbine and must show compliance with IEC61400-12-1 and IEC61400-11 and may be considered on a case by case basis.
- 4.7 Compliance with Building Codes: Permit applications for Small Wind Energy Systems shall comply with all applicable state and local building codes.
- 4.7.1 Tower and foundation drawings provided by the manufacturer or the project developer shall be submitted with the application. Independent engineering review or wet-stamped drawings shall not be required.
- 4.7.2 Applications for roof-mounted (or other non-traditionally mounted) turbines must include a wet stamped structural engineering analysis for the turbine mounting system and for the suitability of the building to which the turbine is to be mounted.
- 4.8 Compliance with FAA Regulations: Small Wind Energy Systems must comply with applicable FAA regulations, including any necessary approvals for installations close to airports.
- 4.9 Compliance with National Electrical Code (NEC): The installation of a Small Wind Energy System shall comply with section 694 (or the most-current applicable section, if updated) of the NEC. Applications must be accompanied by a single-line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the NEC. Wet-stamped drawings shall not be required.

- 4.10 Utility Notification: No grid-tied Small Wind Energy System shall be installed until evidence has been submitted that the applicant's utility company has been informed of the customer's intent to install an interconnected customer-owned generator.
- 4.11 Antennas: Wind turbine Towers installed under this ordinance may also be used to host antennas, so long as the structure is shown to meet the state and local structural code requirements.
- 4.12 Fee: The building permit fee for a small wind system shall follow the existing fee structure for permits required of other structures in the appropriate district. In the absence of such fee structure, the permit fee for a small wind turbine shall not exceed \$20 per kW of Rated Power Output. Additional charges for inspections shall apply at the standard rate used for other structures.
- 4.13 Decommissioning: A small wind system that has reached the end of its useful life shall be removed within 6 months of such determination. A small wind system is considered to have reached the end of its useful life when it has been inoperable for 12 consecutive months. Time extensions are allowed when good faith efforts to repair the turbine can be demonstrated. Foundations need not be removed.



On-Site Wind Turbine Incentive Program Program Opportunity Notice (PON) 2439 \$13,800,000 Available

Applications accepted from January 1, 2012 through December 31, 2015 by 5:00 PM Eastern Time

NYSERDA announces the availability of approximately \$13.8 million in incentives to encourage the installation of end-use wind energy systems for residential, commercial, institutional or government use. The incentives, of up to \$400,000 per site/customer, will be paid to Eligible Installers who install new approved grid-connected wind energy systems using qualified equipment, in accordance with the eligibility requirements described below. The maximum equipment size shall be 2 MW (2,000 kW) per site/customer. NYSERDA's incentive shall not exceed 50% of the total installed cost of the system. The program will continue through December 31, 2015 or until funds are fully committed, whichever comes first.

Incentives are intended to benefit both the installer for business development, and the wind energy system owner, where generated power offsets the customer's utility power purchases. Eligible Installers must pass incentives, in their entirety, through directly to their customers. Incentives will be based on the predicted annual output of the wind energy system, on the proposed tower, at the proposed site, as determined by a NYSERDA-approved wind resource assessment tool. Visit <http://www.nyscrda.ny.gov/Renewables/Small-Wind/NYSERDAs-Program.aspx> for more details. System designs and annual energy estimates will be reviewed prior to the approval of incentive applications, and systems may be inspected during and following installations. Incentives will not be approved for wind energy systems that are already completely or partially installed prior to approval.

Installers must be approved by NYSERDA before they may submit an application on behalf of a customer. Installer eligibility will be determined for specific equipment and based on professional experience, company history, and installer credentialing. A list of Eligible Installers is posted on <http://nyscrda.ny.gov/Contractors/Find-a-Contractor/Wind-Installers.aspx>. All Eligible Installers receive a letter from NYSERDA that attests to their eligibility to participate in this program.

Individuals or organizations interested in purchasing a wind energy system should first visit <http://www.nyscrda.ny.gov/Renewables/Small-Wind/NYSERDAs-Program.aspx> to see the wind energy potential at their site. Generally, NYSERDA does not recommend wind energy systems for sites where the "Wind Energy Potential," as shown on the Customer Report, is "Very Poor."

The application forms for this program are available directly from NYSERDA at <http://nyscrda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-2439-On-Site-Wind-Turbine-Incentive-Program.aspx>, by contacting NYSERDA at 1-866-NYSERDA, or atinfo@nyscrda.ny.gov. Completed application forms for incentives for specific installations by Eligible Installers will be processed and approved, until funds are fully committed, under the conditions outlined below. Completed application forms for eligibility as an installer will not be accepted after September 30, 2015. Applications for the qualification of wind turbines will be accepted at any time throughout the duration of this program.

Application Submission: Completed application forms must be clearly labeled, contain all required information, have original signatures, and be mailed to:

New York State Energy Research and Development Authority
PON 2439 Wind
17 Columbia Circle
Albany, NY 12203-6399

Envelopes must be addressed as indicated above or processing may be delayed.

Installers may direct any questions to 1-866-NYSERDA, 518-862-1090 or smallwind@nyscrda.ny.gov. Please indicate that you are calling in reference to PON 2439.

*Late, incomplete, or unsigned applications will be returned. Faxed applications will not be accepted. Applications to become an Eligible Installer or to have a wind turbine listed for eligibility may be e-mailed. Applications will not be accepted at any other NYSERDA location other than the address above. If changes are made to this solicitation, notification will be posted on NYSERDA's website at <http://www.nyscrda.ny.gov>.

I. INTRODUCTION

Wind energy contributes to the public benefit by enhancing the reliability of the grid, reducing peak demand, increasing in-state electricity generation, increasing the diversity of the state's energy supply portfolio, and making the electric supply market more competitive by promoting consumer choice. An on-site wind energy system is connected on the customer's side of the electric meter and electricity generated by the system offsets the customer's electricity purchases.

This program provides incentives to Eligible Installers who install approved, grid-connected, on-site wind energy systems. Incentives must be passed on in their entirety to the customer. The program will accept applications for eligibility from installers who would like to participate in the program until September 30, 2015, and will accept applications continuously from wind turbine manufacturers who would like to have their wind turbines listed as eligible to receive funding. Once eligible, installers may reserve incentives for approved wind energy systems, for specific customers, until December 31, 2015 or for as long as funds are available.

To be eligible to install wind energy systems under this program, installers must demonstrate that they have adequate training **and** experience installing wind energy systems, including wind turbines and towers, and must be authorized by the wind turbine manufacturer or distributor to be an installer of the Eligible Wind Turbine.

NYSERDA provides complementary programs that encourage companies, organizations, and individuals to enter or improve their position in the sustainable marketplace. Visit the Funding Opportunities page on NYSERDA's web-site (<http://nyscrda.ny.gov>) or call 866-NYSERDA for more information. NYSERDA has developed installer training programs to educate and expand New York's wind installer community. Training opportunities will be posted at: <http://nyscrda.ny.gov/Program-Areas/Energy-Education-and-Workforce-Development/Workforce-Development-and-Training-Programs.aspx>.

Individuals, companies, or organizations interested in purchasing a wind turbine should first visit <http://www.nyscrda.ny.gov/Renewables/Small-Wind/NYSERDAs-Program.aspx> to see the wind energy potential at the site. If the Wind Energy Potential is Very Poor, a wind energy system is not recommended for this location.

II. FUNDING, ELIGIBLE CUSTOMERS, INCENTIVES, LIMITATIONS

A. Program Funding

In an Order issued on April 2, 2010, the NYS Public Service Commission authorized and provided funding for the continuation of the Renewable Portfolio Standard (RPS) Program's Customer-Sited Tier (CST), including the "small wind" program, through 2015. The Order required NYSERDA to develop, in consultation with Department of Public Service (DPS) Staff, a revised CST Operating Plan reflecting various program provisions as described by the Commission. The CST Plan was approved by DPS on June 30, 2010. This program has been structured to conform to the Order, as well as to the CST Plan.

Approximately \$13.8 million is available for incentives to install approved wind energy turbines for Eligible Customers as defined below. Funding is allocated on a calendar year basis and is expected to be available through December 31, 2015 or until funds are fully committed, whichever comes first.

In accordance with an Order issued on September 19, 2011, the NYS Public Service Commission required NYSERDA to establish an appropriate mechanism to ensure that the smallest-sized wind turbines continue to have funding opportunities. For purposes of this set-aside, a small wind turbine shall be defined as a wind turbine

with a rotor swept area of 200 meters squared or less. In accordance with the Order, the program’s annual budget will include funds specifically dedicated (set-aside) for small wind turbines.

The annual budgets allocated to the program including the small wind turbine set-aside are as follows:

Year	Budget*	Small Wind Turbine Set-Aside*	General Fund*
2012	\$2.9	\$1.0	\$1.9
2013	\$3.1	\$1.2	\$1.9
2014	\$3.8	\$1.6	\$2.2
2015	\$4.0	\$1.8	\$2.2
Total	\$13.8	\$5.6	\$8.2

* Dollars are in millions

During the first nine months of each year, the Set-Aside will be available exclusively for small wind turbines. If the Set-Aside is exhausted and there is uncommitted funding remaining in the General Fund pool, a small wind turbine project may use funds from the General Fund. Wind turbines not designated as small wind turbines may use funds only from the General Fund. During the last quarter of each calendar year, any Set-Aside funds not already committed will be rolled into the General Fund and therefore available for any size on-site wind turbine application. When there is insufficient funding available to support an application, it and subsequent applications for which funds are insufficient will be placed in a queue until funding becomes available. In general, this will be first-come, first-served with queue position determined based on the date that complete materials were received by NYSERDA.

B. Eligible Customers

Financial incentives for the installation of wind energy systems are available for all sectors, including, but not limited to, residential, commercial, industrial, agricultural, institutional, educational, not-for-profit, and government-owned facilities. Projects that are funded or partially funded by other NYSERDA programs are not eligible for funding under this PON. To be eligible, the installation site owner (customer) must be an electricity distribution customer of: Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, National Grid, Orange and Rockland Utilities, Inc. or Rochester Gas and Electric Corporation, who pays the Renewable Portfolio Standard surcharge. This charge typically appears as an itemized charge on the electric utility bill, with a reference to RPS or SBC/RPS.

Wind energy systems owned by third-parties may be eligible for funding under this program, provided that the site host (customer) pays the RPS surcharge, and that any contractual relationship involving the customer, system owner, or the installer provides that the entire incentive payment is being passed on to the customer, and that the program requirements required of Eligible Installers are provided to the customer by an Eligible Installer company.

C. Incentive Levels

The NYSERDA incentive will be based on the expected annual energy output (AEO) of the proposed wind energy system, at the proposed location. The AEO must be calculated by a NYSERDA-approved wind resource assessment tool. Visit <http://www.nyserderda.ny.gov/Renewables/Small-Wind/NYSERDAs-Program.aspx> for more details. It will also be necessary to complete a Wind Site Assessment, as further explained in Section IV. A.

If the AEO is 10,000 kWh or less, the NYSERDA incentive is \$3.50 per kWh.

Example: If the AEO of the wind energy system is 7,400 kWh, the NYSERDA incentive is \$25,900. [7,400 kWh x \$3.50/kWh]

If the AEO is greater than 10,000 kWh and less than or equal to (\leq) 125,000 kWh, the NYSERDA incentive is \$35,000 plus \$1.00 per kWh for every kWh greater than 10,000 kWh.

Example: If the AEO of the wind energy system is 32,500 kWh, the NYSERDA incentive is \$57,500.
[\$35,000 + (22,500 kWh x \$1.00/kWh)]

If the AEO is greater than 125,000 kWh, the NYSERDA incentive is \$150,000 plus \$.30 per kWh for every kWh greater than 125,000 kWh.

Example: If the AEO of the wind energy system is 200,000 kWh, the NYSERDA incentive is \$172,500.
[\$150,000 + (75,000 kWh x \$.30/kWh)]

Visit <http://www.nyserdera.ny.gov/Renewables/Small-Wind/NYSERDAs-Program.aspx> for more details on the NYSERDA-approved wind resource assessment tool. This assessment tool may not be appropriate for building-mounted wind turbines, short towers (typically less than 60 feet tall), tall towers (typically, greater than 140 feet tall), wind turbines to be installed in an urban environment, or wind turbines with a nameplate rating equal to or greater than 100 kW. For these systems, additional site assessment procedures will be required in order to validate the wind resource available to the wind turbine and the estimate AEO. The information provided by the installer will be reviewed on a case-by-case basis.

D. Limitations.

The maximum incentive available is \$400,000 per site/customer. The maximum total equipment size is 2 MW (2,000 kW) per site/customer. The NYSERDA incentive will not exceed 50% of the total installed cost of the wind energy system.

The purpose of NYSERDA's On-Site Wind Turbine Incentive Program is to support the installation of customer generation that will produce electricity primarily for use by that customer. Consistent with this purpose, this program limits the size (kW) of the electric generation system that can be installed. Systems shall be sized such that the expected annual energy produced (kWh/year) by the system will not exceed 110% of the customer's annual electric energy usage, including eligible remote meters. For sites that do not have 12 months of electric consumption or that are increasing their electric use, an estimated energy use analysis may be used to predict that usage.

If multiple wind turbines are installed at a site, the NYSERDA incentive is based on the AEO of all wind turbines combined and is not based on the AEO of each individual wind turbine. For example: If two wind turbines are installed and the AEO for each wind turbine is 10,000 kWh, the NYSERDA incentive will be \$45,000 (\$35,000 + \$10,000) and not \$70,000 (\$35,000 + \$35,000).

Applications will be accepted for review in accordance with the following limitations:

- Eligible Installation companies are limited to a maximum of ten open projects at any one time under this and previous programs. A project is considered open from the time of the application for an incentive is submitted until the final invoice is approved by NYSERDA.
- Eligible Installation Companies may submit an additional ten applications, only if these applications are also seeking funding through a competitive federal grant (e.g. USDA- REAP grant) as part of their overall financial structure and are less than 100 kW each. The Installer must submit proof, within two weeks after the federal program's application due date, that the application was actually submitted for federal funding. After this date, NYSERDA will not accept additional applications until the total number of an installation company's open projects are below ten.
- The first application submitted by a new Installer must be approved by NYSERDA before any additional applications may be submitted.

Incentives are only available for the installation of new equipment and wind energy systems that have not been installed (partially or completely) prior to NYSERDA approval of an incentive application submitted in accordance with the terms and conditions of this PON. Incentives are only available to Eligible Installers and incentives must be passed on in their entirety to customers. Incentives will not be provided directly to customers who purchase and install their own wind energy systems.

Changes in Incentive Level - Although incentives are expected to stay at these levels, incentives may be changed at any given time during the program, for any reason. Eligible Installers will be notified of any program changes via e-mail and the changes will also be posted on NYSERDA's web site. Applications that are complete when received by NYSERDA will not be subject to subsequent changes in incentive levels.

E. Incentive Payment Schedule

Incentives will be paid to Eligible Installers in two increments and will be tied to specific installation milestones. The first incentive payment, which is 65% of the total incentive amount approved by NYSERDA, will be paid upon demonstration that all wind energy system components have been delivered to the customer's site. Attachment D must be completed and submitted, along with all supporting documentation, to be approved by NYSERDA. The second incentive payment, which is the remaining 35% of the total incentive amount approved by NYSERDA, will be paid upon demonstration that the wind energy system has been connected to the utility grid, inspected by all authorities having jurisdiction, and/or inspected by NYSERDA or its representatives and Attachment E has been completed, submitted and approved by NYSERDA. Documentation for all applicable utility, state, city, town, and other inspections and approvals must be attached to Attachment E.

F. Application Approval Timing

Complete, accurate, and legible incentive applications will help facilitate a quick review. NYSERDA will not consider or process applications that are not complete. Applications that are not complete and signed by the Eligible Installer when submitted will be rejected and returned.

Incentive Application Form Part 1 (Attachment A) will be reviewed and installers will be notified within 30 days of NYSERDA's receipt of the completed application. Applications for proposed installations that (1) do not meet the requirements of PON 2439, (2) have installation and interconnection schedules in the customer purchase agreement that are not reasonable, and/or (3) indicate that the proposed wind energy system has been installed (partially or completely) before NYSERDA approval, will be rejected and returned.

Incentive Application Form Part 2 (Attachment B) will be reviewed and, for situations where the Town or other permit-granting body has completed the requirements of the State Environmental Quality Review Act (SEQR) (<http://www.dec.ny.gov/regs/4490.html>), installers will be notified within 30 days of receipt of the application. If no zoning, land-use or other approval-granting body has jurisdiction, at least an additional 30 days will be necessary.

Upon NYSERDA's approval, the installer will receive an approval letter with a Purchase Order attached. The date on the Purchase Order shall serve as the starting date of the project. It is NYSERDA's goal to see wind energy systems installed in a timely manner; in general, all the wind energy system components should be delivered to the customer's site within 120 days of this starting date. If this is not possible, NYSERDA must be contacted to establish a reasonable schedule. Otherwise, the reservation will become void 120 days after the starting date. When all deliverables have been met, incentives for approved wind energy systems will be paid under the terms of NYSERDA's prompt payment policy.

(http://nyserderda.ny.gov/~media:Files/FO/Standard%20Forms%20and%20Agreements/exhibitd.ashx?sc_database=web)

III. WIND ENERGY SYSTEM AND SITE REQUIREMENTS

A. Wind Energy Systems and Components

Systems must be for grid-connected, on-site applications to be eligible for an incentive. On-site wind energy systems are those connected on the customer's side of the electric meter; the electricity generated by the wind energy system must offset the customer's utility electricity purchases. All components of wind energy systems installed under this program must be new equipment. **Incentives are only available for wind energy systems that have not been installed (partially or completely) prior to NYSERDA approval of an incentive application submitted in accordance with the terms and conditions of this PON.** Construction or partial construction of the foundation is considered partial installation of the wind energy system and should not occur prior to NYSERDA's approval of an incentive application.

Wind Turbines - Only wind turbines that have been pre-approved by NYSERDA are eligible for funding under this program. A list of Eligible Wind Turbines is available at <http://www.nyserdera.ny.gov/Renewables/Small-Wind/Eligible-Wind-Turbines.aspx>.

Towers - Wind turbines must be mounted on an appropriate tower and the towers must be designed to accommodate the proposed wind turbine. It is recommended that towers be at least 60 feet in height; however, the bottom of the rotor must be at least 30 feet above any obstacle, in any direction, within 500' of the turbine. NYSERDA reserves the right to consider installations on a case-by-case basis.

Building-Mounted Turbines - Wind turbines may be mounted on a pre-existing structure such as a building or another type of structure. For turbines mounted on a pre-existing structure, a structural analysis must be provided demonstrating sufficient structural integrity. NYSERDA reserves the right to approve applications on a case-by-case basis.

Inverters and Interconnection - Inverters and interconnection devices must be listed on the New York State Department of Public Service's list of Certified Interconnection Equipment (<http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3e6485257688006a701a/def68efca391ad6085257687006f396b?SFILE/SIRDevices.pdf>) or the interconnection must be in agreement with the most current version of the Public Service Commission's Standardized Interconnection Requirements. All wind energy systems must have an appropriate interconnection agreement with the utility and the wind energy system must be installed in compliance with that agreement.

Other Electrical Components - All other electrical components of the wind energy systems such as charge controllers, batteries, wiring, and metering equipment must be certified as meeting the requirements of any relevant national and state codes and standards.

Monitoring Equipment - Each wind energy system must include, at a minimum, a cyclometer register kilowatt-hour meter (or a meter that can be read numerically by a customer or an "easy read meter") to read total energy output. The energy metering data must be automatically stored independently of the inverter display. In lieu of a meter, a data acquisition system (DAS) capable of transmitting and storing data off-site may be used. The meter must have an accuracy of within $\pm 5\%$ and include a certificate of compliance from the manufacturer. Energy production (including the date of the meter reading) must be collected by the installer or customer at least once per month and the installer must submit this data to NYSERDA twice per year for two years following interconnection of the wind energy system. A DAS does not alleviate the installer's responsibility to submit timely data to NYSERDA. At NYSERDA's cost, NYSERDA may require that additional monitoring equipment be installed.

B. Siting Considerations

Under the provisions of the State Environmental Quality Review Act (SEQR), NYSERDA must determine if the funding of any action may have a significant impact on the environment. All wind installations must meet the requirements of the local zoning ordinances.

In addition, the following general criteria will apply:

- The minimum work zone distance between the tower base, and a property line or power line is the height of the wind energy system, above ground level, including the blades, plus 10%. (i.e., 1.1 times the total height of the wind energy system)
 - o Customers may apply for an exemption with written permission from the neighbor and an indication from the neighbor that the use of land in the vicinity is consistent with the proposed wind energy system. There is no exemption for power lines.
- The minimum setback distance between the tower base and any human-occupied building is five times the rotor diameter.
 - o Customers may apply in writing for an exemption from this minimum distance requirement for buildings they own; however, the customer must demonstrate that the possible problems of locating the wind energy system less than the required distance from the building have been addressed.
- For building-mounted applications, if the local municipality has an ordinance that stipulates the criteria for building-mounted wind turbines, then building-mounted wind turbines may be eligible for funding under this program, provided all other program requirements are met. If the local municipality does not have an ordinance that stipulates the criteria for building-mounted wind turbines, then a building-mounted wind turbine is not eligible for funding under this program.
- If multiple turbines are proposed for a site, there must be a distance of at least ten times the rotor diameter between the tower bases.
- The bottom of the rotor must be at least 30 feet above any obstacle, in any direction, within 500' of the turbine.

IV. REQUIRED DOCUMENTATION FOR CUSTOMER INCENTIVE APPLICATIONS

There are two parts to the incentive application: Attachment A, 'Installation Information', and Attachment B, "Permitting and SEQR Information." Installers may submit Attachment A prior to obtaining permits for the wind energy system as it is possible that the review of Attachment A could result in recommendations to make changes to the wind energy system location or tower height. Both Attachments A and B include lists of supporting documentation that must be provided. Only after Attachments A and B and all supporting documents are provided will NYSERDA reserve funding for the application.

A. Attachment A – Installation Information

Attachment A describes the site and the wind energy system that will be erected. Installers must supply all of the information requested in Attachment A, "Installation Information." Applications that do not include all of the information requested will be returned.

Wind Site Assessment - A wind site assessment provides customers with site-specific information and will be the basis for determining the NYSERDA incentive. At a minimum, this assessment shall include the following; however, applications for turbines with a nameplate rating of greater than 100 kW will require a more detailed analysis:

- An evaluation of the wind resource at the potential location of the wind turbine(s) at hub height. This information will be generated by the NYSERDA-approved wind resource assessment tool. *

- Eight photographs taken from the proposed wind energy system location looking in the following directions: N, NE, E, SE, S, SW, W, NW.
- Site contour map.
- Demonstrated historic annual site electric use (kWh). For sites that do not have 12 months of electric consumption or that are increasing their electric use, an energy-use analysis may be used to predict that usage. Copy of a utility bill(s) showing proof of payment by customer into Renewable Portfolio Standard (RPS) (or letter from utility if not indicated on electric bill) and annual kWh usage. Attachment J – Electric Utility Information must also be completed.
- Details about the proposed turbine, including manufacturer and model, rotor diameter, tower height, and tower type.
- A description of potential obstructions that may affect the proposed turbine’s AEO. Additional turbulence losses may be applied when the turbine site does not meet this recommendation. When the obstacles are trees, their mature height must be used to determine minimum turbine height.
- Aerial photos or images of the potential wind site.
- Elevation of the site (feet about sea level).
- A plot plan, on 8-1/2” x 11” paper, (multiple plans may be submitted, if scaling is an issue.) which includes the following:
 - o Property lines and physical dimensions of the property
 - o Location, dimensions, and types of existing major structures on the property
 - o Location of the proposed wind system tower(s)
 - o The right-of-way of any public road that is contiguous with the property;
 - o Location of any overhead utility lines;
 - o Location of utility meter; and
 - o Electrical interconnection location.
- Estimated AEO of the proposed turbine.*

Only a NYSERDA-approval wind resource assessment tool may be used to determine average annual wind speed and estimated AEO. NYSERDA reserves the right to use its own estimate for the purpose of determining the NYSERDA incentive.

* Visit <http://nyserdera.ny.gov/en/Page-Sections/Renewables/Small-Wind/On-Site-Wind-Turbine-Incentive-Program.aspx> for more details on the NYSERDA-approved wind resource assessment tool. This assessment tool may not be appropriate for building-mounted turbines, short towers (typically less than 60 feet tall), tall towers (typically, greater than 140 feet tall), turbines to be installed in an urban environment, or turbines with a nameplate rating equal to or greater than 100 kW. For these systems, additional site assessment procedures will be required in order to validate the wind resource available to the turbine and the estimate AEO. The information provided by the installer will be reviewed on a case-by-case basis.

Wind Site Assessment for wind turbines with a nameplate rating equal to or greater than 100 kW shall also include a review of the following:

- Accessibility of site and availability of work area
- Ease of interconnection to existing electrical infrastructural (on-site and utility)
- Economic analysis

- Shadow flicker and sound issues
- Any additional reviews required by any Authority Having Jurisdiction (AHJ).

One-Line Diagram - A legible diagram using unique line characteristics and standard symbols to clearly describe the wind energy system as it will be installed. The One-Line Diagram must show all major system components from the wind turbine to the utility meter. Each conductor's size and type is to be shown, as well as the relevant conduit characteristics (i.e. size and type, and length, if greater than 20'). The make, model, and voltage and amperage ratings of all overcurrent devices, switches, inverters, batteries and other relevant equipment are to be shown, as applicable. The Diagram should also make clear whether the system will be connected via a line-side tap or if it will be back-fed through a circuit breaker in the main service panel.

System designs must be in accordance with applicable local, State, and national codes and regulations, including Article 694, Small Wind Electric Systems, of the National Electrical Code.

Installation Drawings - Provide copies of any tower foundation blueprints or drawings, tower blueprint or drawing, and any other documentation required by the AHJ.

B. Attachment B - State Environmental Quality Review

Attachment B, Permitting and SEQR Information, provides a list of the steps and supporting documents that are necessary for approval of NYSERDA funding. It is the Eligible Installer's responsibility to insure that all necessary permits, approvals, certificates, etc. from any applicable AHJ are obtained for all installed systems.

The Eligible Installer is responsible for ensuring that each project complies with the requirements of the State Environmental Quality Review Act (SEQR). Under the provisions of SEQR, NYSERDA must determine if the funding of any action may have a significant impact on the environment, regardless of any other authority's determination. SEQR review should begin with an application to the Town board, zoning, land-use or other local approval-granting body. A SEQR negative declaration or other determination by a local authority will be considered by NYSERDA in its determination. NYSERDA does not consider the installation of a wind turbine to be a Type II Action.

For incentive applications where the combined total name plate rating of the wind turbines is equal to or greater than 100 kW, the application must include the Full Environmental Assessment Form with the Visual EAF. During NYSERDA's review, particular attention will be paid to questions A-11, A-14, A-18, B-9, B-10, C-11 and C-17.

Eligible Installers are encouraged to review the SEQR requirements early in the developmental stage, before entering a contract with a customer that reflects NYSERDA participation. Please contact NYSERDA if you have any questions regarding these requirements. For a more comprehensive description of the SEQR process visit <http://www.dec.ny.gov/permits/357.html>. NYSERDA will not commit to providing incentives on any project until a determination has been made under SEQR.

V. INSTALLER ELIGIBILITY

To apply for status as an Eligible Installer, an individual must complete and submit Attachment F - Installer Eligibility Application Form along with the required supporting documentation. An applicant's eligibility will be determined and maintained for specific wind turbines depending on the types of wind energy systems the applicant has experience installing. Attachment K - Manufacturer Authorization Letter must also be completed; this letter stipulates that the installer is authorized to install the specified wind turbine and that the manufacturer will honor the NYSERDA required warranty, as stated in Attachment C - Addendum to Customer Purchase Agreement, in the event of a default by the installer.

Determinations of eligibility will be based on factors such as acceptance of all program terms and conditions, training, extent and type of installation experience, customer references, and proof that an applicant may purchase at least one of NYSERDA's Eligible Wind Turbines. Site assessment skills, wind resource and energy estimation skills, and professionalism will also be evaluated. Past performance under NYSERDA programs is a critical criterion for determining eligibility and the conditions of eligibility under this solicitation. To become eligible, applicants will be required to sign and comply with the Standard Terms and Conditions (Attachment G). If the Eligible Installer, Installation Company employees, or subcontractors do not meet all program terms and conditions or program requirements, the Eligible Installer will be subject to termination or suspension actions as described in Section 3(b) of Attachment G, Compliance with program terms and conditions.

Installers must meet all insurance requirements (both commercial general liability and commercial automobile liability insurance) as specified under Section 10 of Standard Terms and Conditions (Attachment G). Each insurance certificate must name NYSERDA and the State of New York as additional insureds. Proof of insurance must be provided to NYSERDA and submitted with the signed copy of the Standard Terms and Conditions.

To maintain eligibility under this program, all installers must meet the following conditions every calendar year:

- Their insurance is current
- They can show proof that they have had a significant role in a wind turbine installation, attended at least one in-depth wind installation training course, or attended an in-depth wind site assessor course. (NABCEP Certified Small Wind Installers are exempt from this initiative.)
- There have been no substantial changes that could affect their program eligibility.

In addition, installers approved under PON 2097 must submit the following to maintain their eligibility:

- An e-mail to the NYSERDA project manager stating that they agree to be bound by the terms and conditions of PON 2439's Attachment G - Eligible Installer Agreement
- Attachment K from at least one manufacturer of a wind turbine eligible for funding under PON 2439 stating the installer is eligible to install the specified wind turbine and that the manufacturer will honor the NYSERDA warranty in the event of a default by the installer.

Once notified of eligibility in writing by NYSERDA, an Eligible Installer may then submit applications for incentives for specific customers, under the terms and conditions described in PON 2439. Review of Eligible Installer Applications may take up to 30 days. Since the incentives offered under this program will close on December 31, 2015, until further notice installer eligibility applications will only be accepted until September 30, 2015.

NYSERDA's Rights and Limitations - NYSERDA may deny or revoke eligibility for any reason, including, but not limited to: inadequate training, inadequate experience, poor references, failure to act professionally, fairly, and in good faith with NYSERDA or customers, providing false information to NYSERDA or customers, poor performance in previous NYSERDA programs, and committing actions that would be subject to disciplinary actions under Section 3(b) of Attachment G, Compliance with program terms and conditions.

Neither NYSERDA nor the State of New York endorses any Eligible Installer, Installation Company, or Eligible Wind Turbine. In addition, NYSERDA and the State of New York does not guarantee, warrant, or in any way represent or assume liability for any work proposed or carried out by an Eligible Installer or Installation Company. NYSERDA is not responsible for assuring that the design, engineering, or construction of the project or installation of any wind energy system is proper or complies with any particular laws, regulations, codes, licensing, certification and permit requirements, or industry standards. NYSERDA does not make any representations of any kind regarding the results to be achieved by the wind energy systems or the adequacy or safety of such measures.

A list of Eligible Installers is posted on <http://nyserda.ny.gov/Contractors/Find-a-Contractor/Wind-Installers.aspx>.

VI. ELIGIBLE WIND TURBINES

Only commercially available wind turbines with a proven record for power performance, reliability, safety, and acoustics will be considered for funding. To gain eligibility for a wind turbine to receive funding under this program, a manufacturer or dealer must complete and submit Attachment H, Eligible Wind Turbine Application Form, with all of the information requested.

NYSERDA requires that manufacturers or dealers of wind turbine provide one of the following:

1. Evidence that an international organization, accredited to ISO/IEC Guide 65 or EN45011, has certified that the wind turbine meets the appropriate sections of IEC 61400 for acoustics, durability, safety, and performance standards (For small wind turbines, this includes IEC 61400-2, IEC 61400-11, and IEC 61400-12).
2. Evidence that a recognized Accredited Certification Organization, such as the Small Wind Certification Council or Intertek, has certified that the wind turbine meets the requirements of the AWEA Small Wind Turbine Performance and Safety Standard, AWEA 9.1 – 2009.
3. If the wind turbine is too large to be compliant with AWEA 9.1 - 2009, then the procedures outlined in Attachment I must be followed.

In addition, the manufacturer or dealer must submit the technical specifications on the wind turbine, inverter, and tower, as well as the power curve in graphic and table form, from IEC 61400-12-1.

NYSERDA reserves the right to deny eligibility of any wind turbine for any reason including but not limited to: poor performance, concerns about wind turbine's design, concerns about the quality of data presented, or lack of manufacturer support for maintenance and warranties. Review of Wind Turbine Applications may take up to 60 days. Wind turbines eligible for funding under PON 2097 will remain eligible under PON 2439.

Wind turbines listed as approved at the completion of PON 2097 are eligible for this program. After September 30, 2012, any wind turbine to which the AWEA Small Wind Turbine Performance and Safety Standard applies, must be certified to that standard or to IEC 61400-2, IEC 61400-11, and IEC 61400-12-1, by a recognized Accredited Certification Organization to be eligible for funding under NYSERDA On-Site Wind Turbine Incentive Program.

NYSERDA is a member of the Interstate Turbine Advisory Council (ITAC), established under the Clean Energy States Alliance. One of ITAC's goals is to establish a collaborative group of public clean energy programs to evaluate and identify small and mid-sized wind turbines that fit the performance and durability expectations of incentive providers. Once ITAC publishes its unified list of wind turbines, NYSERDA expects to adopt that list for all wind turbine sizes included in the list, as they pertain to PON 2439. NYSERDA reserves the right to impose additional restrictions or relax ITAC's requirements dependent on program needs.

Details on Eligible Wind Turbines may be found at: <http://www.nysERDA.ny.gov/Renewables/Small-Wind/Eligible-Wind-Turbines.aspx>.

VII. GENERAL CONDITIONS

Proprietary Information - Careful consideration should be given before confidential information is submitted to NYSERDA as part of your proposal. Review should include whether it is critical for evaluating a proposal, and whether general, non-confidential information, may be adequate for review purposes.

The NYS Freedom of Information Law, Public Officers law, Article 6, provides for public access to information NYSERDA possesses. Public Officers Law, Section 87(2)(d) provides for exceptions to disclosure for records or portions thereof that "are trade secrets or are submitted to an agency by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise." Information submitted to NYSERDA that the proposer wishes to have treated as proprietary, and confidential trade secret information, should be identified and labeled "Confidential" or "Proprietary" on each page at the time of disclosure. This information should include a written request to except it from disclosure, including a written statement of the reasons why the information should be excepted. See Public Officers Law, Section 89(5) and the procedures set forth in 21 NYCRR Part 501 <http://www.nyserda.ny.gov/About/New-York-State-Regulations.aspx>. However, NYSERDA cannot guarantee the confidentiality of any information submitted.

Omnibus Procurement Act of 1992 - It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority- and women-owned business enterprises, as bidders, subcontractors, and suppliers on its procurement Agreements.

Information on the availability of New York subcontractors and suppliers is available from:

Empire State Development
Division For Small Business
30 South Pearl Street
Albany, NY 12245

A directory of certified minority- and women-owned business enterprises is available from:

Empire State Development
Minority and Women's Business Development Division
30 South Pearl Street
Albany, NY 12245

Tax Law Section 5-a - NYSERDA is required to comply with the provisions of Tax Law Section 5-a, which requires a prospective contractor, prior to entering an agreement with NYSERDA having a value in excess of \$100,000, to certify to the Department of Taxation and Finance (the "Department") whether the contractor, its affiliates, its subcontractors and the affiliates of its subcontractors have registered with the Department to collect New York State and local sales and compensating use taxes. The Department has created a form to allow a prospective contractor to readily make such certification. See, ST-220-TD (available at http://www.tax.ny.gov/pdf/current_forms/st/st220td_fill_in.pdf). Prior to contracting with NYSERDA, the prospective contractor must also certify to NYSERDA whether it has filed such certification with the Department. The Department has created a second form that must be completed by a perspective contractor prior to contacting and filed with NYSERDA. See, ST-220-CA (available at http://www.tax.ny.gov/pdf/current_forms/st/st220ca_fill_in.pdf). The Department has developed guidance for contractors which is available at <http://www.tax.ny.gov/pdf/publications/sales/pub223.pdf>.

Contract Award - NYSERDA anticipates having multiple Eligible Installers under this solicitation. It may award a contract based on initial applications without discussion, or following limited discussion or negotiations. Each application should be submitted using the most favorable cost and technical terms. NYSERDA may request additional data or material to support applications. NYSERDA will use the Terms and Conditions (Attachment G) to contract with successful applications.

Limitation - This solicitation does not commit NYSERDA to award a contract, pay any costs incurred in preparing a proposal, or to procure or contract for services or supplies. NYSERDA reserves the right to accept or reject any or all proposals received, to negotiate with all qualified sources, or to cancel in part or in its entirety the solicitation when it is in NYSERDA's best interest.

Disclosure Requirement - The proposer shall disclose any indictment for any alleged felony, or any conviction for a felony within the past five years, under the laws of the United States or any state or territory of the United States, and shall describe circumstances for each. When a proposer is an association, partnership, corporation, or other organization, this disclosure requirement includes the organization and its officers, partners, and directors or members of any similarly governing body. If an indictment or conviction should come to the attention of NYSEDA after the award of a contract, NYSEDA may exercise its stop-work right pending further investigation, or terminate the agreement; the contractor may be subject to penalties for violation of any law which may apply in the particular circumstances. Proposers must also disclose if they have ever been debarred or suspended by any agency of the U.S. Government or the New York State Department of Labor.

VIII. ATTACHMENTS

Attachment A - Customer Incentive Application Form
Attachment B - Permitting and SEQR Information
Attachment C - Addendum to the Customer Purchase Agreement - Standard Terms and Conditions
Attachment D - Initial Incentive Payment Form (65% of Approved Incentive)
Attachment E - Final Incentive Payment Form (35% of Approved Incentive)
Attachment F - Installer Eligibility Application Form
Attachment G - Eligible Installer Agreement - Standard Terms and Conditions
Attachment H - Eligible Wind Turbine Application Form
Attachment I - Eligibility Requirements for Midsize Turbines
Attachment J - Electric Utility Information
Attachment K - Manufacturer Authorization Letter

USDA United States
Department of
Agriculture



NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Putnam County, New York**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://soils.usda.gov/sqi/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

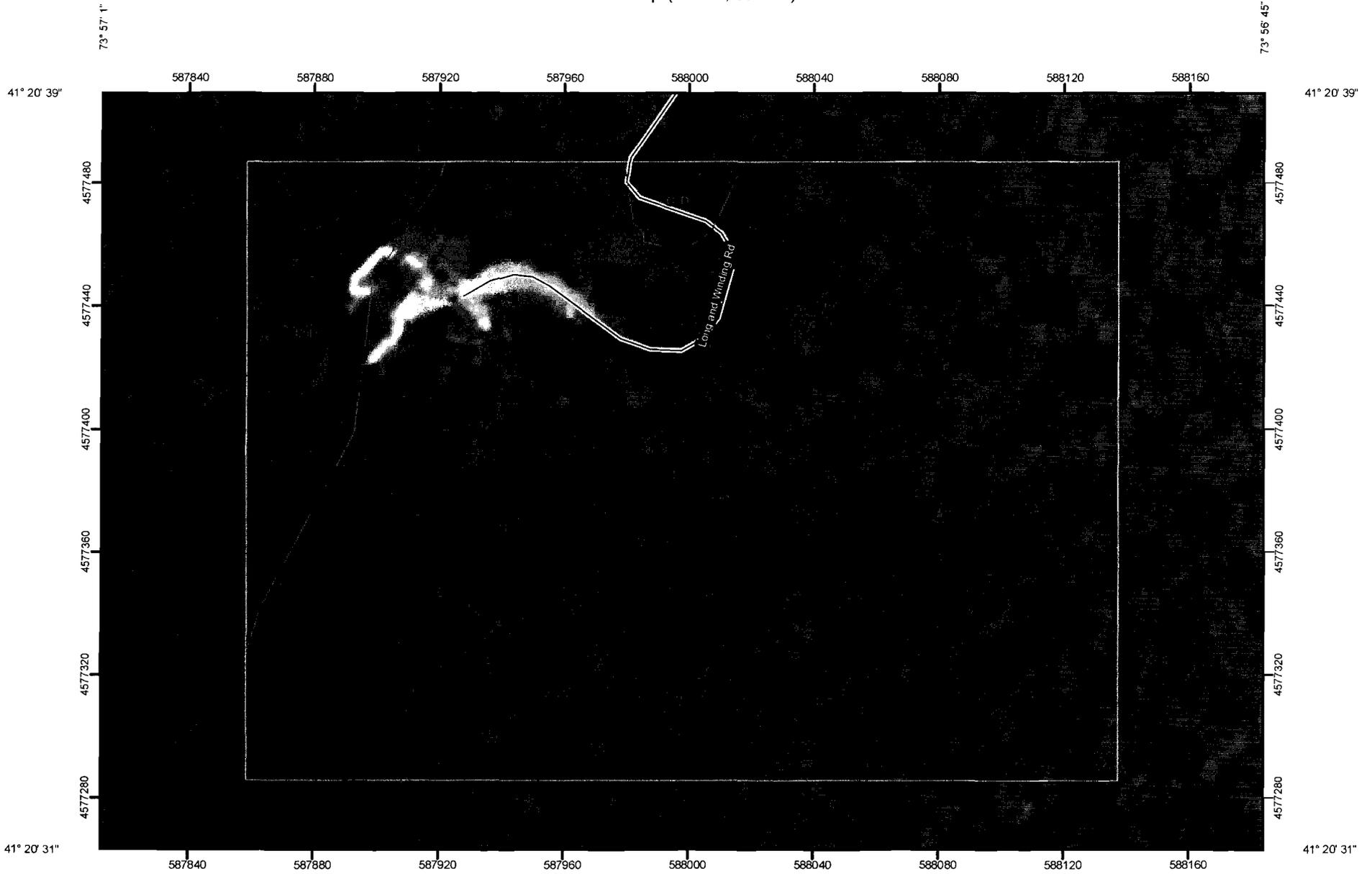
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map (Gleick, James)



73° 57' 1"



Map Scale: 1:1,760 if printed on A size (8.5" x 11") sheet.



73° 56' 45"

41° 20' 31"

41° 20' 31"

Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)			Very Stony Spot
	Area of Interest (AOI)		Wet Spot
Soils			Other
	Soil Map Units	Special Line Features	
Special Point Features			Gully
	Blowout		Short Steep Slope
	Borrow Pit		Other
	Clay Spot	Political Features	
	Closed Depression		Cities
	Gravel Pit	Water Features	
	Gravelly Spot		Streams and Canals
	Landfill	Transportation	
	Lava Flow		Rails
	Marsh or swamp		Interstate Highways
	Mine or Quarry		US Routes
	Miscellaneous Water		Major Roads
	Perennial Water		Local Roads
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		
	Spoil Area		
	Stony Spot		

MAP INFORMATION

Map Scale: 1:1,760 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Putnam County, New York
 Survey Area Data: Version 9, Sep 21, 2012

Date(s) aerial images were photographed: 8/2/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Gleick, James)

Putnam County, New York (NY079)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CtC	Chatfield-Hollis-Rock outcrop complex, rolling	12.5	89.6%
CuD	Chatfield-Hollis-Rock outcrop complex, hilly	1.4	10.4%
Totals for Area of Interest		13.9	100.0%

Map Unit Descriptions (Gleick, James)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Putnam County, New York

CtC—Chatfield-Hollis-Rock outcrop complex, rolling

Map Unit Setting

Elevation: 100 to 1,000 feet

Mean annual precipitation: 46 to 50 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 115 to 215 days

Map Unit Composition

Hollis and similar soils: 30 percent

Chatfield and similar soils: 30 percent

Rock outcrop: 20 percent

Minor components: 20 percent

Description of Chatfield

Setting

Landform: Hills, ridges

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy till derived mainly from granite, gneiss, or schist

Properties and qualities

Slope: 3 to 15 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 1 percent

Available water capacity: Low (about 3.2 inches)

Interpretive groups

Land capability (nonirrigated): 6s

Typical profile

0 to 7 inches: Loam

7 to 24 inches: Flaggy silt loam

24 to 28 inches: Unweathered bedrock

Description of Hollis

Setting

Landform: Hills, ridges

Landform position (two-dimensional): Shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: A thin mantle of loamy till derived mainly from schist, granite, and gneiss

Custom Soil Resource Report

Properties and qualities

Slope: 3 to 15 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Very low (about 2.0 inches)

Interpretive groups

Land capability (nonirrigated): 6s

Typical profile

0 to 1 inches: Fine sandy loam

1 to 16 inches: Fine sandy loam

16 to 20 inches: Unweathered bedrock

Description of Rock Outcrop

Properties and qualities

Slope: 3 to 15 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Capacity of the most limiting layer to transmit water (Ksat): Low to very high (0.01 to 19.98 in/hr)

Interpretive groups

Land capability (nonirrigated): 6s

Minor Components

Charlton

Percent of map unit: 8 percent

Sutton

Percent of map unit: 5 percent

Sun

Percent of map unit: 2 percent

Landform: Depressions

Unnamed soils, very shallow

Percent of map unit: 2 percent

Leicester

Percent of map unit: 2 percent

Palms

Percent of map unit: 1 percent

Landform: Marshes, swamps

CuD—Chatfield-Hollis-Rock outcrop complex, hilly

Map Unit Setting

Elevation: 100 to 1,000 feet

Mean annual precipitation: 46 to 50 inches

Mean annual air temperature: 46 to 52 degrees F

Frost-free period: 115 to 215 days

Map Unit Composition

Hollis and similar soils: 30 percent

Chatfield and similar soils: 30 percent

Rock outcrop: 25 percent

Minor components: 15 percent

Description of Chatfield

Setting

Landform: Hills, ridges

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy till derived mainly from granite, gneiss, or schist

Properties and qualities

Slope: 15 to 35 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Low to high (0.01 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 1 percent

Available water capacity: Low (about 3.2 inches)

Interpretive groups

Land capability (nonirrigated): 7s

Typical profile

0 to 7 inches: Loam

7 to 24 inches: Flaggy silt loam

24 to 28 inches: Unweathered bedrock

Description of Hollis

Setting

Landform: Hills, ridges

Custom Soil Resource Report

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: A thin mantle of loamy till derived mainly from schist, granite, and gneiss

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.0 inches)

Interpretive groups

Land capability (nonirrigated): 7s

Typical profile

0 to 1 inches: Fine sandy loam
1 to 16 inches: Fine sandy loam
16 to 20 inches: Unweathered bedrock

Description of Rock Outcrop

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Capacity of the most limiting layer to transmit water (Ksat): Low to very high (0.01 to 19.98 in/hr)

Interpretive groups

Land capability (nonirrigated): 7s

Minor Components

Charlton

Percent of map unit: 5 percent

Sutton

Percent of map unit: 3 percent

Sun

Percent of map unit: 2 percent
Landform: Depressions

Unnamed soils, very shallow

Percent of map unit: 2 percent

Leicester

Percent of map unit: 2 percent

Palms

Percent of map unit: 1 percent
Landform: Marshes, swamps

Custom Soil Resource Report

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Appendix A
State Environmental Quality Review
FULL ENVIRONMENTAL ASSESSMENT FORM

Purpose: The full EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action may be significant. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who determine significance may have little or no formal knowledge of the environment or may not be technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The full EAF is intended to provide a method whereby applicants and agencies can be assured that the determination process has been orderly, comprehensive in nature, yet flexible enough to allow introduction of information to fit a project or action.

Full EAF Components: The full EAF is comprised of three parts:

- Part 1:** Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.
- Part 2:** Focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.
- Part 3:** If any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important.

THIS AREA FOR LEAD AGENCY USE ONLY

DETERMINATION OF SIGNIFICANCE -- Type 1 and Unlisted Actions

Identify the Portions of EAF completed for this project:

Part 1

Part 2

Part 3

Upon review of the information recorded on this EAF (Parts 1 and 2 and 3 if appropriate), and any other supporting information, and considering both the magnitude and importance of each impact, it is reasonably determined by the lead agency that:

- A. The project will not result in any large and important impact(s) and, therefore, is one which **will not** have a significant impact on the environment, therefore **a negative declaration will be prepared.**
- B. Although the project could have a significant effect on the environment, there will not be a significant effect for this Unlisted Action because the mitigation measures described in PART 3 have been required, therefore **a CONDITIONED negative declaration will be prepared.***
- C. The project may result in one or more large and important impacts that may have a significant impact on the environment, therefore **a positive declaration will be prepared.**

*A Conditioned Negative Declaration is only valid for Unlisted Actions

Mr. James Gleick, Residential Small Wind Turbine

Name of Action

Philipstown , NY Zoning Board of Appeals

Name of Lead Agency

Mr. Vincent Cestone

ZBA Chairmen

Print or Type Name of Responsible Officer in Lead Agency

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (If different from responsible officer)

PART 1--PROJECT INFORMATION
Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

Name of Action Mr. James Gleick, Residential Small Wind Turbine

Location of Action (include Street Address, Municipality and County)

200 Long and Winding Road, Garrison, New York 10524

Name of Applicant/Sponsor Douglas Passeri, Hudson Valley Wind Energy, LLC

Address 70 County Route

City / PO Pine Plains State New York Zip Code 12567

Business Telephone 518-398-5060

Name of Owner (if different) Mr. James Gleick

Address 200 Long and Wind Road

City / PO Garrison State New York Zip Code 10524

Business Telephone 845-424-3909

Description of Action:

Installation quantity one (1) Wind Energy Conversion System (WECS), consisting of Bergey WindPower Model BWC Excel - S 10kW class wind turbine atop 140' Guyed Lattice Tower.
The installation will produce electricity for the use at the site in which it is generated, and offset the rising cost of electricity associated with daily living.
The expected AEO produced from this grid interconnection application is 12,512kW providing a reduction in the current annual residential power used, and decreasing the demand placed on the utility company.
The selected WECS site will have no negative aesthetic effect to the surrounding landscape or change the character of neighboring scenic views. There is no foreseen impact to the environment; water, plant or animal.

Please Complete Each Question--Indicate N.A. if not applicable

A. SITE DESCRIPTION

Physical setting of overall project, both developed and undeveloped areas.

1. Present Land Use: Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Other _____

2. Total acreage of project area: Half Acre acres.

APPROXIMATE ACREAGE	PRESENTLY	AFTER COMPLETION
Meadow or Brushland (Non-agricultural)	<u>0</u> acres	<u>0</u> acres
Forested	<u>42</u> acres	<u>42</u> acres
Agricultural (Includes orchards, cropland, pasture, etc.)	<u>0</u> acres	<u>0</u> acres
Wetland (Freshwater or tidal as per Articles 24,25 of ECL)	<u>0</u> acres	<u>0</u> acres
Water Surface Area	<u>0</u> acres	<u>0</u> acres
Unvegetated (Rock, earth or fill)	<u>0</u> acres	<u>0</u> acres
Roads, buildings and other paved surfaces	<u>1</u> acres	<u>1</u> acres
Other (Indicate type) _____	_____ acres	_____ acres

3. What is predominant soil type(s) on project site? CtC Chatfield-Hollis

- a. Soil drainage: Well drained 95 % of site Moderately well drained 5 % of site.
 Poorly drained _____ % of site

- b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? 0 acres (see 1 NYCRR 370).

4. Are there bedrock outcroppings on project site? Yes No

- a. What is depth to bedrock _____ (in feet)

5. Approximate percentage of proposed project site with slopes:

- 0-10% 100 % 10- 15% _____ % 15% or greater _____ %

6. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or National Registers of Historic Places? Yes No

7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? Yes No

8. What is the depth of the water table? 8 (in feet)

9. Is site located over a primary, principal, or sole source aquifer? Yes No

10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? Yes No

11. Does project site contain any species of plant or animal life that is identified as threatened or endangered? Yes No

According to:

Identify each species:

12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes, other geological formations?)

Yes No

Describe:

13. Is the project site presently used by the community or neighborhood as an open space or recreation area?

Yes No

If yes, explain:

14. Does the present site include scenic views known to be important to the community? Yes No

15. Streams within or contiguous to project area:

N/A

a. Name of Stream and name of River to which it is tributary

16. Lakes, ponds, wetland areas within or contiguous to project area:

b. Size (in acres):

17. Is the site served by existing public utilities? Yes No
- a. If YES, does sufficient capacity exist to allow connection? Yes No
- b. If YES, will improvements be necessary to allow connection? Yes No
18. Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? Yes No
19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? Yes No
20. Has the site ever been used for the disposal of solid or hazardous wastes? Yes No

B. Project Description

1. Physical dimensions and scale of project (fill in dimensions as appropriate).

- a. Total contiguous acreage owned or controlled by project sponsor: 32 acres.
- b. Project acreage to be developed: .5 acres initially; .5 acres ultimately.
- c. Project acreage to remain undeveloped: 30 acres.
- d. Length of project, in miles: N/A (if appropriate)
- e. If the project is an expansion, indicate percent of expansion proposed. N/A %
- f. Number of off-street parking spaces existing N/A ; proposed N/A
- g. Maximum vehicular trips generated per hour: N/A (upon completion of project)?
- h. If residential: Number and type of housing units:

	One Family	Two Family	Multiple Family	Condominium
Initially	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Ultimately	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

- i. Dimensions (in feet) of largest proposed structure: 152 height; 18 inch width; 18 inch length.
- j. Linear feet of frontage along a public thoroughfare project will occupy is? None ft.

2. How much natural material (i.e. rock, earth, etc.) will be removed from the site? Zero tons/cubic yards.

3. Will disturbed areas be reclaimed Yes No N/A

a. If yes, for what intended purpose is the site being reclaimed?

- b. Will topsoil be stockpiled for reclamation? Yes No
- c. Will upper subsoil be stockpiled for reclamation? Yes No

4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? .5 acres.

5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project?

Yes No

6. If single phase project: Anticipated period of construction: 3 months, (including demolition)

7. If multi-phased:

a. Total number of phases anticipated 3 (number)

b. Anticipated date of commencement phase 1: Aug month 2013 year, (including demolition)

c. Approximate completion date of final phase: Oct month 2013 year.

d. Is phase 1 functionally dependent on subsequent phases? Yes No

8. Will blasting occur during construction? Yes No

9. Number of jobs generated: during construction 5; after project is complete 0

10. Number of jobs eliminated by this project 0.

11. Will project require relocation of any projects or facilities? Yes No

If yes, explain:

12. Is surface liquid waste disposal involved? Yes No

a. If yes, indicate type of waste (sewage, industrial, etc) and amount _____

b. Name of water body into which effluent will be discharged _____

13. Is subsurface liquid waste disposal involved? Yes No Type _____

14. Will surface area of an existing water body increase or decrease by proposal? Yes No

If yes, explain:

15. Is project or any portion of project located in a 100 year flood plain? Yes No

16. Will the project generate solid waste? Yes No

a. If yes, what is the amount per month? _____ tons

b. If yes, will an existing solid waste facility be used? Yes No

c. If yes, give name _____; location _____

d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? Yes No

e. If yes, explain:

17. Will the project involve the disposal of solid waste? Yes No

a. If yes, what is the anticipated rate of disposal? _____ tons/month.

b. If yes, what is the anticipated site life? _____ years.

18. Will project use herbicides or pesticides? Yes No

19. Will project routinely produce odors (more than one hour per day)? Yes No

20. Will project produce operating noise exceeding the local ambient noise levels? Yes No

21. Will project result in an increase in energy use? Yes No

If yes, indicate type(s)

22. If water supply is from wells, indicate pumping capacity ___N/A___ gallons/minute.

23. Total anticipated water usage per day ___N/A___ gallons/day.

24. Does project involve Local, State or Federal funding? Yes No

If yes, explain:

NYSERDA On-Site Small Wind PON 2439

25. Approvals Required:

			Type	Submittal Date
City, Town, Village Board	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	_____
			_____	_____
			_____	_____
City, Town, Village Planning Board	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	_____
			_____	_____
			_____	_____
City, Town Zoning Board	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>Special Use Permit</u>	<u>June 10, 2013</u>
			_____	_____
			_____	_____
City, County Health Department	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	_____
			_____	_____
			_____	_____
Other Local Agencies	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	_____
			_____	_____
			_____	_____
Other Regional Agencies	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	_____
			_____	_____
			_____	_____
State Agencies	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<u>NYSERDA</u>	<u>Sept. 2013</u>
			_____	_____
			_____	_____
Federal Agencies	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	_____
			_____	_____
			_____	_____

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? Yes No

If Yes, indicate decision required:

- | | | | |
|---|--|--|--------------------------------------|
| <input type="checkbox"/> Zoning amendment | <input type="checkbox"/> Zoning variance | <input type="checkbox"/> New/revision of master plan | <input type="checkbox"/> Subdivision |
| <input checked="" type="checkbox"/> Site plan | <input checked="" type="checkbox"/> Special use permit | <input type="checkbox"/> Resource management plan | <input type="checkbox"/> Other |

2. What is the zoning classification(s) of the site?

RR

3. What is the maximum potential development of the site if developed as permitted by the present zoning?

Less than half an acre

4. What is the proposed zoning of the site?

Accessory use

5. What is the maximum potential development of the site if developed as permitted by the proposed zoning?

Less than half an acre

6. Is the proposed action consistent with the recommended uses in adopted local land use plans? Yes No

7. What are the predominant land use(s) and zoning classifications within a ¼ mile radius of proposed action?

Rural Residential

8. Is the proposed action compatible with adjoining/surrounding land uses with a ¼ mile? Yes No

9. If the proposed action is the subdivision of land, how many lots are proposed? N/A

a. What is the minimum lot size proposed? _____

10. Will proposed action require any authorization(s) for the formation of sewer or water districts? Yes No

11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection)?

Yes No

a. If yes, is existing capacity sufficient to handle projected demand? Yes No

12. Will the proposed action result in the generation of traffic significantly above present levels? Yes No

a. If yes, is the existing road network adequate to handle the additional traffic. Yes No

D. Informational Details

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with your proposal, please discuss such impacts and the measures which you propose to mitigate or avoid them.

E. Verification

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name _____ Date _____

Signature _____

Title _____

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

PART 2 - PROJECT IMPACTS AND THEIR MAGNITUDE

Responsibility of Lead Agency

General Information (Read Carefully)

- ! In completing the form the reviewer should be guided by the question: Have my responses and determinations been **reasonable**? The reviewer is not expected to be an expert environmental analyst.
- ! The **Examples** provided are to assist the reviewer by showing types of impacts and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be appropriate for a Potential Large Impact response, thus requiring evaluation in Part 3.
- ! The impacts of each project, on each site, in each locality, will vary. Therefore, the examples are illustrative and have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.
- ! The number of examples per question does not indicate the importance of each question.
- ! In identifying impacts, consider long term, short term and cumulative effects.

Instructions (Read carefully)

- a. Answer each of the 20 questions in PART 2. Answer **Yes** if there will be **any** impact.
- b. **Maybe** answers should be considered as **Yes** answers.
- c. If answering **Yes** to a question then check the appropriate box(column 1 or 2)to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.
- d. Identifying that an Impact will be potentially large (column 2) does not mean that it is also necessarily **significant**. Any large impact must be evaluated in PART 3 to determine significance. Identifying an impact in column 2 simply asks that it be looked at further.
- e. If reviewer has doubt about size of the impact then consider the impact as potentially large and proceed to PART 3.
- f. If a potentially large impact checked in column 2 can be mitigated by change(s) in the project to a small to moderate impact, also check the **Yes** box in column 3. A **No** response indicates that such a reduction is not possible. This must be explained in Part 3.

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

Impact on Land

1. Will the Proposed Action result in a physical change to the project site?

NO YES

Examples that would apply to column 2

- | | | | |
|---|--|--|--|
| <ul style="list-style-type: none"> • Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%. • Construction on land where the depth to the water table is less than 3 feet. • Construction of paved parking area for 1,000 or more vehicles. • Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface. • Construction that will continue for more than 1 year or involve more than one phase or stage. • Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e., rock or soil) per year. | <input type="checkbox"/>

<input type="checkbox"/>

<input type="checkbox"/>

<input type="checkbox"/>

<input type="checkbox"/>

<input type="checkbox"/> | <input type="checkbox"/>

<input type="checkbox"/>

<input type="checkbox"/>

<input type="checkbox"/>

<input type="checkbox"/> | <input type="checkbox"/> Yes <input type="checkbox"/> No

<input type="checkbox"/> Yes <input type="checkbox"/> No |
|---|--|--|--|

	1	2	3	
	Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change	

- Construction or expansion of a sanitary landfill. Yes No
- Construction in a designated floodway. Yes No
- Other impacts: Yes No

2. Will there be an effect to any unique or unusual land forms found on the site? (i.e., cliffs, dunes, geological formations, etc.)

NO YES

- Specific land forms: Yes No

Impact on Water

3. Will Proposed Action affect any water body designated as protected? (Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL)

NO YES

Examples that would apply to column 2

- Developable area of site contains a protected water body. Yes No
- Dredging more than 100 cubic yards of material from channel of a protected stream. Yes No
- Extension of utility distribution facilities through a protected water body. Yes No
- Construction in a designated freshwater or tidal wetland. Yes No
- Other impacts: Yes No

4. Will Proposed Action affect any non-protected existing or new body of water?

NO YES

Examples that would apply to column 2

- A 10% increase or decrease in the surface area of any body of water or more than a 10 acre increase or decrease. Yes No
- Construction of a body of water that exceeds 10 acres of surface area. Yes No
- Other impacts: Yes No

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

6. Will Proposed Action alter drainage flow or patterns, or surface water runoff?

NO YES

Examples that would apply to column 2

- | | | | | |
|--|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Proposed Action would change flood water flows | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action may cause substantial erosion. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action is incompatible with existing drainage patterns. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will allow development in a designated floodway. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

IMPACT ON AIR

7. Will Proposed Action affect air quality?

NO YES

Examples that would apply to column 2

- | | | | | |
|---|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Proposed Action will induce 1,000 or more vehicle trips in any given hour. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will result in the incineration of more than 1 ton of refuse per hour. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Emission rate of total contaminants will exceed 5 lbs. per hour or a heat source producing more than 10 million BTU's per hour. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will allow an increase in the amount of land committed to industrial use. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will allow an increase in the density of industrial development within existing industrial areas. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

IMPACT ON PLANTS AND ANIMALS

8. Will Proposed Action affect any threatened or endangered species?

NO YES

Examples that would apply to column 2

- | | | | | |
|---|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Reduction of one or more species listed on the New York or Federal list, using the site, over or near the site, or found on the site. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|---|--------------------------|--------------------------|------------------------------|-----------------------------|

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• Removal of any portion of a critical or significant wildlife habitat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Application of pesticide or herbicide more than twice a year, other than for agricultural purposes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Other impacts:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

9. Will Proposed Action substantially affect non-threatened or non-endangered species?

NO YES

Examples that would apply to column 2

• Proposed Action would substantially interfere with any resident or migratory fish, shellfish or wildlife species.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Proposed Action requires the removal of more than 10 acres of mature forest (over 100 years of age) or other locally important vegetation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Other impacts:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

IMPACT ON AGRICULTURAL LAND RESOURCES

10. Will Proposed Action affect agricultural land resources?

NO YES

Examples that would apply to column 2

• The Proposed Action would sever, cross or limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Construction activity would excavate or compact the soil profile of agricultural land.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• The Proposed Action would irreversibly convert more than 10 acres of agricultural land or, if located in an Agricultural District, more than 2.5 acres of agricultural land.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• The Proposed Action would disrupt or prevent installation of agricultural land management systems (e.g., subsurface drain lines, outlet ditches, strip cropping); or create a need for such measures (e.g. cause a farm field to drain poorly due to increased runoff).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Other impacts:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

IMPACT ON AESTHETIC RESOURCES

11. Will Proposed Action affect aesthetic resources? (If necessary, use the Visual EAF Addendum in Section 617.20, Appendix B.)

NO YES

Examples that would apply to column 2

• Proposed land uses, or project components obviously different from or in sharp contrast to current surrounding land use patterns, whether man-made or natural.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Proposed land uses, or project components visible to users of aesthetic resources which will eliminate or significantly reduce their enjoyment of the aesthetic qualities of that resource.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Project components that will result in the elimination or significant screening of scenic views known to be important to the area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Other impacts:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

IMPACT ON HISTORIC AND ARCHAEOLOGICAL RESOURCES

12. Will Proposed Action impact any site or structure of historic, prehistoric or paleontological importance?

NO YES

Examples that would apply to column 2

• Proposed Action occurring wholly or partially within or substantially contiguous to any facility or site listed on the State or National Register of historic places.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Any impact to an archaeological site or fossil bed located within the project site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Proposed Action will occur in an area designated as sensitive for archaeological sites on the NYS Site Inventory.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

	1	2	3
	Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

• Other impacts:

IMPACT ON OPEN SPACE AND RECREATION

13. Will proposed Action affect the quantity or quality of existing or future open spaces or recreational opportunities?

NO YES

Examples that would apply to column 2

- | | | | | |
|---|--------------------------|--------------------------|------------------------------|-----------------------------|
| • The permanent foreclosure of a future recreational opportunity. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • A major reduction of an open space important to the community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

IMPACT ON CRITICAL ENVIRONMENTAL AREAS

14. Will Proposed Action impact the exceptional or unique characteristics of a critical environmental area (CEA) established pursuant to subdivision 6NYCRR 617.14(g)?

NO YES

List the environmental characteristics that caused the designation of the CEA.

Examples that would apply to column 2

- | | | | | |
|---|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Proposed Action to locate within the CEA? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will result in a reduction in the quantity of the resource? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will result in a reduction in the quality of the resource? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will impact the use, function or enjoyment of the resource? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

IMPACT ON TRANSPORTATION

15. Will there be an effect to existing transportation systems?

NO YES

Examples that would apply to column 2

- | | | | | |
|--|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Alteration of present patterns of movement of people and/or goods. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will result in major traffic problems. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

IMPACT ON ENERGY

16. Will Proposed Action affect the community's sources of fuel or energy supply?

NO YES

Examples that would apply to column 2

- | | | | | |
|---|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Proposed Action will cause a greater than 5% increase in the use of any form of energy in the municipality. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or to serve a major commercial or industrial use. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

NOISE AND ODOR IMPACT

17. Will there be objectionable odors, noise, or vibration as a result of the Proposed Action?

NO YES

Examples that would apply to column 2

- | | | | | |
|--|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Blasting within 1,500 feet of a hospital, school or other sensitive facility. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Odors will occur routinely (more than one hour per day). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will produce operating noise exceeding the local ambient noise levels for noise outside of structures. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will remove natural barriers that would act as a noise screen. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

IMPACT ON PUBLIC HEALTH

18. Will Proposed Action affect public health and safety?

NO YES

- | | | | | |
|--|--------------------------|--------------------------|------------------------------|-----------------------------|
| • Proposed Action may cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there may be a chronic low level discharge or emission. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action may result in the burial of "hazardous wastes" in any form (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Storage facilities for one million or more gallons of liquefied natural gas or other flammable liquids. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action may result in the excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Other impacts: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

**IMPACT ON GROWTH AND CHARACTER
OF COMMUNITY OR NEIGHBORHOOD**

19. Will Proposed Action affect the character of the existing community?

NO YES

Examples that would apply to column 2

- | | | | | |
|---|--------------------------|--------------------------|------------------------------|-----------------------------|
| • The permanent population of the city, town or village in which the project is located is likely to grow by more than 5%. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • The municipal budget for capital expenditures or operating services will increase by more than 5% per year as a result of this project. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will conflict with officially adopted plans or goals. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will cause a change in the density of land use. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Proposed Action will replace or eliminate existing facilities, structures or areas of historic importance to the community. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| • Development will create a demand for additional community services (e.g. schools, police and fire, etc.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change
• Proposed Action will set an important precedent for future projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Proposed Action will create or eliminate employment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
• Other impacts:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

20. Is there, or is there likely to be, public controversy related to potential adverse environment impacts?
 NO YES

If Any Action in Part 2 Is Identified as a Potential Large Impact or If you Cannot Determine the Magnitude of Impact, Proceed to Part 3

Part 3 - EVALUATION OF THE IMPORTANCE OF IMPACTS

Responsibility of Lead Agency

Part 3 must be prepared if one or more impact(s) is considered to be potentially large, even if the impact(s) may be mitigated.

Instructions (If you need more space, attach additional sheets)

Discuss the following for each impact identified in Column 2 of Part 2:

1. Briefly describe the impact.
2. Describe (if applicable) how the impact could be mitigated or reduced to a small to moderate impact by project change(s).
3. Based on the information available, decide if it is reasonable to conclude that this impact is **important**.

To answer the question of importance, consider:

- ! The probability of the impact occurring
- ! The duration of the impact
- ! Its irreversibility, including permanently lost resources of value
- ! Whether the impact can or will be controlled
- ! The regional consequence of the impact
- ! Its potential divergence from local needs and goals
- ! Whether known objections to the project relate to this impact.