

**TOWN OF PHILIPSTOWN CONSERVATION BOARD  
238 MAIN STREET, COLD SPRING, NY 10516**

**MEETING AGENDA  
MARCH 12, 2013 AT 7:30 PM**

**1.) BAKER DAVID      TM#71.-2-20      WL-13-230  
352 ROUTE 403  
(RECONSTRUCT RETAINING WALL AND INSTALL POOL)**

**2.) GLEICK, JAMES    TM#82.-1-42.1      ZBAR  
200 LONG AND WINDING ROAD  
(INSTALL RESIDENTAL WIND TURBINE)**

**3.) LYONS              TM# 17.-1-76.11      PBR**

**4.) APPROVAL OF FEBRUARY 12, 2013 MINUTES**

**\*ITEMS MAY NOT BE TAKEN IN ORDER AS LISTED**

**Philipstown Conservation Board  
Town Hall, 238 Main Street, Cold Spring, NY 10516  
February 12, 2013  
Minutes**

DRAFT

The CB held its regular meeting at the Town Hall on Tuesday February 12, 2013. Mr. Lind opened the meeting at 7:30 p.m.

**Present:** Eric Lind  
David Klotzle (Wetlands Inspector)  
Michael Leonard  
Lew Kingsley  
Bob Repetto  
Andrew Galler  
Tina Andress- Landolfi (Secretary)  
Nancy Montgomery (Town Board Liaison)

**Absent:** MJ Martin  
Mark Galezo

**NEILL, RICHARD  
621 ROUTE 9D**

**TM# 81.-1-38**

**WL-12-228**

Mr. Lind stated that all materials that were requested had been submitted, and they looked acceptable. All members and Mr. Klotzle agreed. Mr. Lind entertained a motion to grant the permit. Mr. Kingsley made a motion to grant the permit. Mr. Leonard seconded the motion. All members were in favor. Permit was granted.

**FRIARY AT GRAYMORE**

**TM# 82.-2-41**

**CB-PBR-3**

Mr. Watson discussed with the board the future plans for the site. Storm water drainage and treatment areas were reviewed. It was agreed that a report can be written and submitted to the Planning Board at this time.

**LYONS**

**TM# 17.-1-76.11**

**PBR**

This application was referred to the CB for their comments and review. Mr. Klotzle stated that, because of weather it was difficult to visit the site at this time. The members agreed that a site visit would be needed in order to submit a report to the Planning Board. This item will be placed on future agenda after snow melts, and members can walk the site.

**Adjournment:**

Mr. Lind entertained a motion to adjourn meeting. Mr. Leonard made a motion to adjourn. Mr Kingsley seconded the motion. All were in favor. The meeting was adjourned at 8:10 pm

**Respectfully Yours,**

**Tina Andress- Landolfi**

**Note: These minutes were prepared for the Conservation Board and are subject to review, comment, emendation, and approval thereupon.**



Eric Lind, Chairman  
Conservation Board

Town of Philipstown  
238 Main Street  
Cold Spring, NY 10516

Re: Baker Residence retaining wall reconstruction and proposed swimming pool  
Location: 352 Route 403, Garrison, NY  
Tax Map ID: 71.2-20  
Zoning District: RC

February 20, 2013

Dear Mr. Lind;

I am writing to request a review by the Conservation Board for the work that my clients, Jan and Suzanne Baker, wish to do on their property within the 100 foot buffer zone along Arden Brook. Please find the enclosed application to the Conservation Board, a copy of the current survey, a copy of a letter from Ms. Baker authorizing me as their agent, and 9 copies of drawings showing the proposed work.

The proposed work includes the reconstruction of the failing retaining wall situated on the south side of their home. The retaining wall is on the steep grade change stepping down from the house location to the former Catrock Road below, parallel to Arden Brook further to the south. It retains an existing driveway and parking area. This parking area is subsiding, and the retaining wall is slumping downhill precariously.

Once the retaining wall work is complete, the Baker's wish to install a small 8' x 15' swimming pool adjacent to the house at the current termination of the driveway. The location of the proposed pool is also just within the 100 foot buffer area. We are proposing to install a drain line to a drywell outside of the buffer area, on a slope facing away from the stream, as assurance in the prevention of erosion and discharge of chlorinated water into the brook.

The neighboring property owners are:

Liza Bailey and Michael Musgrave, Box 318, Garrison  
Elizabeth Anderson and Joe Mahon, 16 Fox Hollow Lane, Garrison  
Kimberly and Bill Schaffler, PO Box 199, Garrison  
Katie Roberts PO Box 159, Garrison (across Route 403)

I will be delighted to answer any questions you may have on this matter.

Sincerely,

A handwritten signature in black ink that reads "James P. Hartford". The signature is fluid and cursive.

James P. Hartford, AIA, LEED AP BD+C, CPHC



**D.J. and Suzanne Baker  
352 Route 403  
Post Office Box 196  
Garrison, New York 10524**

January 9, 2012

In re: Agency of James Hartford to act for owners at 352 Route 403, Garrison in connection with plans for improvements and/or repairs

To whom it may concern:

This letter appoints James Hartford, our architect, as our agent for all purposes relating to building codes, setbacks, environmental, zoning or other questions that may arise in connection with plans he develops or causes to be developed for improvements and/or repairs at our residence at 352 Route 403, Garrison, New York, 10524, in Philipstown.

James Hartford's authority to act for us includes but is not limited to discussions of plans for a garage, hardscaping and/or a swimming pool with appropriate Philipstown or other governmental officials, attendance and presentations/actions on our behalf at any Zoning Board of Appeals hearings necessary and any other presentations/actions on our behalf that may be necessary or desirable to ensure that any projects we undertake will conform to the letter and spirit of all regulations applicable.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'D.J. and Suzanne Baker', written over a horizontal line.

D.J. and Suzanne Baker, owners at 352 Route 403, Garrison

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APPLICATION FOR WETLANDS PERMIT

**Note to Applicant:**

Submit the completed application to the appropriate permitting authority. The application for Wetlands Permit should be submitted simultaneously with any related application (e.g., subdivision approval, site plan approval, Special Use Permit, etc.), being made to the permitting authority.

(Office Use Only)

Application # _____	Permitting Authority _____
Received by: _____	_____ Z.B.A.
Date _____	_____ Planning Board
Fee _____	_____ Wetlands Inspector

Pursuant to Chapter 93 of the Code of the Town of Philipstown, entitled "Freshwater Wetlands and Watercourse Law of the Town of Philipstown" (Wetlands Law), the undersigned hereby applies for a Wetlands Permit to conduct a regulated activity in a controlled area.

1. Owner: Name: David J. Baker and Suzanne Baker

Address: 352 Route 403, Garrison, NY 10524

Telephone: 845-424-3305

2. Agent: Name: James P. Hartford, AIA

(Applicant must be owner of the land. The Application may be managed an authorized agent of such person.)

3/ Name of Agent

If Corporation, give names of officers:

Mailing Address: c/o River Architects, 8 Marion Avenue, Suite 3, Cold Spring, NY 10516

Telephone: 845-265-2254

3. Location of Proposed Activity: existing driveway and retaining wall slope between south end of house to former Catrock Road- north of Arden Brook

Tax Map No.: 71.2-20

Acreage of Controlled Area Affected: .123 acre

4. Type of Activity: (See list of regulated activities)

Type C: reconstruct failing single retaining wall as a series of stepped retaining walls, install small swimming pool adjacent to house with drain line to drywell outside of buffer zone, sloped away from buffer zone

5. Other permit(s) required and agency or agencies responsible for granting such permits such as but not limited to P.C.B.O.H, N.Y.D.E.C, Army Core of Engineers, EPA, DOT, Building Dept. Planning Board, and Z.B.A.

Building Department

6. Each copy of this application shall be accompanied by:
- a. A detailed description of the proposed activity and a comparison of the activity to the criteria for approval specified in §93-8 of the Wetlands Law. (See below)
  - b. A completed short form environmental assessment form (*included in the application folder*)
  - c. A map prepared by a licensed surveyor landscape architect or engineer showing:
    - 1. The controlled area(s) wetland buffer zone 100 feet from the edge of any wetlands, lakes, ponds or streams on the site;
    - 2. Any wetland or watercourse therein and the location thereof;
    - 3. The location, extent, and nature of the proposed activity.
  - D. A list of the names of claimants of water rights in the wetland or watercourse of whom the applicant has record notice and the names and addresses of all owners of record of properties abutting and directly across from the proposed activity as shown on the latest tax record.

(Note: Any map, plat or plan showing the above information that is required to be submitted for any other permit or approval in connection with the regulated activity, and that is acceptable to the Permitting Authority, may be used.)

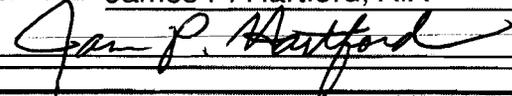
Date: 2/20/2013

Signature of Applicant:

Jan P. Hartford

**Appendix C**  
**State Environmental Quality Review**  
**SHORT ENVIRONMENTAL ASSESSMENT FORM**  
**For UNLISTED ACTIONS Only**

**PART I - PROJECT INFORMATION (To be completed by Applicant or Project Sponsor)**

1. APPLICANT/SPONSOR James Hartford for D.J. and Suzanne Baker	2. PROJECT NAME Baker Retaining wall repair and swimming pool
3. PROJECT LOCATION: Municipality <u>Garrison (Philipstown)</u> County <u>Putnam</u>	
4. PRECISE LOCATION (Street address and road intersections, prominent landmarks, etc., or provide map) <u>352 Route 403- north side of Route 403, 1/4 mile east of intersection of Routes 403 and 9D.</u> <u>Proposed area of work: driveway and retaining wall between south of house and north of Arden Brook</u>	
5. PROPOSED ACTION IS: <input checked="" type="checkbox"/> New <input type="checkbox"/> Expansion <input checked="" type="checkbox"/> Modification/alteration <u>new pool; reconstruction of retaining wall</u>	
6. DESCRIBE PROJECT BRIEFLY: <u>Reconstruct unstable existing 12' +/- rubble stone retaining wall as 3 lower stepped retaining wall with terraced soil for grade change between; build new small swimming pool adjacent to house, with drain line to drywell outside of wetlands setback, sloped away from wetland buffer.</u>	
7. AMOUNT OF LAND AFFECTED: Initially <u>.123</u> acre    Ultimately <u>.123</u> acre	
8. WILL PROPOSED ACTION COMPLY WITH EXISTING ZONING OR OTHER EXISTING LAND USE RESTRICTIONS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    If No, describe briefly	
9. WHAT IS PRESENT LAND USE IN VICINITY OF PROJECT? <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Agriculture <input type="checkbox"/> Park/Forest/Open Space <input type="checkbox"/> Other Describe: <u>Single-family residences</u>	
10. DOES ACTION INVOLVE A PERMIT APPROVAL, OR FUNDING, NOW OR ULTIMATELY FROM ANY OTHER GOVERNMENTAL AGENCY (FEDERAL, STATE OR LOCAL)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    If Yes, list agency(s) name and permit/approvals:  <u>Town of Philipstown Building Permit</u>	
11. DOES ANY ASPECT OF THE ACTION HAVE A CURRENTLY VALID PERMIT OR APPROVAL? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    If Yes, list agency(s) name and permit/approvals:	
12. AS A RESULT OF PROPOSED ACTION WILL EXISTING PERMIT/APPROVAL REQUIRE MODIFICATION? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>N/A</u>	
I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE Applicant/sponsor name: <u>James P. Hartford, AIA</u> Date: <u>2/20/2013</u> Signature: <u></u>	

**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 II - IMPACT ASSESSMENT (To be completed by Lead Agency)**

<p>A. DOES ACTION EXCEED ANY TYPE I THRESHOLD IN 6 NYCRR, PART 617.4?  <input type="checkbox"/> Yes    <input type="checkbox"/> No</p>	<p>If yes, coordinate the review process and use the FULL EAF.</p>
<p>B. WILL ACTION RECEIVE COORDINATED REVIEW AS PROVIDED FOR UNLISTED ACTIONS IN 6 NYCRR, PART 617.6? If No, a negative declaration may be superseded by another involved agency.  <input type="checkbox"/> Yes    <input type="checkbox"/> No</p>	
<p>C. COULD ACTION RESULT IN ANY ADVERSE EFFECTS ASSOCIATED WITH THE FOLLOWING: (Answers may be handwritten, if legible)</p> <p>C1. Existing air quality, surface or groundwater quality or quantity, noise levels, existing traffic pattern, solid waste production or disposal, potential for erosion, drainage or flooding problems? Explain briefly:</p> <p>C2. Aesthetic, agricultural, archaeological, historic, or other natural or cultural resources; or community or neighborhood character? Explain briefly:</p> <p>C3. Vegetation or fauna, fish, shellfish or wildlife species, significant habitats, or threatened or endangered species? Explain briefly:</p> <p>C4. A community's existing plans or goals as officially adopted, or a change in use or intensity of use of land or other natural resources? Explain briefly:</p> <p>C5. Growth, subsequent development, or related activities likely to be induced by the proposed action? Explain briefly:</p> <p>C6. Long term, short term, cumulative, or other effects not identified in C1-C5? Explain briefly:</p> <p>C7. Other impacts (including changes in use of either quantity or type of energy)? Explain briefly:</p>	
<p>D. WILL THE PROJECT HAVE AN IMPACT ON THE ENVIRONMENTAL CHARACTERISTICS THAT CAUSED THE ESTABLISHMENT OF A CRITICAL ENVIRONMENTAL AREA (CEA)?  <input type="checkbox"/> Yes    <input type="checkbox"/> No    If Yes, explain briefly:</p>	
<p>E. IS THERE, OR IS THERE LIKELY TO BE, CONTROVERSY RELATED TO POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS?  <input type="checkbox"/> Yes    <input type="checkbox"/> No    If Yes, explain briefly:</p>	

**PART III - DETERMINATION OF SIGNIFICANCE (To be completed by Agency)**

**INSTRUCTIONS:** For each adverse effect identified above, determine whether it is substantial, large, important or otherwise significant. Each effect should be assessed in connection with its (a) setting (i.e. urban or rural); (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude. If necessary, add attachments or reference supporting materials. Ensure that explanations contain sufficient detail to show that all relevant adverse impacts have been identified and adequately addressed. If question D of Part II was checked yes, the determination of significance must evaluate the potential impact of the proposed action on the environmental characteristics of the CEA.

<input type="checkbox"/> Check this box if you have identified one or more potentially large or significant adverse impacts which <b>MAY</b> occur. Then proceed directly to the FULL EAF and/or prepare a positive declaration.	
<input type="checkbox"/> Check this box if you have determined, based on the information and analysis above and any supporting documentation, that the proposed action <b>WILL NOT</b> result in any significant adverse environmental impacts <b>AND</b> provide, on attachments as necessary, the reasons supporting this determination	
<hr/> Name of Lead Agency	<hr/> Date
<hr/> Print or Type Name of Responsible Officer in Lead Agency	<hr/> Title of Responsible Officer
<hr/> Signature of Responsible Officer in Lead Agency	<hr/> Signature of Preparer (If different from responsible officer)

**Reset**



Town of Philipstown, NY  
Zoning Board of Appeals

Dear Chairman Vincent Cestone and Board Members,

In September an application for a building permit was submitted for a residential small wind turbine in the town of Garrison, NY. The application was denied by the town Code Enforcement Officer, Mr. Donahue, citing Philipstown Code, §175-30 E, (2) §175-60 A & C, (1), (f)

My feeling is "Small Wind" is not adequately defined in the current Town Code in two areas. The first being Small Wind also referred to as Residential Wind, is not the same as Industrial or Commercial Wind. It is important to note and understand the differences when looking at permitting and labeling a project Minor or Major. The code for wind facilities should be separated into two categories for permitting, Small Wind and Large Wind, not grouped as only "Wind facility". This will allow for a streamlined process when appropriate. Generally most small wind projects will conform to town code and need only to have a variance granted for height.

Residential Turbines name plate capacity 10kW - 100kW - On-site Consumption  
Commercial Turbines name plate capacity 100kW – 1.5 Megawatt - Off-site Consumption

Residential Turbines Tower height up to 160' - Blades 12' in length  
Commercial Turbines Tower height 200' and greater – Blades 100' and greater in length

The second thought is Small wind as an Accessory use as defined in 175-60 A. Some uses are allowed by right, subject only to site plan approval (see Use Table in § 175-10  
And subject to an area variance for the height.

Article IX, Special Permits and Site Plan Review

Purpose and Applicability

§175-60 A & C, (1), (f)

- 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 *Editor's Note: The Use Table is included at the end of this chapter.*). Communication towers, soil mines, and certain solar and wind energy facilities [see § 175-30 E (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.
- 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.

- (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).

Article VII. Supplementary Dimensional Regulations.

§175-10 E. (2)

- 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.

Article VII. Supplementary Dimensional Regulations.

§175-30 E. (2)

<http://ecode360.com/6319215 - 6319215E>. Height exceptions.

- (2) Solar energy facilities, communications towers, and wind energy conversion systems may exceed height limits in the Dimensional Table. *Editor's Note: The Dimensional Table is included at the end of this chapter.* 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.

My interpretation of the Philipstown Code is that Small wind is an Accessory use as it conforms to all regulations except height; therefore an area variance is necessary.

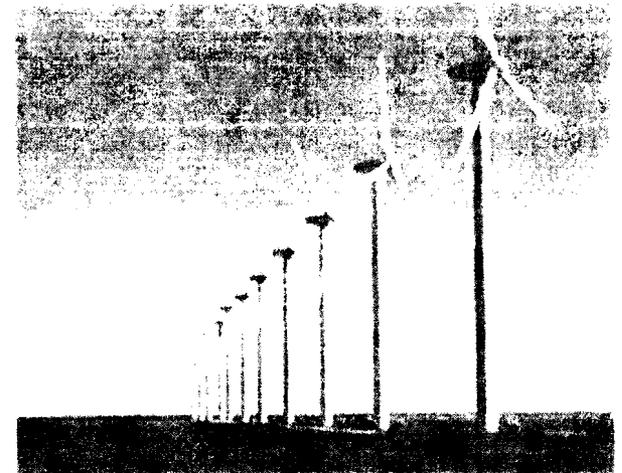
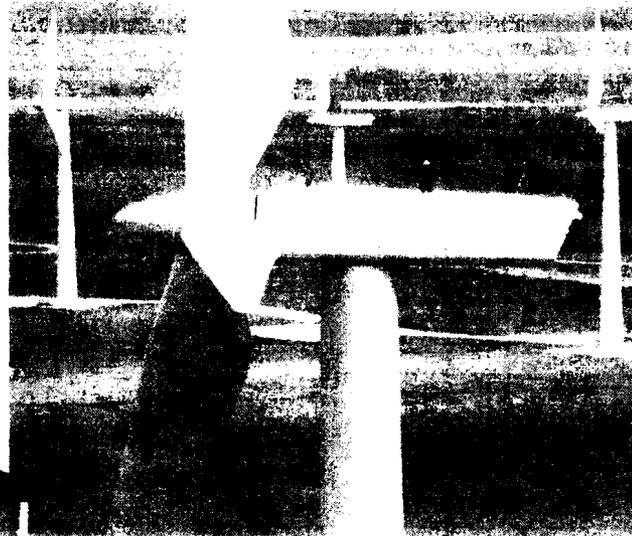
Regards,

Doug Passeri  
Hudson Valley Wind Energy LLC

# Residential vs. Commercial



When comparing  
Small wind = Residential  
Large Wind = Commercial  
Think of a Volkswagen vs. Semi-Tractor Trailer  
Residential Towers 140' High Blades 12' Long  
Commercial Tower 200+' High Blades 100'+ Long  
Residential Turbines 10kW - 100kW  
Commercial Turbines 100kW - 1.5Megawatt +





# 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

APPEAL # \_\_\_\_\_ Tax Map # 82-1-42-1

Final hearing date \_\_\_\_\_ Zoning Board decision:  APPROVED  DENIED

Date application submitted \_\_\_\_\_

Application fee \$ \_\_\_\_\_ Escheat \$ \_\_\_\_\_ Received by \_\_\_\_\_

Town: Zoning Board jurisdiction: Town of Phoenicia, New York

Applicant: James Glorick

Address: 200 Longs Valley Rd, Garrison NY 10524

Telephone: 845 424 3909 business

HEREBY I authorize the decision of name and title: Kevin Donohue CIM

and authorize me

to GRANTED  DENIED  a BUILDING PERMIT  a CERTIFICATE OF OCCUPANCY \_\_\_\_\_

For: Domestic Small Wood Tubing Installation

To: \_\_\_\_\_

At: \_\_\_\_\_

Property tax map # 82-1-42-1 zoning district: RR

WHEN FILING OUT APPLICATION ATTACH ADDITIONAL PAGES AS NECESSARY TO ANSWER QUESTIONS

1. LOCATION OF PROPERTY: Give 911 address and a map and detailed narrative giving directions to the property using road names (such as Route 9 or ED Old Albany Post Road, East Mountain Road South, etc.) and landmarks such as Garrison School, North Highlands Fire House, Highlands Country Club, etc.

See Attached page

2. NAMES AND ADDRESSES OF ADJOINING PROPERTY OWNERS: Include those adjacent to all sides (if available) use additional sheets if necessary. This information may be obtained in the Town assessor's office.

3. PREVIOUS APPEALS OF ZONING CODES OR MAPS (If you have filed an appeal under Section 5 in section 4, include the number of the appeal and the date)

4. PREVIOUS APPEAL (If there have been any previous appeals for this property or any portion of the lot, set forth the appeal number, date filed, sought, and the ZBA decision resulting)

TYPE OF APPEAL:

an INTERPRETATION of the Zoning Code or Maps

a VARIANCE from the Zoning Code - 175-11 B. Height limitations

a SPECIAL USE PERMIT under the Zoning Code

an Appeal of Decision, Letter from Code Enforcement Officer Dated 10/1/12

5. DETAILS OF APPEAL (Complete only that section which applies to the appeal you are submitting)

(a) INTERPRETATION of the Zoning Code is requested

(1) An exact statement of the interpretation requested is

1) Write a program to print Fibonacci series

2) Write a program to print Fibonacci series

3) Write a program to print Fibonacci series

4) Write a program to print Fibonacci series

5) Write a program to print Fibonacci series

6) Write a program to print Fibonacci series

7) Write a program to print Fibonacci series

Philipstown, New York Zoning Board of Appeals  
Area Variance Application  
Mr. & Mrs. James Gleick  
200 Long & Winding Rd., Garrison, NY  
10kW Residential Small Wind

1.) Location of Property:

*Address:* 200 Long and Winding Rd, Garrison, NY 10524  
*Location Relative to:* West of 9D Bear Mt - Beacon Highway  
*Landmarks:* Manitow

2.) Names and Addresses of Adjoining Property Owners:

*See attached sheet and map*

3.) Provisions of Zoning Code Involved:

Article III, § 75-11.11  
Article VII, § 75-11.11  
Article IX, § 75-60.2(a)(1) - (3)

4.) Previous Appeal:

No

Type of Appeal:

an INTERPRETATION OF THE Zoning Code or Maps

a VARIANCE from the Zoning Code

a SPECIAL USE PERMIT under the Zoning Code

5.) Details of Appeal:

(a) Interpretation of Zoning Code is Requested

(1) An exact Statement of the Interpretation requested is:

Re-address how residential small wind is categorized in the current zoning. Streamline permitting process to allow for small wind as an accessory use with zoning that is in line with the States On-Site Small Wind requirements

(b) A Variance from the Zoning Code is requested:

(1) An exact Statement of the details of the Variance requested is:

This Residential Small Wind project meets and conforms to all zoning requirements in Philipstown however, is restricted do to the RR max height set at 40'. An area variance is needed for the installation of the 140' guyed lattice tower. Variance request is for ~~102'~~

(2) The Grounds on which this variance should be granted are:

For Small Wind to be effective and efficient, turbines must be atop towers that are 80-140' to adequately harness wind speeds to generate significant energy. The current zoning for does not separate small wind from industrial or commercial wind. Small wind (residential, farm or rural business) is for on-site consumption.

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## Factors to be considered by the board

Area Variance Application  
Mr. & Mrs. James Gleick  
200 Long & Winding Rd., Garrison, NY  
10kW Residential Small Wind

- 1a.) There will be no detriment to nearby properties in granting an area variance.  
The closest structure is owned by the applicant (small studio) and is 217' away  
The wind energy conversion system (WECS) can not be seen from the sited location.  
It will not block views or have exterior lights, banners or flags.
  
  - 1b.) There will be no negative impact from a variance on the character of the surrounding neighborhood.  
Utility poles, flag poles, transmission cell towers and others are all structures in the community that are above the 40' height limit.  
Specific set backs for a residential small wind installation are required and will follow both Town and State guidelines.  
The WECS is situated on the east side (back) of the 30+ acre parcel on top of a Mt. surrounded by forest  
The closest human occupied structure is 1,800' to the west of the property on Route 9D.
  
  - 2.) Without a variance the proposed residential small wind project can not be completed. Height is a must when incorporating small wind power as the chosen renewable resource. Restricting tower height is like putting solar in the shade. Even at a high elevation with spectacular wind speeds, the lowest industry standard for 10kW residential turbine can range from 100' to 140' tower height. Mature trees can be 75 to 100'. Key factors in determining tower height are obstruction and elevation.  
For a turbine to harness the desired wind speeds to generate electricity a tower must have a height that is greater then the surrounding obstructions such as trees & buildings.
  
  - 3.) The current dimensional table for RR has a maximum height of 40'. A variance of 112' is necessary for the erection of the Gleick WECS small wind project for residential on-site energy consumption and net metering.
  
  - 4.) There will be no significant impact on the environment. All soils disturbed will be reclaimed, base and anchor pads will be backfilled. There will be no physical change to the landscape.  
There will be no blasting and no paving involved with this residential project.  
Trees located within the 84' area radius of the site will be cut down and used for fire wood by the resident. No loss of vegetation that would create changes to the natural look or harm the environment will take place. No wetlands or water courses will be disturbed. The Well is located >100' north of site, the Septic is >200' to the west.  
No pollution will be created by this project. The rated sound level is 54.7 dbA. Traffic will be not be increased. The chosen site away from neighboring properties and will not dramatically alter the scenic character of the surrounding forest.
-

(c) A Special Use Permit is requested:

\*\*\*\* Not requested at this time\*\*\*\*

(1) The reason the permit is requested:

(2) An exact statement of the use for which the permit is requested:

(3) The facts showing the use is permitted as a **SPECIAL USE** under the code and the ability of the applicant to comply with all requirements of the code for granting of a special use permit:

INDEPENDENT ACCOUNTING REPORT  
ON THE FINANCIAL STATEMENTS OF THE CORPORATION

We have audited the financial statements of the Corporation, which consist of the balance sheet as at December 31, 1954, and the income statement, statement of retained earnings and statement of cash flows for the year then ended, and the report of management thereon. These financial statements and the report of management are the responsibility of management. Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with generally accepted auditing standards. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit cannot provide absolute assurance that a financial statement is free of all misstatements. Misstatements are considered material if there is a substantial likelihood that, in the aggregate, they will influence the judgment of a reasonable person. In the course of our audit, we have used professional judgment to determine the materiality of the misstatements identified by us. The results of our audit are discussed below.

OPINION

In our opinion, the financial statements referred to above present fairly the financial position of the Corporation as at December 31, 1954, and the results of its operations and its cash flows for the year then ended, in accordance with generally accepted accounting principles.

As a result of our audit, we have identified certain misstatements which, in our opinion, are immaterial. These misstatements are: (1) the understatement of the allowance for doubtful accounts by \$10,000; (2) the understatement of the allowance for depreciation by \$5,000; and (3) the understatement of the allowance for deferred income taxes by \$2,000. These misstatements are immaterial because they do not, in the aggregate, influence the judgment of a reasonable person.

Management has agreed to adjust the financial statements to correct the misstatements identified by us. We have audited the adjusted financial statements and we believe that they now present fairly the financial position of the Corporation as at December 31, 1954, and the results of its operations and its cash flows for the year then ended, in accordance with generally accepted accounting principles.

Very truly yours,  
[Signature]

1. A... and...  
2. ...  
3. ...  
4. ...  
5. ...

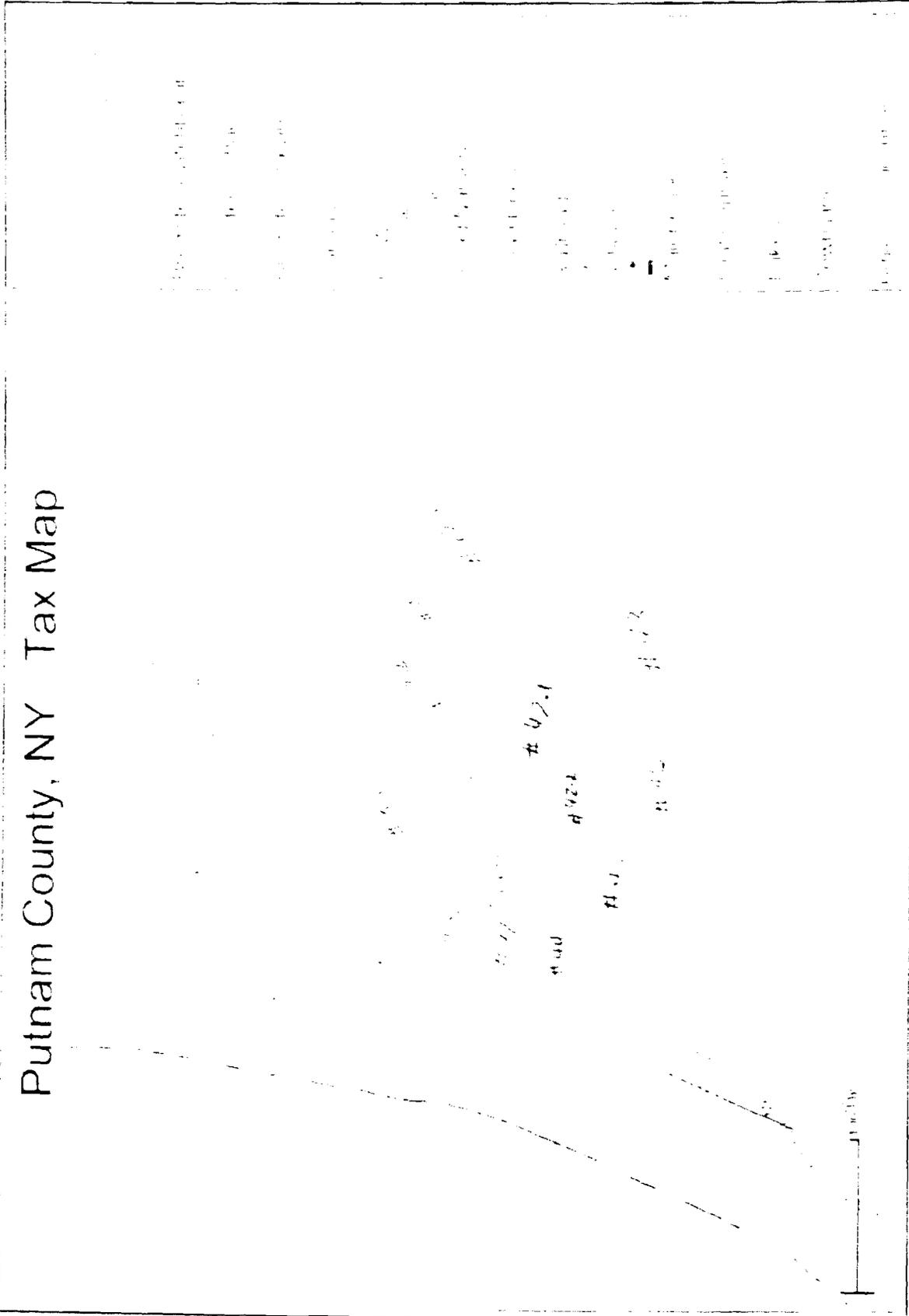
6. ...  
7. ...  
8. ...  
9. ...

(5.) This is not a self created hardship. This particular variance was not apart of purchasing the property. It is strictly for the erection of a small wind, on-site consumption net metering renewable resource residential project, that is partially funded by a NY State on-site small wind program (PON 2439), established to encourage and help those NY residents who are interested in using a form of green power.

The property was purchased by the resident in 1994. A permit was obtained to build residential dwelling. There was no mistake creating the need for an area variance. The variance is requested to obtain a building permit for a residential small wind energy conversion system.



# Putnam County, NY Tax Map



James & Cynthia Gleick Abutting Properties

**#42.1**

82-1-42-1-240  
Gleick James Garrison  
Crosser Cynthia M Parce 1  
200 Long And Winding Rd  
Garrison NY 10524 00130000000000003200  
ACRES 21.53

**#42.2**

82-1-42-2-322  
Gleick James Garrison  
Crosser Cynthia M Parce 2  
200 Long And Winding Rd  
Garrison NY 10524  
ACRES 10.21 PDG13

**#39**

82-1-39-280  
Freeman Susan C - Cutler Robert E Jr  
540 Route 9D  
Garrison NY 10524-1202 00154000000000000220  
ACRES 2.36

**#41**

82-1-41-280  
Smith A Ann  
527 Route 9D  
Garrison NY 10524 001800000000000000395  
ACRES 3.95

**#44**

82-1-44-210  
Reynolds Katherine R  
Ruddy Rodney  
510 Route 9D  
Garrison NY 10524 003000000000000000375  
ACRES 3.75

**#45**

82-1-45-322  
Kien LLC Garrison  
504 Route 9D  
Garrison NY 10524 004920000000000001029  
ACRES 10.29

**#46**

82-1-46-322  
Friedman Kien A L R  
486 Route 9D  
Garrison NY 10524 004120000000000001617  
ACRES 16.17

Long and Winding Road

9D

AWH NO

Applicant: **Gleick, James**  
Address: **200 Long and Winding Rd., Garrison, NY 10524**  
Phone: **845.424.3909**  
Email: [gleick@around.com](mailto:gleick@around.com)  
**Putnam County ~Tax ID 82.-1-42.1**

### **Proposed Project**

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.

The elevation for this location is 721'.

Latitude = 41.34315 °, Longitude = -73.94812°

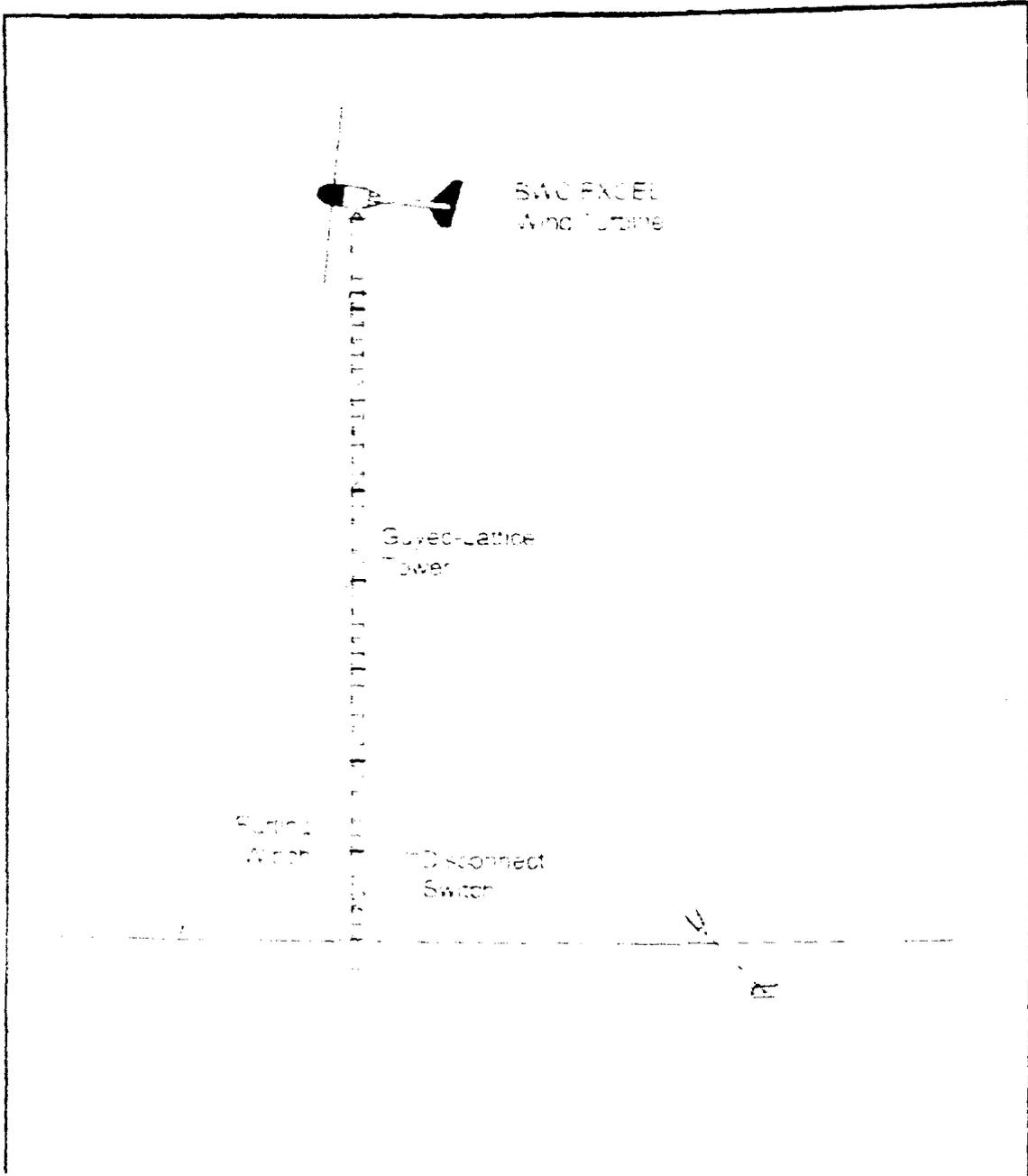
### **Specifications for Wind Energy Conversion System (WECS)**

The **BWC Guyed-Lattice** tower comes in 10ft sections: (1) base, (12) standard, & (1) top to equal a 140ft tower.

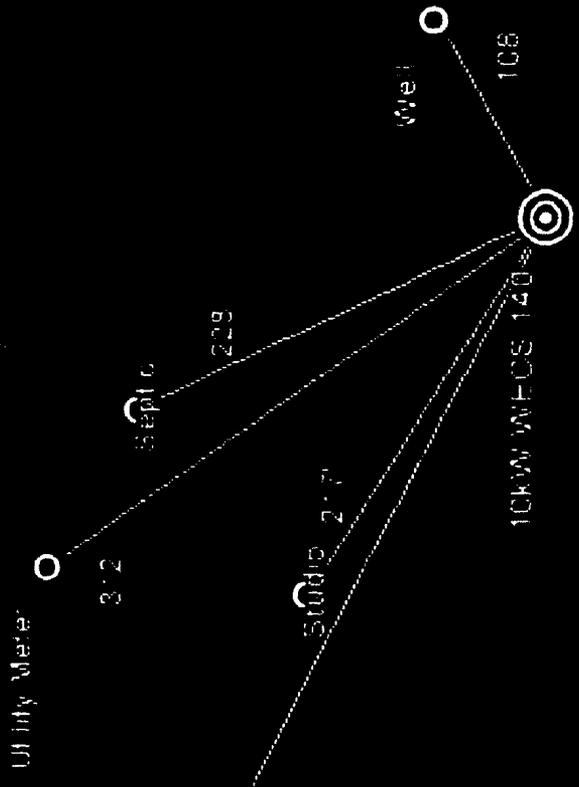
The **BWC EXCEL** is a modern 7 meter (23 ft) diameter, 10 kW wind turbine designed for high reliability, low maintenance, and automatic operation in adverse weather conditions. It is available in two configurations: battery charging and grid-connected. The BWC Excel is a ruggedly built turbine that comes with the longest warranty (10 years) in the industry. Connected to the grid, the BWC EXCEL can provide most of the electricity for an average total electric home at moderate wind sites. The all new Powersync II power processor (inverter) is the most advanced in the industry and it carries a full UL certification to the latest utility standards.

The blades attach directly to a specially designed very-low-speed permanent magnet alternator which uses state-of-the-art neodymium super- magnets. "We have designed an oversized alternator that slows the rotor down and makes the turbine very quiet." Over speed protection is provided by the proven BWC AutoFurl passive sideways furling system. "In spite of the claims otherwise, no other over speed protection system has proven to be more reliable or effective than AutoFurl."

In July 2009 the Excel turbine was upgraded with a more powerful alternator and longer blades. Performance has been improved by an average of 25%. The BWC Excel 10kW class wind turbine has a 30 to 50 year life expectancy and a 10 year warranty for the wind turbine, their associated electronics, and tower supplied by Bergey Windpower Co., Norman, Oklahoma



68 E. 100th Ave. S.W.



© 2012 Google





**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**

Lat 41.34315      Long: -73.94812      Elevation: 720.80'

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

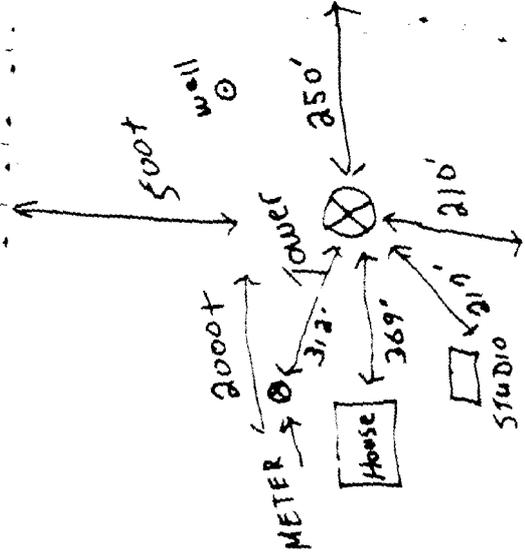
**Property Lines**

Base of tower to **North** Property Line >500'  
Base of tower to **East** Property Line >250'  
Base of tower to **South** Property Line 210'  
Base of tower to **West** Property Line >1574'

**Base Pad Measurements**

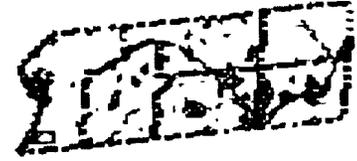
Base of tower **NW** to Utility 312'  
Base of tower **NW** to Gleick Residence 369'  
Base of tower **NW** to Studio 217'  
Base of tower **NW** to Inverter/Panel Located in Shed by Utility 312'  
Base of tower **NW** to Septic >228'  
Base of tower **NE** to Well 108'  
Base of Tower to **West** Town Road >2000'

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

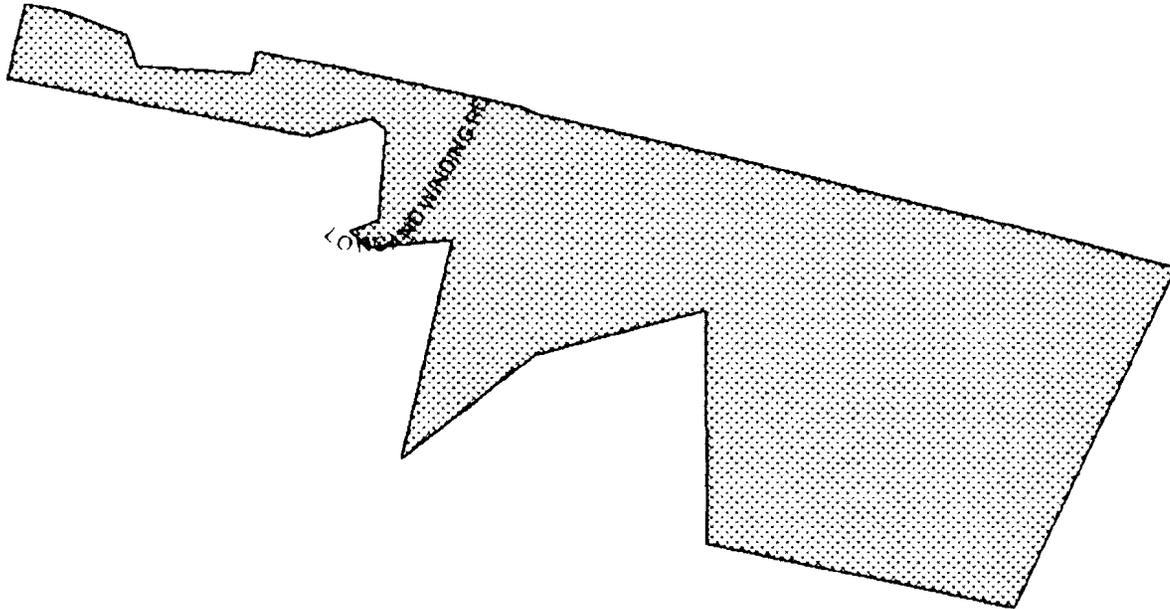


JAMES J. & CAROL B.  
 REALTOR & BROKER  
 11111 11111

# Putnam County, NY Tax Map



ROUTE 9D



Brewster Catchbasins



Brewster Outfalls



Brewster Streams

Parcels



ROWs

Private ROWs

Bike Path

Road Names

Road Lines



Railroads



Schools



Major Parks

Golf Courses

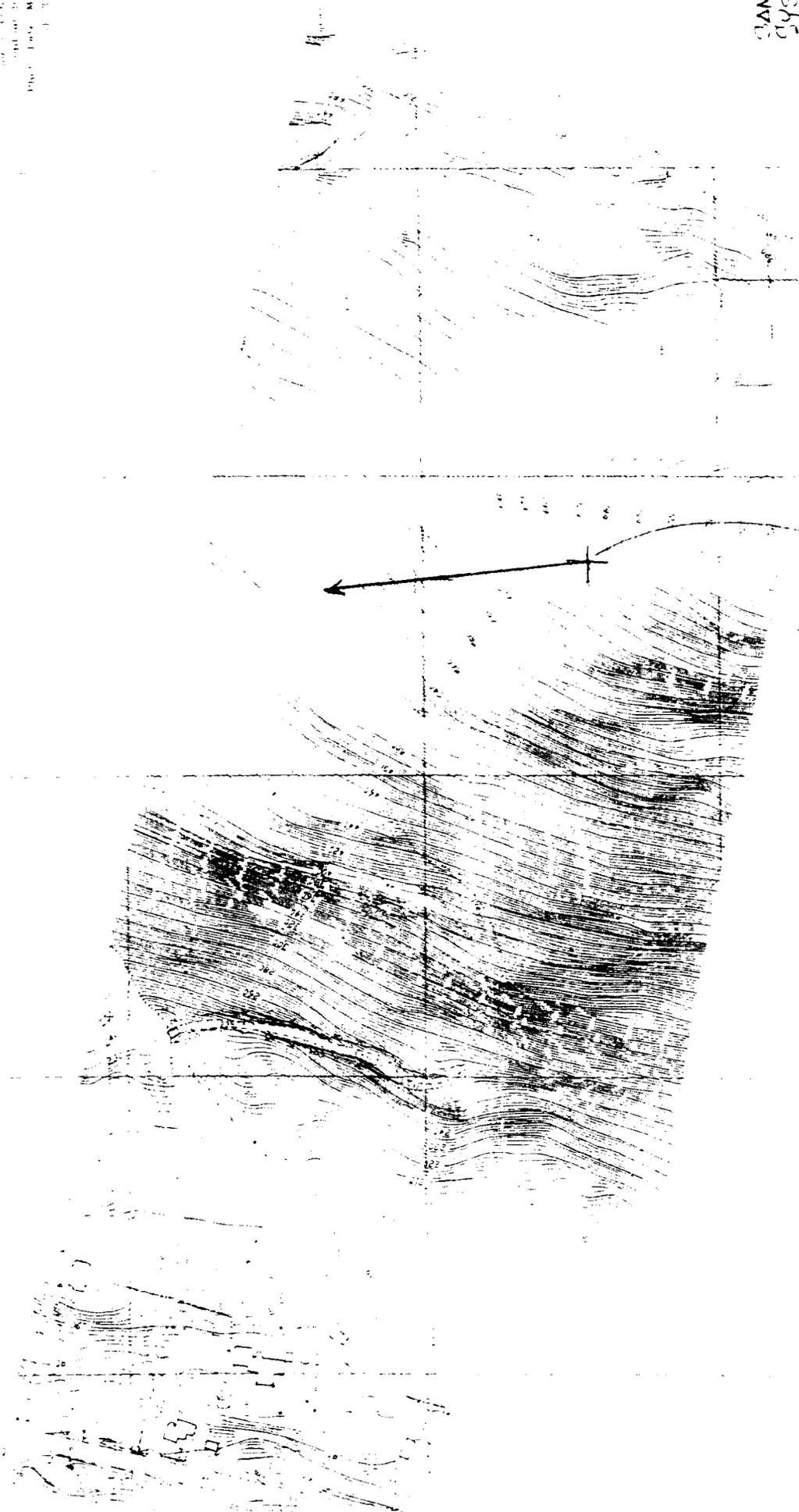
Lakes

Town Lines



1500 ft

Mon Sep 24 13:48:20 EDT 2012



SAMPLE POINT  
 VIEW POINT  
 POINT  
 THIS LINE IS PROFILE  
 SECTION ON  
 COPY

# Bergey WindPower ~ Hudson Valley Wind Energy



© Bergey WindPower, Inc. All rights reserved. 2013-14

**Simplicity** There's a lot of high quality parts and some of the best engineering mechanisms built to last. Minimal maintenance is needed. The whole system is completely hydraulic, a completely electronic system of operation. The expression that you'll hear is "easy maintenance by design."

**Reliability** The turbines are developed and tested in the real world. They are built to last. Many applications have been tested and approved. The turbines are built to last. They are built to last. They are built to last.

**Performance** With a 100% efficient gearbox, Bergey turbines deliver exceptional low wind speed performance and without mechanical gears. There's a lot of extreme weather in operation. A turbine will last for 20 years. In the case of the 10kW turbine, this is for an average life expectancy.

## Key product features

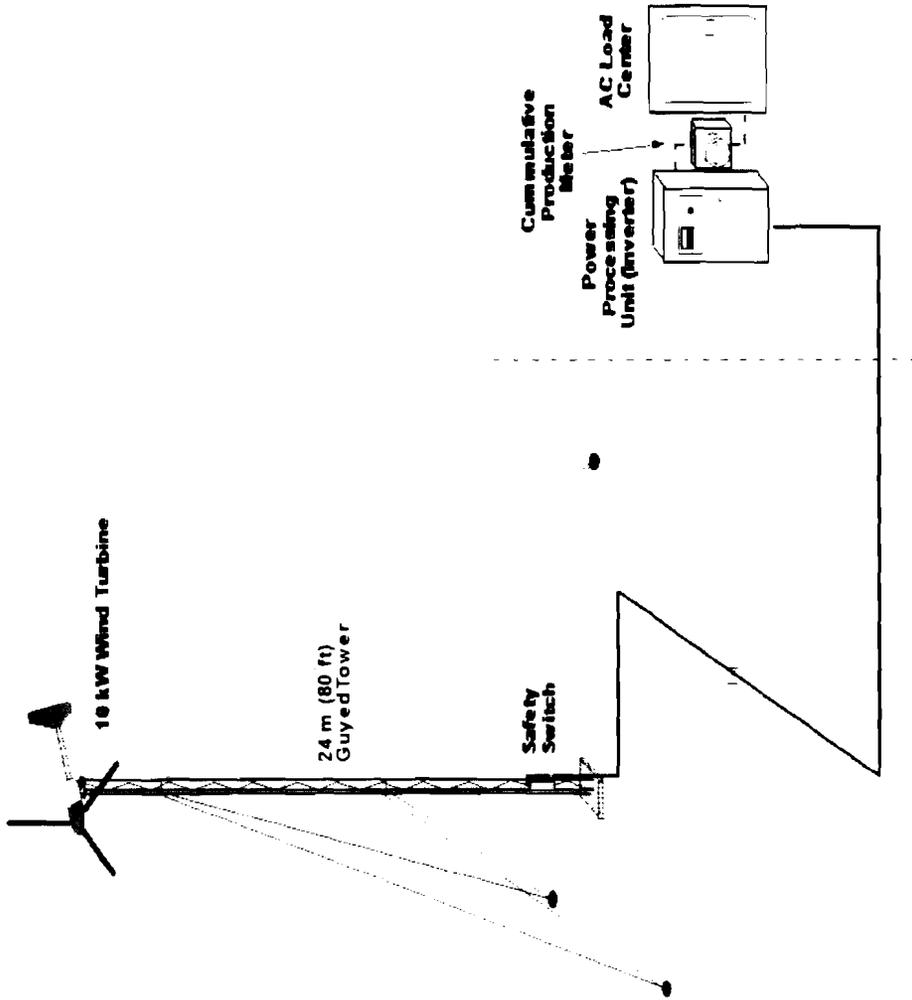
**Powerflex Blades** Exclusive full length reinforced fiberglass blades are stronger than steel and the strongest in the industry. The blades are made with advanced hydraulic technology. They've been tested and approved for 20 years.

**BW-7 Airfoil** The custom designed airfoil is a high quality airfoil. It's the most efficient airfoil in the industry. It's the most efficient airfoil in the industry.

**Neo-10 Alternator** Bergey's custom designed variable speed super magnet alternator also serves as the generator. It's the most efficient generator in the industry. It's the most efficient generator in the industry.

**AutoFurl Storm Protection** Bergey's auto furl system and high wind protection system is the most advanced in the industry. It's the most advanced in the industry. It's the most advanced in the industry.

POWER YOUR DREAM...with the wind

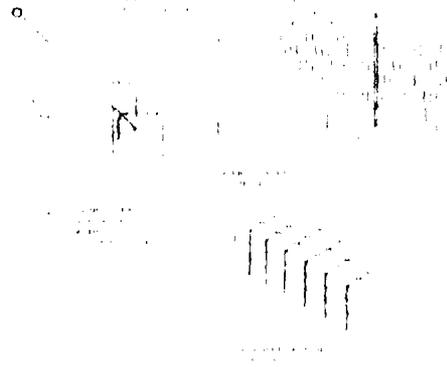




**FOUNDATION LAYER**

**LOWER BASE PAD CONSTRUCTION**

**UPPER ANCHOR CONSTRUCTION**



**Foundation Notes:**

- 1. Foundation shall be constructed in accordance with the following:
- 2. All concrete shall be placed in accordance with the following:
- 3. All steel reinforcement shall be placed in accordance with the following:
- 4. All steel reinforcement shall be placed in accordance with the following:
- 5. All steel reinforcement shall be placed in accordance with the following:
- 6. All steel reinforcement shall be placed in accordance with the following:
- 7. All steel reinforcement shall be placed in accordance with the following:
- 8. All steel reinforcement shall be placed in accordance with the following:
- 9. All steel reinforcement shall be placed in accordance with the following:
- 10. All steel reinforcement shall be placed in accordance with the following:

**Design Criteria**

- 1. All steel reinforcement shall be placed in accordance with the following:
- 2. All steel reinforcement shall be placed in accordance with the following:
- 3. All steel reinforcement shall be placed in accordance with the following:
- 4. All steel reinforcement shall be placed in accordance with the following:
- 5. All steel reinforcement shall be placed in accordance with the following:
- 6. All steel reinforcement shall be placed in accordance with the following:
- 7. All steel reinforcement shall be placed in accordance with the following:
- 8. All steel reinforcement shall be placed in accordance with the following:
- 9. All steel reinforcement shall be placed in accordance with the following:
- 10. All steel reinforcement shall be placed in accordance with the following:

**Notes and Requirements**

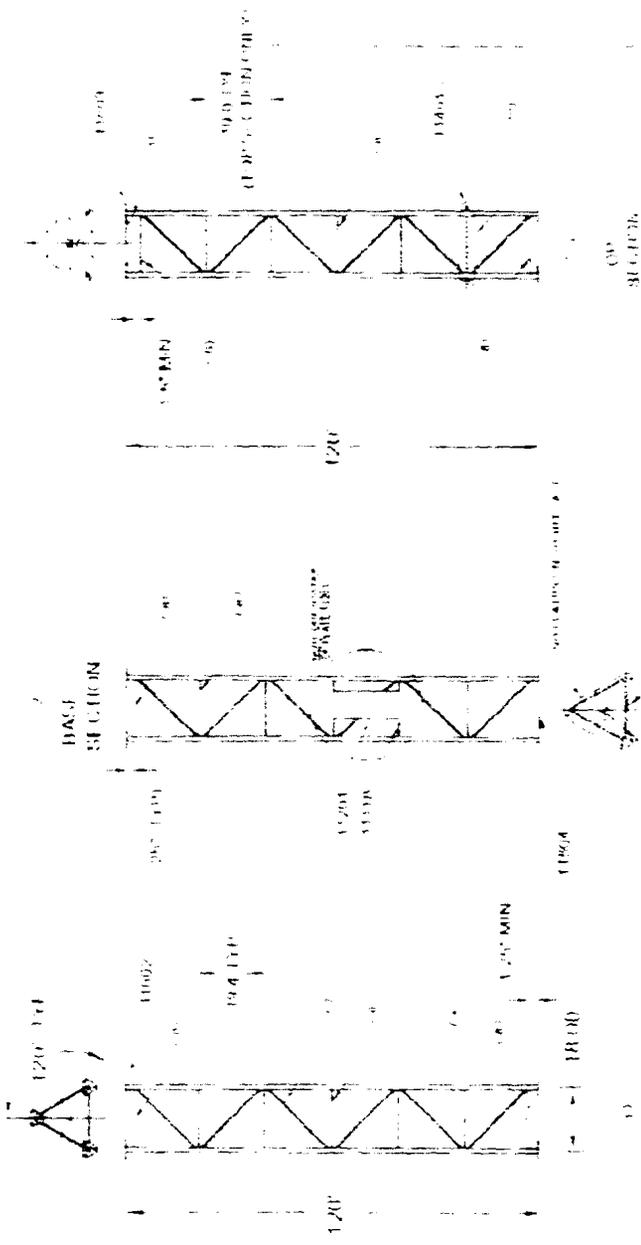
- 1. All steel reinforcement shall be placed in accordance with the following:
- 2. All steel reinforcement shall be placed in accordance with the following:
- 3. All steel reinforcement shall be placed in accordance with the following:
- 4. All steel reinforcement shall be placed in accordance with the following:
- 5. All steel reinforcement shall be placed in accordance with the following:
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- 9. All steel reinforcement shall be placed in accordance with the following:
- 10. All steel reinforcement shall be placed in accordance with the following:
- 11. All steel reinforcement shall be placed in accordance with the following:
- 12. All steel reinforcement shall be placed in accordance with the following:
- 13. All steel reinforcement shall be placed in accordance with the following:
- 14. All steel reinforcement shall be placed in accordance with the following:
- 15. All steel reinforcement shall be placed in accordance with the following:
- 16. All steel reinforcement shall be placed in accordance with the following:
- 17. All steel reinforcement shall be placed in accordance with the following:
- 18. All steel reinforcement shall be placed in accordance with the following:
- 19. All steel reinforcement shall be placed in accordance with the following:
- 20. All steel reinforcement shall be placed in accordance with the following:

**Material Specifications**

- 1. All steel reinforcement shall be placed in accordance with the following:
- 2. All steel reinforcement shall be placed in accordance with the following:
- 3. All steel reinforcement shall be placed in accordance with the following:
- 4. All steel reinforcement shall be placed in accordance with the following:
- 5. All steel reinforcement shall be placed in accordance with the following:
- 6. All steel reinforcement shall be placed in accordance with the following:
- 7. All steel reinforcement shall be placed in accordance with the following:
- 8. All steel reinforcement shall be placed in accordance with the following:
- 9. All steel reinforcement shall be placed in accordance with the following:
- 10. All steel reinforcement shall be placed in accordance with the following:

**BERGEY WINDPOWER**

SUMMARY SHEET  
 10 kW ONE BLADE TOWER  
 1400-XI-GI 18-140



**BERGEY WINDPOWER**

GI 18 TOWER SECTIONS

11500

PAGE 1

TOLERANCES UNLESS OTHERWISE SPECIFIED

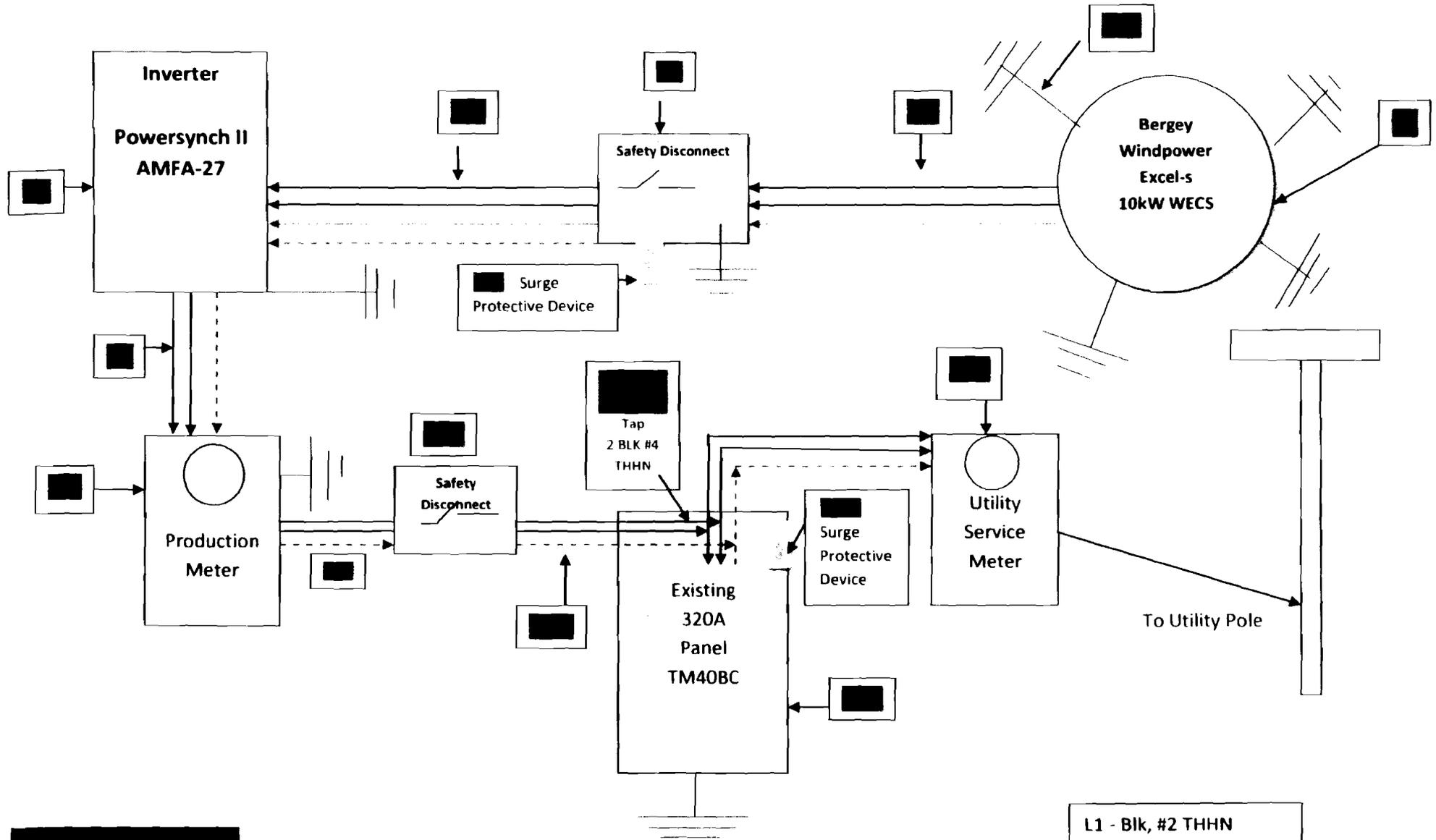
X = ± .060

XX = ± .030

XXX = ± .010

ITEM	DESCRIPTION	UNIT	QUANTITY	REMARKS
1	STEEL	LB	1000	
2	WOOD	CU YD	50	
3	CONCRETE	CU YD	10	
4	PAINT	GALES	100	
5	WELDER	HOURS	100	
6	LABOR	HOURS	1000	
7	TRANSPORT	HOURS	100	
8	INSURANCE	PERCENT	10	
9	PROFIT	PERCENT	10	
10	TOTAL			

ITEM	DESCRIPTION	UNIT	QUANTITY	REMARKS
1	STEEL	LB	1000	
2	WOOD	CU YD	50	
3	CONCRETE	CU YD	10	
4	PAINT	GALES	100	
5	WELDER	HOURS	100	
6	LABOR	HOURS	1000	
7	TRANSPORT	HOURS	100	
8	INSURANCE	PERCENT	10	
9	PROFIT	PERCENT	10	
10	TOTAL			



- L1 - Blk, #2 THHN
- L2 - Red, #2 THHN
- L3 - Blue #2 THHN
- Ground - Green #6 THHN



**Hudson Valley Wind Energy, LLC #3183**

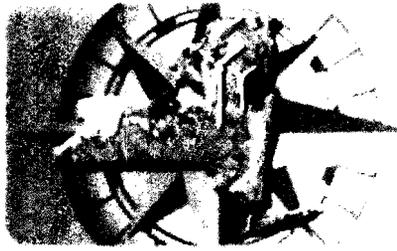
Mr. James Gleick

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 Equip. Fuses 45A-FRS-R-45. Labeled - "**Warning High Voltage Revolving Machinery**" approximately 5ft above grade.
- 4a. Surge Protective Device U.L 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 U.L 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**"





## 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

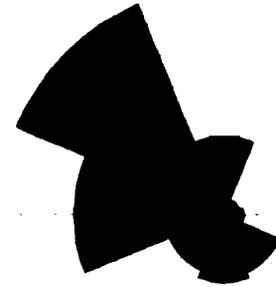
### Wind Resource

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



### 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
<b>Turbulence Intensity Loss</b>	<b>24.4%</b>
Availability Loss	2.0%
<b>Additional Loss</b>	<b>0.0%</b>
Total Loss (TL)	25.9%
<b>Maximum Loss*</b>	<b>31.1%</b>
Minimum Loss*	20.7%

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

$$\text{Gross Energy} \times (1 - \text{Total Loss}) = \text{Net Energy}$$

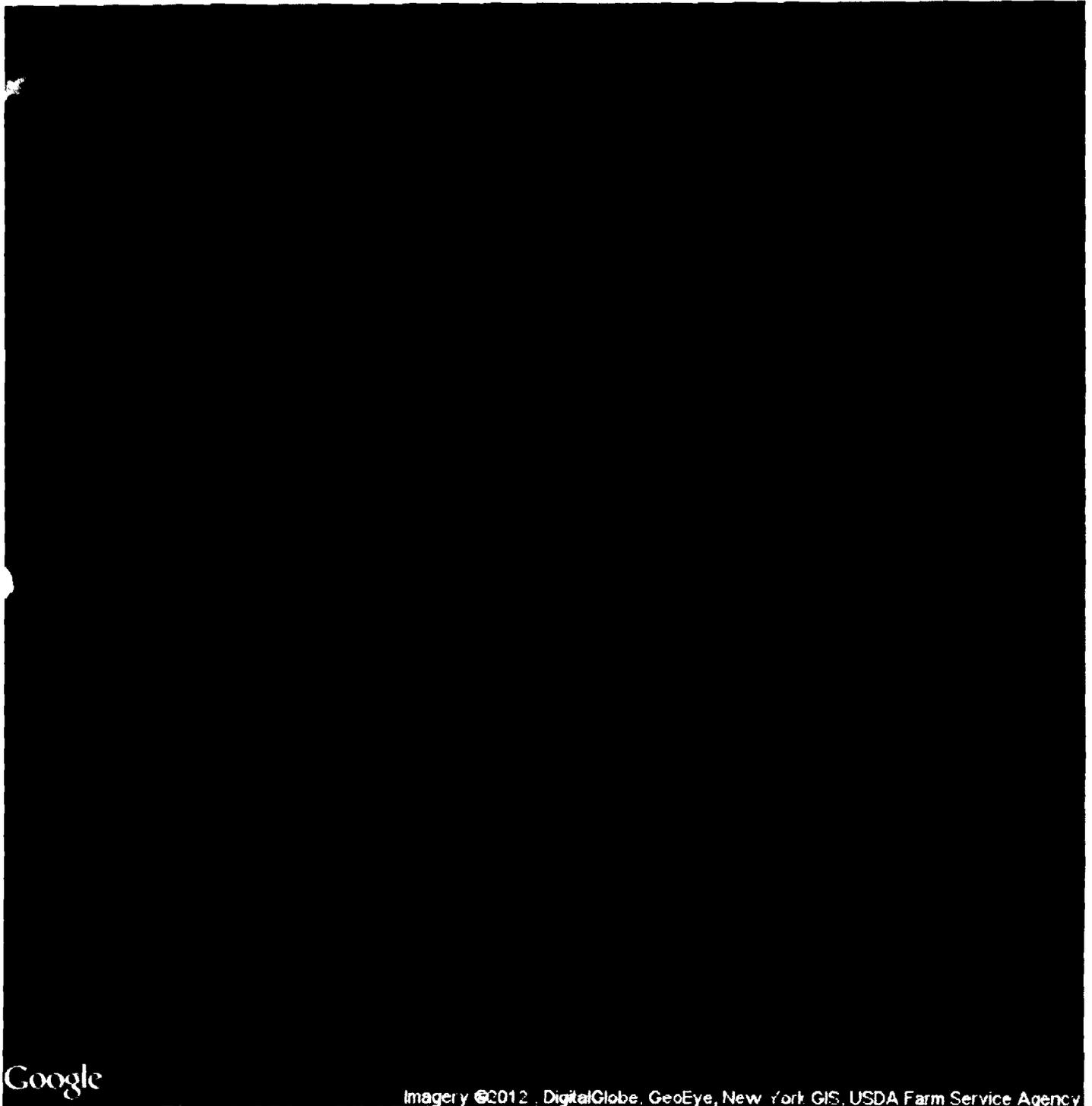
10433 kWh x (1 - Maximum Loss) = 7193 kWh -> Low Estimate

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<sup>®</sup>](#) 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](#).

**Small Wind Certification Council  
Certified Small Wind Turbine**



Manufacturer/Model

**Bergey Windpower Company**  
**Excel 10** (240 VAC, 1-phase, 60 Hz)

**CERTIFIED**  
SMALL WIND TURBINE

**Rated Annual Energy**

Estimated annual energy production assuming an annual average wind speed of 5 m/s (11.2 mph), a Rayleigh wind speed distribution, sea-level air density, and 100% availability. Actual production will vary depending on site conditions.

**13,800**  
kWh/year

**Rated Sound Level**

The sound level that will not be exceeded 95% of the time, assuming an annual average wind speed of 5 m/s (11.2 mph), a Rayleigh wind speed distribution, sea-level air density, 100% availability and an observer location 60 m (200 ft) from the rotor center.

**42.9**  
dB(A)

**Rated Power**

The wind turbine power output at 11 m/s (24.6 mph) at standard sea-level conditions.

**8.9**  
kW

Certified to be in Conformance with:  
**AWEA Standard 9.1 – 2009**

For a summary report and SWCC Certificate visit:  
[www.smallwindcertification.org](http://www.smallwindcertification.org)



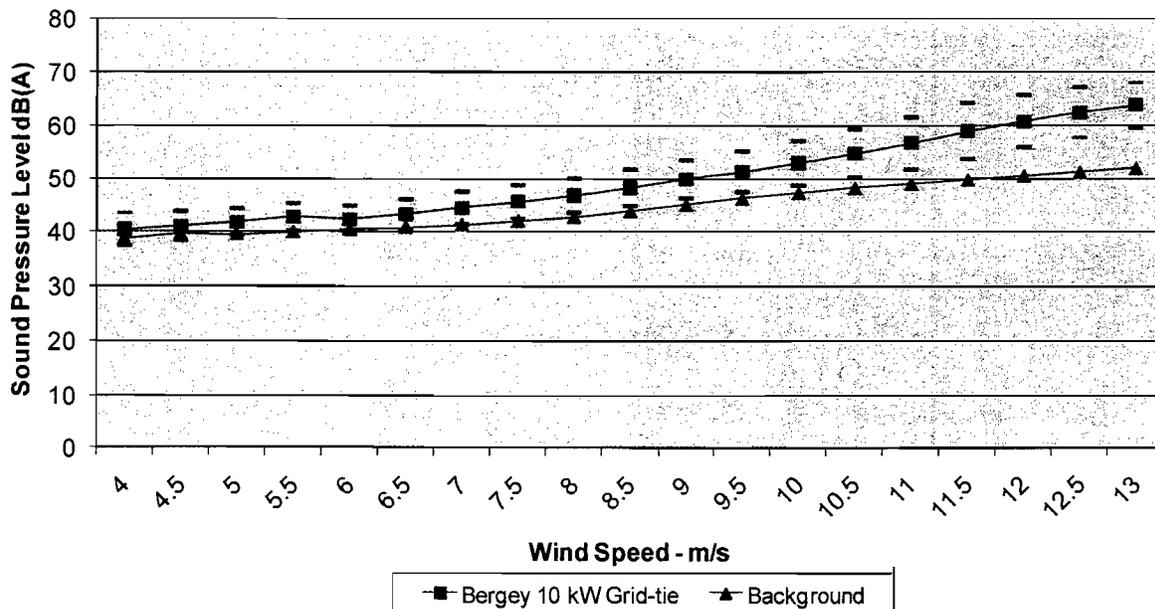
July 14, 2010

## 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**

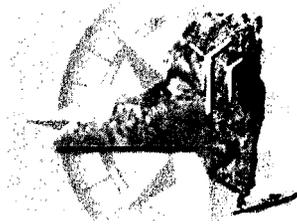
<b>Wind Bin (m/s)</b>	<b>Recorded Sound Pressure Level (dBA)</b>	<b>Std Dev</b>	<b>Backgrd Sound Pressure Level* (dBA)</b>	<b>Turbine Sound Pressure Level (dBA)</b>	<b>Turbine Sound Power Level (dBA)</b>
1	37.08	0.35			
1.5	36.14	0.55			
2	36.70	1.68			
2.5	38.57	3.05			
3	39.18	3.03			
3.5	39.94	3.27			
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



## Customer Report

2/11/2013 1:39:50 PM

Land Owner: James Gleick  
 Location: 200 Long and Winding Rd Garrison NY, NY

## Wind Energy Potential

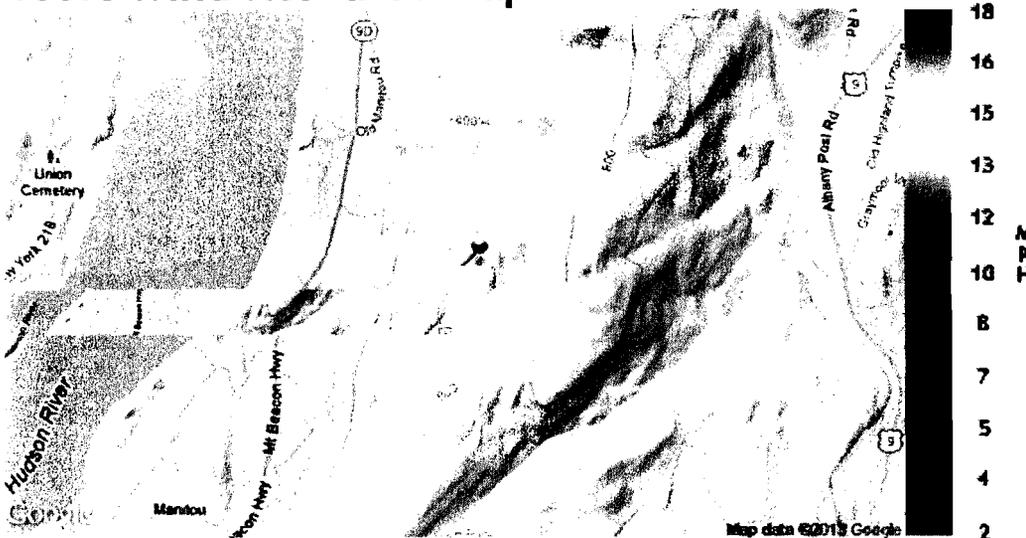
- Very Poor
- Below Average
- Average
- Above Average
- High

*Recommendation is based on atmospheric models and historical weather data; actual speeds and system productions will vary with terrain, local obstacles, and turbine selection. For more information on the Wind Energy Potential categories, please see the FAQ page ([nyswe.awstruepower.com/SWEFrequentlyAskedQuestions.pdf](http://nyswe.awstruepower.com/SWEFrequentlyAskedQuestions.pdf)). Contact a NYSERDA eligible installer with this wind resource report for further consultation ([http://www.powernaturally.org/Programs/Wind/Installers\\_bycounty.asp?i=8](http://www.powernaturally.org/Programs/Wind/Installers_bycounty.asp?i=8))*

## Estimated Wind Resource and Annual Net Energy

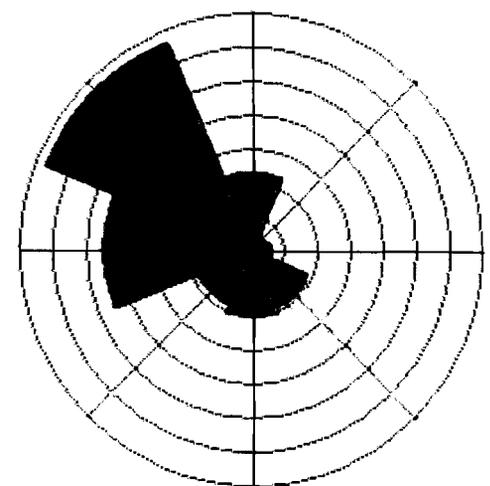
	80 ft (24.4 m)	100 ft (30.5 m)	120 ft (36.6 m)
Wind Resource	80 ft (24.4 m)	100 ft (30.5 m)	120 ft (36.6 m)
Average Annual Wind Speed	9.93 mph	10.51 mph	11.01 mph
Annual Net Energy	80 ft (24.4 m)	100 ft (30.5 m)	120 ft (36.6 m)
5kW Turbine	200 kWh - 800 kWh	200 kWh - 1000 kWh	300 kWh - 1200 kWh
10kW Turbine	800 kWh - 3200 kWh	1000 kWh - 4000 kWh	1200 kWh - 4600 kWh
20kW Turbine	3200 kWh - 7300 kWh	4000 kWh - 8900 kWh	4600 kWh - 10400 kWh
50kW Turbine	7300 kWh - 13000 kWh	8900 kWh - 15800 kWh	10400 kWh - 18500 kWh

## 100ft Wind Resource Map



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

## Wind Rose



**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.

Hudson Valley Wind Energy LLC

70 County Route 7, Pine Plains  
New York 12567  
Office 518.398.5060 Cell 518.821.9761  
hvwindenergyllc@fairpint.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. Coleman Esq  
158 Willow Street  
Brooklyn N.Y. 11201

GRANTOR/MORTGAGOR  
James Crist and Carol Bern Crist  
TO  
James Crist and Cynthia M. Crist  
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	
<b>TOTAL</b>	<b>22.00</b>

RESERVE FOR TIME STAMP

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

**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

The foregoing instrument was endorsed for record as follows. The Property affected by this instrument is situate 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

**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

4343 0210  
STATE OF NEW YORK, COUNTY OF PUTNAM

ss: STATE OF NEW YORK, COUNTY OF

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. 4687801  
Qualified in Putnam County  
Commission Expires July 31, 1997

STATE OF NEW YORK, COUNTY OF

ss: STATE OF NEW YORK, COUNTY OF

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 \_\_\_\_\_, the corporation described

that he knows \_\_\_\_\_ to be the individual

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.

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

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

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

or Use of Recording Office  
Reserve This Space

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.

1345 0275

**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.

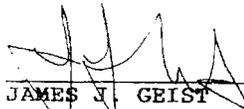
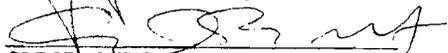
**AND** the party of the first part covenants that the party of the first part has not done or suffered anything whereby the said premises have been incumbered in any way whatever, except as aforesaid.

**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

Base Pad South



Base Pad East



Base Pad North



Base Pad West





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

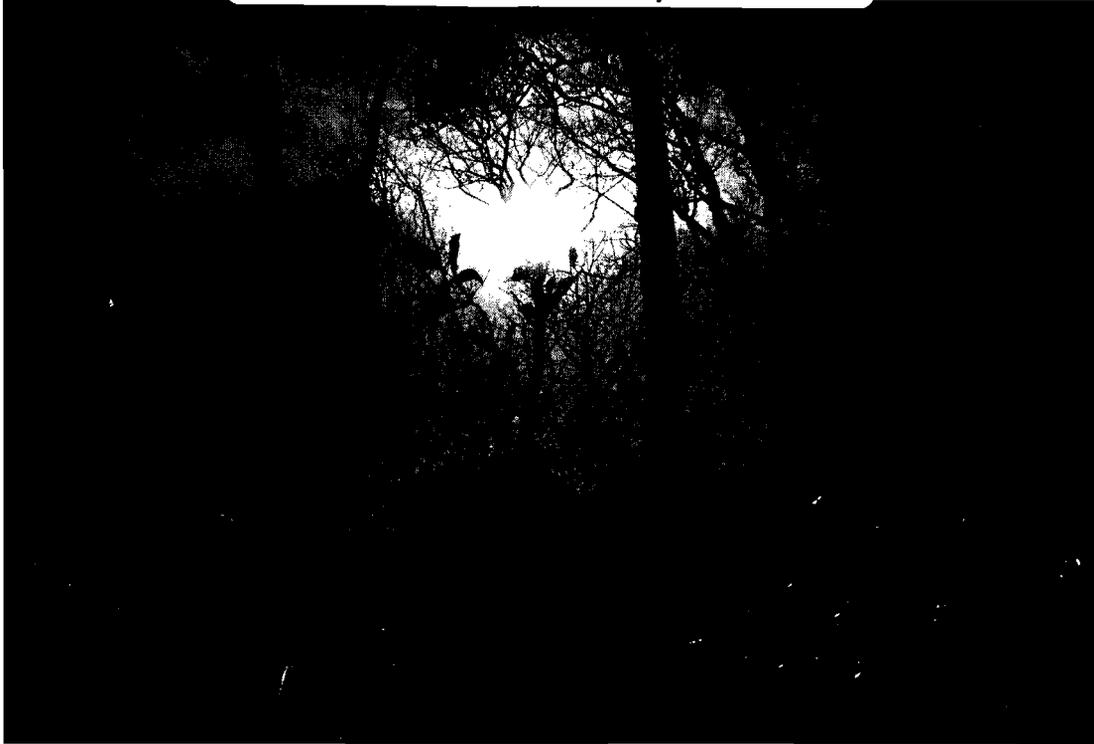


View from South and West  
100 & 300 yds to Ease Pac

Gleick Balloon Test  
North View at 100 & 300 yards



Gleick Balloon Test  
East View at 300 & 100 yards



Gleick Balloon Test  
South View at 300 & 100 yards



Gleick Balloon Test  
West View 300 yards



Gleick Balloon Test  
West View 100 yards

— View from Cloudbank Rd. Looking South  
Gleick Balloon Test —

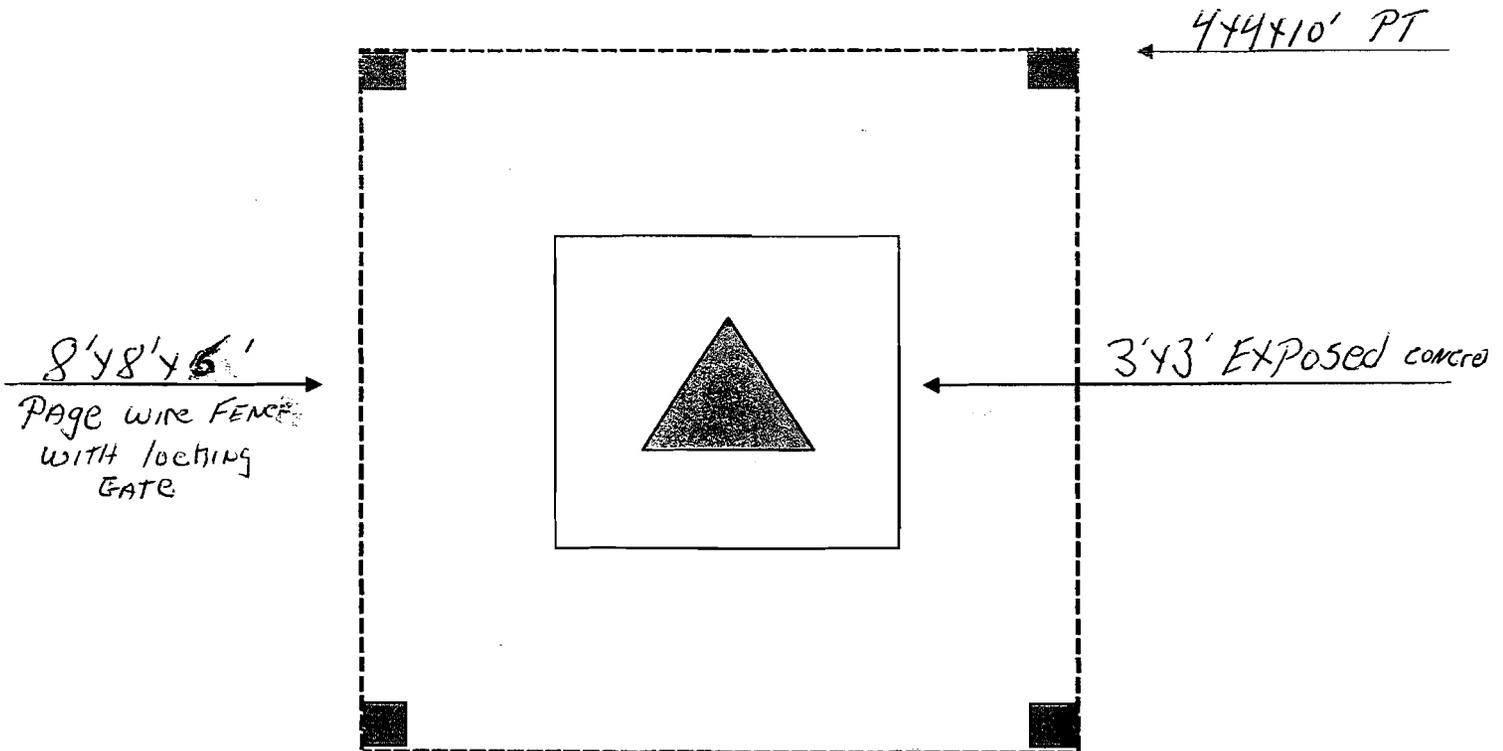
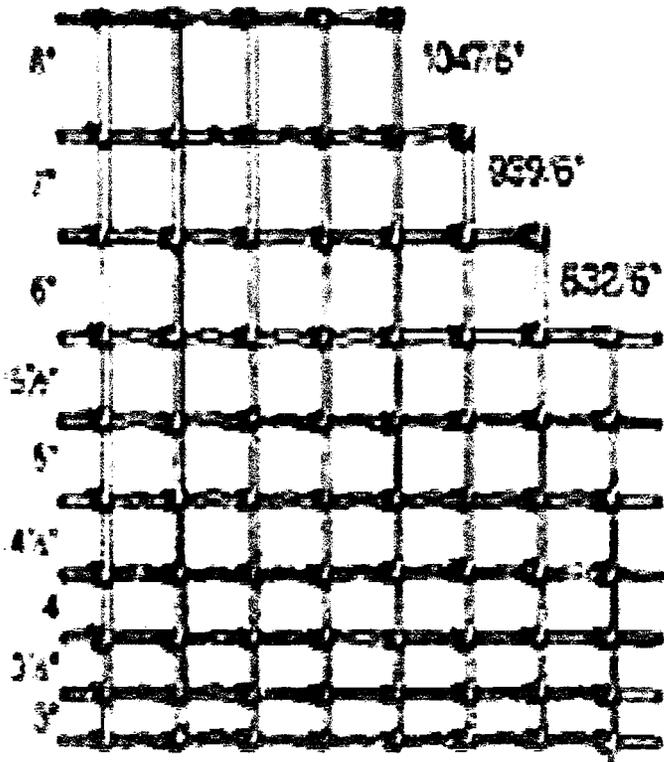


— View from 9D\_Mandalay Rd. Looking  
East Gleick Balloon Test —



— View looking up from Bottom of Gleick Driveway —

— 9D Looking East at Balloon Test —



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

10kW Residential Small Wind  
140' Guyed Lattice Tower

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.