

McCann Appraisal, LLC

# **Zoning Evaluation & Property Value Impact Study**

- Of -

**Proposed Wind Turbine  
Madaket Landfill  
Nantucket, Massachusetts**

- Requested by -

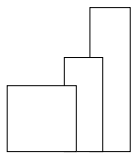
**Common Sense Nantucket**

- Submitted To -

**Town of Nantucket  
Zoning Board of Appeals**

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McCann Appraisal, LLC

January 31, 2012

Town of Nantucket  
Zoning Board of Appeals  
2 Fairgrounds Road  
Nantucket, MA 02554

Re: Zoning Evaluation & Property Value Impact Study  
Proposed Wind Turbine  
Madaket Landfill  
Nantucket, Massachusetts

Dear Members of the Nantucket Zoning Board of Appeals:

As requested by my client, comprised of property owners on Nantucket Island who are collectively identified as Common Sense Nantucket (CSN), McCann Appraisal, LLC is submitting this Consulting Report for your consideration and use in addressing the compliance of the proposed Madaket Landfill wind turbine (Turbine or WECS) with the Town of Nantucket Zoning Bylaw, as described for a Height Variance.

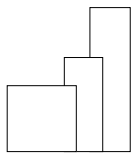
I have also evaluated the proposed use according to the real estate related criteria applicable under the authority of the Planning Board requirements for approval of a Special Permit with major site plan review. Thus, this Consulting Report is also intended for consideration by the Planning Board, and any other Nantucket administrative body or Massachusetts court of law.

Briefly, the Turbine is proposed to be located on a Town owned site that is currently leased to a landfill operator (Waste Options Nantucket), within a district zoned LUG-2, and is further identified as Assessors Map/Parcel 58/38, per the Application submitted on this matter by or on behalf of the Town of Nantucket.

### **Professional Opinions**

My professional opinions are effective as of the current date. My evaluation and this Consulting Report have been prepared and submitted pursuant to applicable licensing laws that mandate compliance with the Uniform Standards of Professional Appraisal Practice (USPAP), and my opinions are certified accordingly.

My specialized and unique experience with large scale wind energy turbines and developments, as well as over 30 years of real estate, land use evaluation and appraisal background has enabled and qualified me to evaluate whether the proposed Madaket Landfill WECS meets the approval criteria described in the Nantucket Bylaw, as further described and summarized herein.



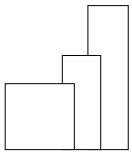
## EXECUTIVE SUMMARY

### Zoning Evaluation Conclusions

*The proposed Madaket Turbine use does not comply with the applicable Nantucket Bylaw for either a height variance (Zoning Board of Appeals) or a Major Site Application (Planning Board). The Madaket Landfill Turbine also meets the Bylaw criteria of a Prohibited Use.*

### Basis of Opinions

1. The adverse effects on area property values outweigh the financial benefit to the Town of Nantucket. Many homes would be significantly impacted, consistent with the percentage value loss range documented in the McCann property value study and review of other studies. A total **loss of homeowner equity is projected to be from \$135 million to \$270 million**. Clearly, this degree of probable impact is far in excess of any economic benefit anticipated by the Town of Nantucket to be derived from the sale of electricity from the Madaket Landfill Turbine.
2. The fiscal impact and impact on local property tax base can be expected to undergo significant and justified pressure for assessment reductions on Nantucket residences, again, within distance ranges studied that reflect significant value losses. The Project will be detrimental to the economic welfare of the community, as measured in fiscal impact of potential assessed valuation appeals and by reason of millions of dollars in property value diminution.
3. The Project is not compatible with the character of the natural open space and marsh land, nor the residential properties with impaired vistas, etc. The Project use will change the essential character of the area in which it is proposed.
4. The project has inadequate setbacks to prevent the Turbine from being disturbing to existing or future permitted uses in the same general vicinity and in the community as a whole.
5. The applicant has not agreed to implement any reasonable measures to mitigate the aesthetic and other impacts of the Project that result in value loss. Property Value Guarantees are effective tools, if carefully designed to leave property owners “whole”, and even the LBNL author now recognizes the validity of a PVG.
6. The turbine height of 325 feet and the spinning, blade flicker and reflection will NOT be in harmony with the visual character of the neighborhood, including views and vistas and the character of the neighborhood. There is nothing built in Nantucket to my knowledge that is the height of a 30+ story building, and the turbine will become the dominant presence within at least a mile or two of any

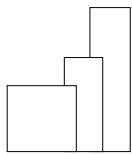


- 7 other land use. Views and vistas create value for property, and impairment of vistas with non-compatible, immense, spinning machines simply cannot blend in to any mixed residential area or recreational based community.
- 8 The turbine's architectural design will not be compatible with the character and scale of the adjacent and surrounding neighborhoods. Turbines are not architecturally designed but, rather, utilitarian by design. Large steel poles and the spinning (or still) blades are completely disproportionate in scale and contrary to the character of small towns and rural neighborhoods. Despite the denial of wind industry spokespeople of low-frequency or sub-audible noise impacts, the fact remains that a significant number of people are highly disturbed by this type of turbine impact, which clearly demonstrates a lack of compatibility for turbines to be placed in close proximity to residential uses. The design of large scale turbines cannot avoid the noise impacts, including sub-audible, amplitude modulation noise.
- 9 Liability issues for the Town of Nantucket, as land owner/lessor and owner of the project, are likely to begin if the turbine is developed, as nuisance, health and property value damage claims are litigated. The fiscal impact to the Town could very well suffer in the long-term, despite short term jobs, revenue and benefits anticipated by the Town/Applicant.

### Recommendations

From a real estate valuation perspective and based on the estimated loss of residential market value as a direct result of the Madaket Landfill Turbine influences, McCann offers the following recommendations to the Town of Nantucket Zoning Board of Appeals and Planning Board SPGA:

- Deny the application on the basis of failure to comply with the required zoning and planning approval criteria, as cited herein.
- If the decision is made to approve the Project, place conditions that may mitigate some of the impacts of the project, to the extent physically possible. Examples of conditions include:
  - ✓ Require a Property Value Guarantee (PVG) that allows owners to sell to the Town at owners option at the then current market value, excluding Project influence, within several years of construction and operation of the turbine, or compensation to the nearby owners (1 mile minimum distance from the Turbine in the event that the owners elect to continue living in the Project area post-development.
  - ✓ Require bonding of the PVG.
  - ✓ Require effective firefighting measures within the nacelle of each turbine, i.e., Halon systems, etc.
  - ✓ Consider **requiring a height limit** that is compatible with the surrounding uses.



- ✓ Consider requiring that turbines be shut off at night to **minimize noise and nuisance impacts.**
- ✓ Consider requiring a cut-off switch under the control of the Town, in order to allow for quick response to complaints or pending hazard issues.

### **Zoning Evaluation – Background**

Briefly stated from a real estate valuation and land use perspective, based upon my review of the Application for approval of the proposed WECS facility, review of the Nantucket Zoning Bylaw, the proposed location, height, type and intensity of the proposed Commercial scale Turbine, its lack of compatibility with the visual and aesthetic character of the neighborhoods it will impact, as well as the noise that will emanate from the turbine at distances of approximately one (1) mile or more, there is a high level of professional certainty that many Nantucket residential properties will experience significant value diminution and impairment, if the subject WECS is constructed and operated at the proposed Madaket Landfill location.

The 325 foot height is unprecedented on Nantucket Island, and the spinning blades will create a visual distraction and/or nuisance, which detract significantly from the natural and historic vistas and views from numerous homes.

Existing antennas and water towers create some of the visual impact, but not to the degree of the proposed turbine. Even the two existing turbines on the island are about 200 feet or 60% shorter than the proposed Madaket Landfill Turbine.

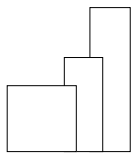
The 24 hour per day, 7 day per week potential operating hours are incompatible with quiet use and enjoyment of homes within at least 1 mile, and even the night time sky will be diminished by virtue of a large, blinking FAA light.

From a land use perspective, I also note that approval of one such extraordinary height structure of any kind may well serve as an “opening wedge” for further 30+ story developments of other types, including more commercial or utility scale turbines.

McCann Appraisal studies of wind project locations has found property values within 2 miles or less to reflect an average value that is 25% lower than similar rural homes located more than two (2) miles from turbines, during the period of 2003 to first quarter of 2005; in the midst of the strongest seller’s market in modern times. *(See McCann Exhibit B)*

Clarkson University has also conducted independent regression analyses of residential sales near wind turbines, and this July 2011 study involved in excess of 11,000 sale transactions over a 9 year period, including repeat sales of the same properties and census block groupings, and significant value diminution was found out to a range of three (3) miles. *(See McCann Property Value Impact Study section of report)*

Other case studies and literature review are appended hereto and discussed, all of which show varying degrees of reduced values, at distances that are well beyond typical



“abutter” consideration. Since the visual and noise impacts extend for greater than normal distances, the real estate market reaction to the presence of the nuisances attendant to larger scale turbines has similarly been documented to extend for miles, in a wide variety of locations, settings and project sizes. I note, however, that the visual and aesthetic impacts tend to extend beyond the distance that noise nuisance and reported health impacts have been documented, although there are a few reported cases of health impacts that extend even beyond the furthest measured value loss distance.

Further, the Applicant has failed to even attempt to mitigate the impact on values of residential properties, as could have been accomplished to some degree with the provision for an owner/developer Property Value Guarantee (PVG). Such mitigation measures are becoming commonplace in large scale land use development siting applications, as will be discussed further in the following property value impact study part of this evaluation.

Also of potential significance, the application appears to be silent on the need for a Special Permit with major site plan review by the Planning Board as the Special Permit Granting Authority (SPGA). It has been reported to the appraiser that the basis for this exclusion is the potentially untenable opinion of the Town that the Turbine constitutes a “municipal” use, thereby exempting it from requirements of a Major Site Application.

The Appraiser has made no legal conclusion on this point. However, per the Bylaw, the definition of Commercial Wind Energy System is:

*“A WECS designed or operated to provide energy principally to customers located off the premises and does not meet the requirements established for a residential WECS”.*

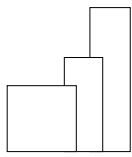
Since the Turbine is proposed to generate electricity principally for customers located off site from the proposed location, per the Nantucket Bylaw, the proposed Turbine is considered to be a Commercial Wind Energy System (WECS), and the Planning Board criteria related to real estate and land use are evaluated and considered separately from the height variation criteria that is within the jurisdiction of the Zoning Board of Appeals.

Furthermore, given the 325 foot height of the Turbine and its dominance of the landscape, along with the proposed use intended to serve some of the power needs of Nantucket, the Madaket Landfill Turbine can also be fairly classified as a utility scale turbine.

### **Planning Board Criteria (SPGA)**

According to § 139-21.B. (1), Commercial WECS Are permitted as a primary use in the following districts by special permit with major site plan review: LUG-1, LUG-2, LUG-3, RC-2, CN, CTEC, VN, VTEC and CI. The granting of a special permit for a commercial WECS shall be based upon **a finding by the Planning Board that the location of the WECS does not have a substantial adverse impact on the surrounding area.**

As described in the following section focused on residential property value trends and impacts near large scale Turbine facilities, the adverse impact on values within 1 mile and



beyond can only be fairly characterized as “significant” (1), and independent studies have found value reductions of 25% or more at ranges of two (2) miles and lower percentage impact to even three (3) miles. (1) (See McCann Exhibit G)

### **Board of Appeals Criteria for Variances**

According to § 139-32.A. The Board of Appeals shall have the power to grant upon appeal or upon petition, with respect to particular land or structures, a variance from the terms of this chapter where the **Board of Appeals specifically finds** that owing to circumstances relating to the soil conditions, shape or topography of such land or structures and especially affecting such land or structures but not affecting generally the zoning district in which it is located, **a literal enforcement of the provisions of this chapter would involve substantial hardship, financial or otherwise, to the petitioner or appellant, and the desirable relief may be granted without substantial detriment to the public good and without nullifying or substantially derogating from the intent or purpose of such bylaw.**

First, I note that there is no hardship affecting the subject property, except potentially the Town’s liabilities that may run with the approval and ownership of the Madaket Landfill itself; a self-created hardship not owing to the soil, topography, etc.

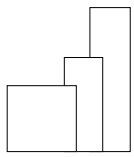
The approval criteria I have specifically evaluated are codified under § 139-17 Height limitations, as follows:

	<b>Zoning District</b>	<b>Maximum Height</b>
Country Overlay District	SR-1, SOH, SR-10, SR-20, LUG-1, <b>LUG-2</b> , LUG-3, MMD, VN, VTEC, VR	30
Town Overlay District	R-1, ROH, R-5, R-10, R-20, R-40, CDT, CMI, CN, CTEC, CI, RC, RC-2, LC	30

The proposed PowerWind-56 WECS would have a height of approximately 325 feet, from the foundation to the tip of the blades highest point. It is a 900 KW model turbine (non-residential, non-agricultural) and has a sweep diameter of approximately 184 feet. I note that this height is a multiple of the maximum height in the LUG-2 district by **10.8 X the 30** foot maximum height allowed as a matter of right in this district for any other land use. Succinctly, it is a significant variance that is being sought, of unprecedented magnitude on Nantucket.

Bylaw criteria for a Variance, including height, are directly related to the Purpose and Intent of the Bylaw, which defines Purpose as follows:

### **§ 139-1. Purpose.**



To promote the health, safety, convenience, morals and general welfare of its inhabitants, to lessen the danger from fire and congestion and to improve the Town under the provisions of the State Zoning Act, MGL c. 40A, the use, construction, repair, alteration and height of buildings and structures and the use of land and the size and shape of lots in the Town of Nantucket are hereby restricted and regulated as hereinafter provided.

The general welfare of the inhabitants of Nantucket is certainly, in part, linked to the property value investments all full time and seasonal residents have made, as well as the quality of life and ambience of the character of the residential neighborhoods.

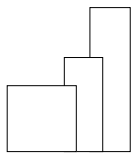
Given the visual and noise nuisances expected to be created by the large scale Madaket Landfill Turbine, along with the devaluation of neighboring residential properties, a substantial detriment to the public good will occur, and the Turbine will be substantially derogating from the intent or purpose of the bylaw.

Beyond finding a significant reduction of property values, McCann has consulted with Mr. Robert Rand, Principal of Rand Acoustics, to determine the probable degree of negative community response that is related to Turbine night time noise levels that exceed ambient background levels. Mr. Rand has advised McCann that above 33 dBA, at this location, widespread complaints are likely out to a distance of approximately one (1) mile. As this encompasses roughly 240 to 500 homes at that range, as measured from the turbine location and the landfill perimeter, respectively, such impacts are not considered to be isolated or infrequent, from a real estate perspective, as it will have an impact on the quality of life and owner/seller/buyer decisions. I expect that it will generate a number of “duress” condition marketing efforts to sell, and that such efforts will be met with limited acceptance on the part of buyers, especially if they are fully informed (per market value definition) of the impacts they cannot “see with their own eyes”.

McCann Appraisal is aware of, and has interviewed many, neighbors to utility or other large scale Turbine facilities. Realtor’s MLS information reveals that protracted and failed marketing attempts are also common occurrences, and there is a growing list of people who have in fact abandoned their homes due to the reported extreme and continuous level of nuisances they experience.

Such examples of home abandonment include individuals and families living near projects approved and operating in Falmouth MA., Maine, Wisconsin, Illinois, Ontario, Australia, the UK and other European countries, to name a few. I also note that these nuisance and health impact driven home abandonments occurred despite the evidence submitted by Professional Engineers that the local regulations would be met, with no approved off site sound levels exceeded.

From a real estate perspective, the local ordinances often do not adequately address the quality and tonality of Turbine noise, or the night time nuisances that are most prominent audibly, and the real estate market is demonstrating a “stigma” effect from turbines, regardless of those ordinances. McCann Appraisal experience and interview of turbine neighbors more closely parallels the Community Response findings of professional



acousticians such as Rob Rand, who have actually studied the adverse impacts rather than merely calculate numbers in a “vacuum”.

Although I do not predict with any certainty that any Nantucket residences will be abandoned by their owners, the loss of equity represented by those worse-case scenarios clearly illustrates the potential for impacts that go beyond property value loss, and informed buyers are walking away from such listings on a regular basis, which in turn causes extraordinary marketing times and failed marketing attempts, resulting in extraordinary and significant depreciation of nearby home values.

### **Prohibited Uses**

Further Bylaw criteria have been evaluated pursuant to **§139-7. B. (4)**, which requires as follows:

Notwithstanding any other provisions of this chapter, the following uses shall be prohibited in all districts:

*Any building or structure or any use of any building, structure or premises which is **injurious, obnoxious, offensive, dangerous or a nuisance to the community or to the neighborhood through noise** vibration, concussion, odors, fumes, smoke, gases, dust, harmful fluids or substances, danger of fire or explosion **or other objectionable feature detrimental to the community or neighborhood health, safety, convenience, morals or welfare.***

Irrespective of any other Bylaw provisions for the development and operation of a Commercial WECS, or any provisions for potential height variations, there is a significant volume of market-reported evidence that people are suffering various forms of health and nuisance impacts from similar scale turbines. I also have concluded that significant property value diminution is an objectionable feature (impact) that is detrimental to the community and neighborhood(s) welfare.

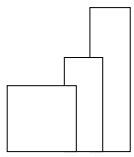
### **Major Site Plan Review**

As part of this evaluation, the appraiser also takes some guidance from the Bylaw which requires a major site plan review for any Major Commercial Development.

#### **§ 139-11.A.**

Every commercial use which constitutes a major commercial development, as defined in Subsection B below, shall require the grant of a special permit and major site plan review by the Planning Board under this § 139-11

B. A "major commercial development" (or "MCD") shall be defined as a single commercial structure or use, or a group of commercial structures or uses, which is proposed to be constructed on a single lot or tract of land or on contiguous tracts of land and held in common ownership or control, meeting, in the aggregate, any one or more of the following criteria:



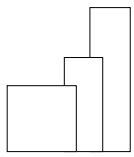
(1) (b)

Outdoor commercial use, including but not limited to sand, gravel or topsoil borrow operations and asphalt plants; land used commercially for recreation; and land used for the exterior storage or display of merchandise, equipment or material.

I. Setbacks. The Planning Board may specify, as part of its decision to grant a special permit under this § 139-11, that a reduction of up to 100% in the side and rear lot line setback requirement be permitted, *provided that the Planning Board finds that such a reduction will preserve the integrity of adjacent uses and the neighborhood and will promote the purposes and intent of this chapter.*

The Madaket Landfill Turbine will not be located within an enclosed structure, and the equipment will be visible, active and “spinning” from exterior perspectives for many miles and from hundreds of properties. The FAA light beacon that typically is located on top of the nacelle will also be visible in the night sky, and the impacts of this Turbine use are decidedly more dominant, prominent and visible, as well as audible and (low frequency) inaudible, than any of the examples cited under B.(1) (b), above.

Given the distance that the 325 foot Turbine impacts will be broadcast of at least one to one and a quarter (1-1.25) miles for noise, and two (2) or more miles visually, the setback from neighboring residences simply cannot be established in an effective manner to preserve the integrity of the adjacent uses, nor promote the Purpose of the Bylaw.



## Property Value Impact Study

In order to better understand the character of the Nantucket neighborhoods and several individual residential properties located within probable impact distances, I have reviewed maps, inspected and photographed residential properties and the views and vistas from certain nearby properties toward the Madaket Landfill Turbine site. All sale activity for the prior two years was reviewed, in order to familiarize myself with the local market, and representative examples of residential sales were inspected during my field inspections on January 25 & 25, 2012. Recorded Assessed Valuations of homes were also reviewed, in order to gain a perspective of approximately how much property value is at risk of being diminished, at various distances.

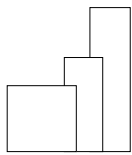
The issue of impact from turbines on the property value of residential owners is the primary focus of the following property value impact study, as property values are an objective measure of the desirable characteristics of any community.

The Nantucket community, overall, and land uses nearest the subject property are also the focus of this evaluation, as the impacts from existing turbines are well documented as being present at residential homes and some impacts have been measured as distant as 2 to 3 miles from turbines. As some of the turbines studied are somewhat taller (400 feet) than the 325 foot Madaket Landfill Turbine, I assume that the maximum distance of visual impacts will be somewhat less as well, but still highly visible and dominant out to distances of perhaps 2 miles, from many vantage points and vistas.

The contrast of such man-made towers and spinning, flickering blades with natural views and the highly valued amenity derived from views is analyzed herein, with focus on ratings of the view from, or "Vista" of residential properties.

It is important to understand that high quality or natural views are an asset to real estate market values and, in particular, residential property and land. Other types of "value" can be identified and described in non-real estate terminology, but my focus as an appraiser is on the market value of property. The McCann review of the Project is not undertaken as a technical, acoustic, medical or engineering evaluation but, rather, to the extent that market reaction to large scale turbines affects market perceptions that *overlap* with real estate value issues. More specifically, the question from a real estate perspective is whether or not the quality of scenic vistas and aesthetics and overall marketability of residential and related property will be adversely impacted as a result of the wind project(s).

The concept of market value is typically based on the value on the open market for *the property and all appurtenant rights for full, unimpaired use and enjoyment of the property*. Market value should not be confused with the value in use derived by property owners for their specific use, which is the value to the individual property owner, whereas Market value is the value agreed/paid by a typical buyer to a typical seller in the local market, and is more completely defined as:



## MARKET VALUE

Market Value\* as used in this consulting report is defined in The Appraisal of Real Estate, 12th Edition, published by the Appraisal Institute, and cited in the USPAP 2010-2011 Edition, as follows:

*“The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:*

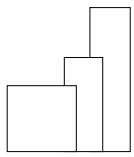
- 1. buyer and seller are typically motivated;*
- 2. both parties are well informed or well advised and acting in what they consider their own best interests;*
- 3. a reasonable time is allowed for exposure in the open market;*
- 4. payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and*
- 5. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.”*

The McCann evaluation and analysis addresses the Madaket Landfill Turbine residential valuation impacts on a specific and macro basis. Large scale research areas are typically utilized in wind industry documents submitted to address property value related special use zoning standards; thus, the use of a macro analyses is consistent with typical wind energy applications for zoning approval, including the LBNL report that is cited herein. McCann Appraisal considered these published reports as part of the evaluation and literature review. Specific case studies are in many instances more revealing as to the nature and empirical or *prima facie* value impact of turbines in close proximity to homes, as is often proposed for turbines by developer/applicants.

### Vistas

Detraction from such premium and above average views as are typical in the nearest Nantucket neighborhoods can and does have a measurable adverse effect on residential property values. This is well studied in the real estate appraisal profession, and in fact by proponents of wind energy funded by the USDOE such as:

- ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY The Impact of Wind Power Projects on Residential Property Values in the United States: Ben Hoen, Ryan Wiser, et al, Environmental Energy Technologies Division December 2009. (LBNL)



This USDOE funded study is often cited by wind energy developers to claim there is no value impact from such projects, even though the ***study acknowledges that nearby properties may experience losses*** and further recommends that more study in the immediate project areas is needed. This study is useful to understanding the minimum probable impact from the Madaket landfill Turbine, but is not considered to be objectively reliable for several reasons, including the author's exclusion of several dozen nearby sales, including sales to a developer who resold at losses of up to 80%. The exclusions are not directly identified by property, sale price, etc., but are reported in the footnotes in the LBNL report on pages 13 and 14. Two of the excluded transactions are shown as the Somerset, PA sale resales in following McCann Table 1.

### **VISTA IMPAIRMENT**

In the LBNL study, the authors attempt to analyze the impact of wind projects on residential property values. They also separately address the statistically measured impact on residential values from scenic vistas, or views based on ***regression analysis of over 4,700 sale transactions***, for this component of the study.

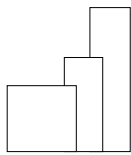
As graphically depicted within the LBNL report (pg xiii) on Figure ES-2, the following observations are prima facie evidence that impairment of scenic views results in a measurable loss of property values, as follows:

- A premium Vista adds 13% of value over and above the value of an average vista.
- A poor vista results in values 21% below the base-line average vista.
- An above average vista adds 10% to the value of an average vista.
- A below average vista reflects values 8% lower than an average vista.

To illustrate examples of the LBNL findings as it applies to the impairment of vistas for residential property, it is first acknowledged that the vista of any given residential property is going to be rated differently before introduction of a utility scale wind energy facility which will later have a view of the facility, albeit at varied distances.

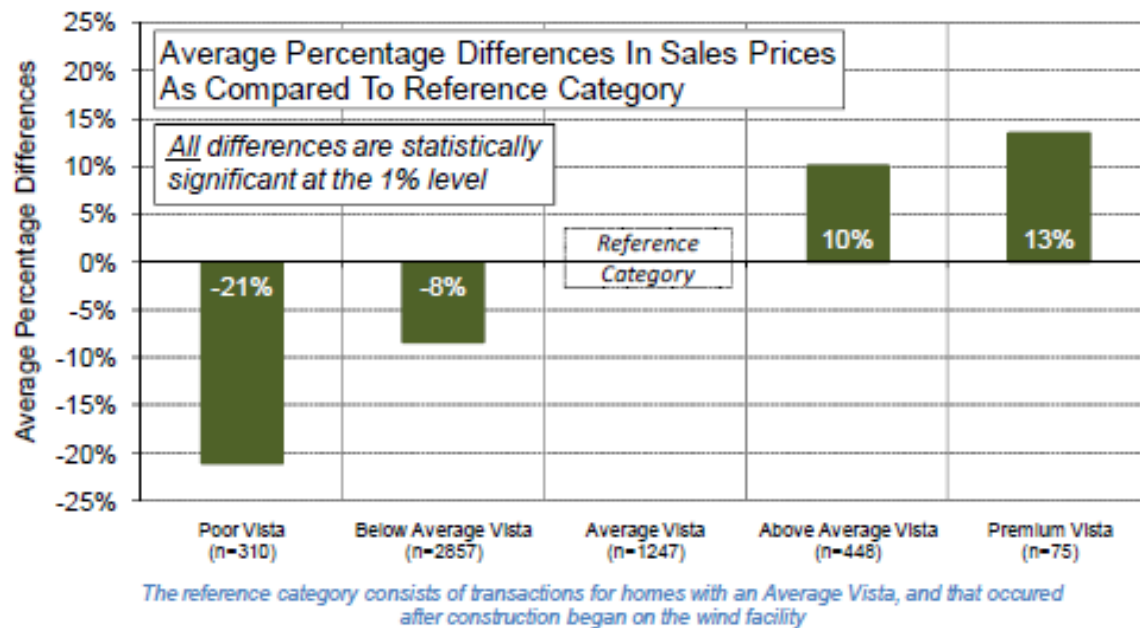
My personal inspection of existing vistas in the immediate subject property location adjacent to the project area indicates similarity with premium and above average vistas, as defined and characterized in the LBNL report. On balance, the LBNL report provides examples of premium, above average, average, below average and poor vistas.

Less natural, industrialized vistas have inferior ratings, and the close proximity of a 325 foot turbine, as represented by close proximity of the nearest residence and approximately 240 residences within 1 mile and approximately 500 within 1 mile of the Landfill perimeter, represents an extreme impairment of the existing neighborhood vista, and the character of the neighborhood that pre-exists the Madaket Landfill Turbine project.



In my opinion, below average and poor vista ratings are consistent with the impairment of vistas that will be caused by the Madaket Landfill Turbine facility itself.

**Figure ES-2: Base Model Results: Scenic Vista**



Source: December 2009 LBNL report

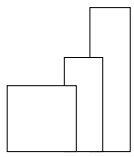
Thus, in project area residential locations with a premium vista, a turbine facility downgrading the amenity to a poor or below average vista will result in a **value loss of 21% to 34%**. Similarly, residential property possessing a current above average vista, if downgraded to poor or below average vista from the Madaket Turbine will suffer **between 18% and 31% value diminution**.

At approximately 325 feet in height, the view of the Madaket Turbine will be present at considerable distances that extend beyond the nearest residential property, particularly if a blinking light is required at night for aviation safety purposes.

In addition to the findings of the LBNL research report, I have also considered several peer reviewed studies published in The Appraisal Journal, that relate to value losses and impairment caused by other industrial “towers”, such as cell towers, high voltage transmission lines, as well as the higher values that are derived from premium views from residential property.

Each of these studies generally confirms the findings summarized by the data reflected in LBNL Figure ES-2, and are maintained in the appraiser’s work file for future reference.

## **NUISANCE IMPAIRMENT**



For many residents, the introduction of a utility scale turbine facility will constitute a nuisance, based on the unprecedented height and the impairment of aesthetics related thereto, the blinking aviation light in the night sky, if required by the FAA, etc.

Nuisances are also created by noise from wind generators, and have been well documented by the “market” as being highly disruptive to the quiet use and enjoyment of residential homes at levels well below the standards cited in zoning codes. In short, compliance with noise codes does NOT insure against nuisances being created by actual noise levels.

The complaints, personal accounts and factual experiences described by hundreds of individual “neighbors” to turbines comport with the technical descriptions and medical studies of sub-audible noise, as well as ultra-sound, infra-sound, low frequency noise, and which is not audible to the typical human ear in the normally expressed manner.

These real-life (not “modeled”) nuisance descriptions are typically ignored, discounted or denied by wind developers, even though there are numerous examples of developers buying out or settling with nearby homeowners who have suffered from the same range of effects commonly known as “Wind Turbine Syndrome”. These noise effects and nuisances related thereto have been documented in excess of 2 to 3 miles from the nearest turbines.

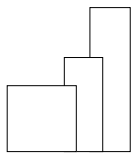
The LBNL study attempts to separately isolate the impact of nuisance on value, as depicted in the following Figure ES-1 from the LBNL study.

This figure separates the nuisance by distance from residential property, and clearly reveals that properties in the 3,000 feet and less, and 3,000 feet to 1-mile range **suffer value loss of 5.3% to 5.5%**, respectively.

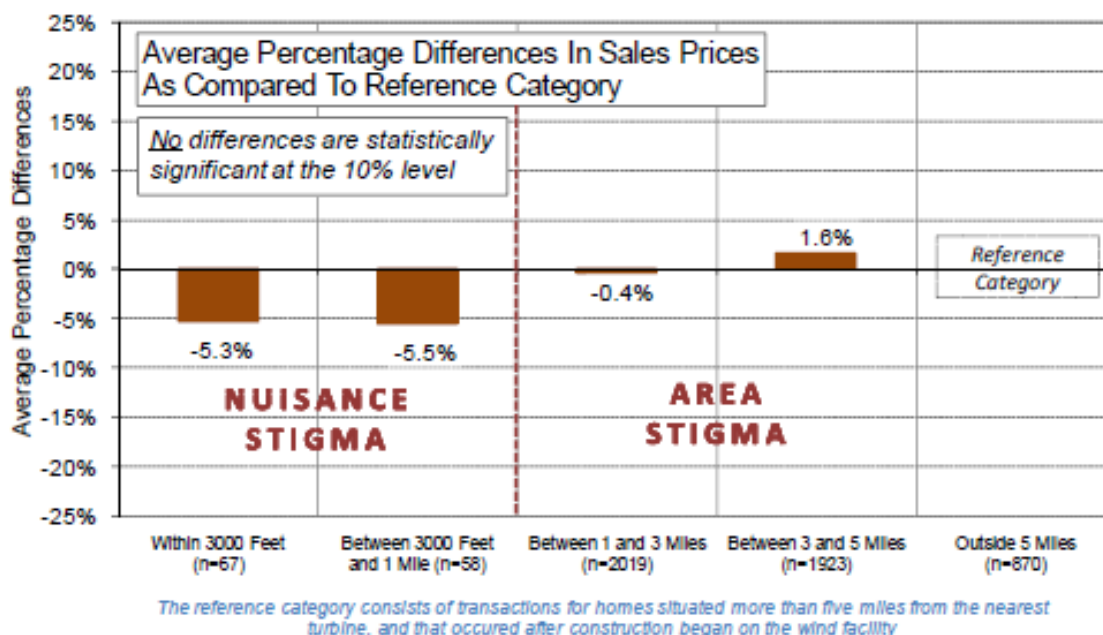
While the LBNL report author discounts the statistical significance of their own findings, this dismissal of relevance must be understood in the context of the largely irrelevant data from greater distances having provided the baseline property characteristics in a disproportionately sized data pool or sample, and which “waters down” the statistical indications.

The LBNL report must also be understood as a study commissioned with the stated intent of furthering the government policy of expanding wind energy development in the United States.

Nevertheless, even exclusion of certain impacted property data, or the disproportionate inclusion of data from 5 to 10 miles distant, did not eliminate the downward indication of value resulting from proximity to a nuisance, as depicted in the following figure:



**Figure ES-1: Base Model Results: Area and Nuisance Stigma**



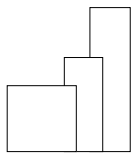
Source: December 2009 LBNL report

### Pre-Construction “Constructive Notice” of Turbine Facilities

Further, the following LBNL study Figure ES-4 depicts value changes over time, at varied distance from wind turbines. The applicability of this focus of the LBNL study to the subject Madaket Turbine facility can be understood in the post-announcement but pre-construction phase of turbine projects, at which point “constructive notice” has been served on surrounding neighbors and property owners. Properties within 1-mile of such projects reflect the largest decline in value, and **confirm that a utility scale wind energy facility has measurable negative impact on property values within 1-mile.** Even the 3 to 5 mile range shows that values did not increase post-construction. While the control group of home sales outside 5 miles were increasing in value, nothing located within 5 miles indicated comparable value increases for 2 to 4 years following construction of the turbines in that large-scale study.

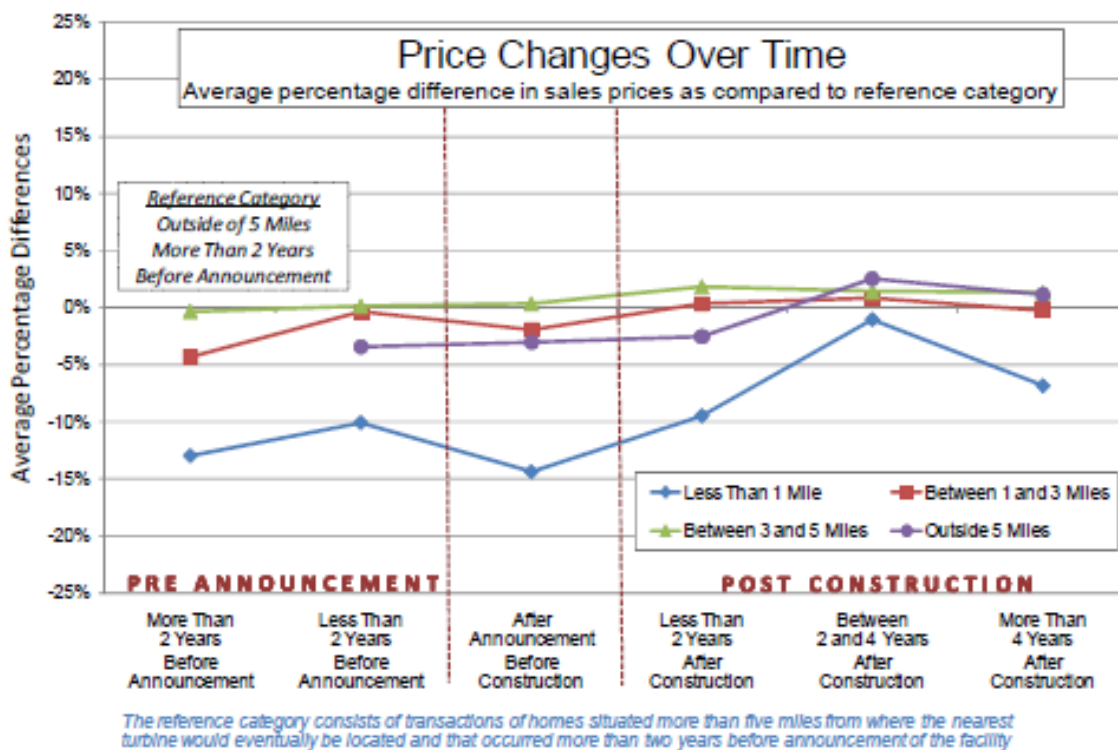
Perhaps most important, this figure reveals that 2 to 4 years after construction, after the “market” has had enough time to respond with buy-sell decisions, the properties located at distances of less than 1 mile from turbines decline rapidly. The author may feel he has statistical justification for discounting this analytical result, but the fact remains that closer properties declined in value after a couple years.

McCann has read the “spin” that the LBNL author and other team members who are wind energy proponents place on the immediate post construction results, but the longer term impacts are decidedly negative and, again, the LBNL report must be understood as having been prepared for the USDOE – the most prominent backer of



wind energy development in the United States. Further, the DOE reportedly paid the LBNL team \$500,000 to prepare the report to assist with defeating wind project siting hurdles, via dismissing of individual accounts or as appraisers term these examples, Case Studies.

**Figure ES - 4: Temporal Aspects Model Results: Area and Nuisance Stigma**

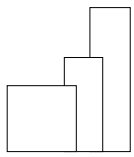


The LBNL study is not the only pro-wind study that, in reality, refutes the claims of developers regarding property value loss, due to their utility scale wind energy projects. A recent study focuses more on the pre-construction or “constructive notice” phase of development, as characterized by the pending application for the Madaket Landfill Turbine facilities.

A separate academic study conducted by Jennifer L. Hinman, Illinois State University, WIND FARM PROXIMITY AND PROPERTY VALUES: A POOLED HEDONIC REGRESSION ANALYSIS OF PROPERTY VALUES IN CENTRAL ILLINOIS

The background of this study author is a Master’s Thesis, prepared by the author in partial fulfillment of degree requirements. ISU is heavily funded by wind energy developers, the American Wind Energy Association, the USDOE and other grant programs that are decidedly “pro-wind”, and which seek to refute or diminish the actual experience of many neighbors to such projects.

In fact, ISU newsletters disclose that “corporate partners” that include wind energy development companies have access to the renewable energy programs, include



advising on research direction and the right to review any applied research developed by ISU.

An excerpt of the Hinman report is presented as follows:

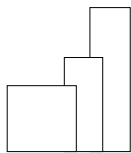
*This study uses 3,851 residential property transactions from January 1, 2001 through December 1, 2009 from McLean and Ford Counties, Illinois. This is the first wind farm proximity and property value study to adopt pooled hedonic regression analysis with difference-in-differences estimators. This methodology significantly improves upon many of the previous methodologies found in the wind farm proximity and property value literature. **The estimation results provide evidence that a “location effect” exists such that before the wind farm was even approved, properties located near the eventual wind farm area were devalued in comparison to other areas.** Additionally, the results show that property value impacts vary based on the different stages of wind farm development. These stages of wind farm development roughly correspond to the different levels of risk as perceived by local residents and potential homebuyers. Some of the estimation results support the existence of “wind farm anticipation stigma theory,” meaning that **property values may have diminished in “anticipation” of the wind farm** after the wind farm project was approved by the McLean County Board. Wind farm anticipation stigma is likely due to the impact associated with a fear of the unknown, a general uncertainty surrounding a proposed wind farm project regarding the aesthetic impacts on the landscape, the actual noise impacts from the wind turbines, and just how disruptive the wind farm will be*

In contrast to Hoen & Hinman, Martin D. Heintzelman, an assistant professor at Clarkson University, recently completed an academic study of property values near wind farms entitled *Values in the Wind: A Hedonic Analysis of Wind Power Facilities* (July 16, 2011).

This study is deemed more reliable from an appraisal review perspective than the LBNL report, since it was an independent study funded by neither wind energy proponents or objectors.

McCann has undertaken a review of this Clarkson University study which reports findings of significant negative value impacts. The regression analysis used in this study found that closer proximity to utility/industrial scale turbines had a measurable and significant negative impact on values, ranging from **14.49% to 35.22% at the ½ mile range, and 10.5% to 24.5% at the 3 mile range**, when any pre-existing or prior projects were at least 25 miles away.

At 1/10<sup>th</sup> of a mile, value loss of over 45% was indicated, and repeat sales (sale-resale of same home) indicating that closer proximity in fact affects how severe the value depreciation will be, as summarized on the following Table 9:



**CLARKSON STUDY – TABLE 9**

Distance to Nearest Turbine (Miles)	Clinton County		Franklin County	
	Repeat Sales	Census Block	Repeat Sales	Census Block
Initial Distance=25 Miles	$\beta = -0.041^{**}$	$\beta = -0.052^{***}$	$\beta = -0.044$	$\beta = -0.111^{***}$
0.1	19.82	27.80	21.57	45.82
0.25	16.82	23.79	18.34	40.02
0.5	14.49	20.61	15.81	35.22
1	12.08	17.30	13.21	30.04
2	9.61	13.84	10.52	24.45
3	8.13	11.76	8.91	20.97
Initial Distance= 15 Miles				
0.1	18.16	22.94	19.79	42.66
0.25	15.11	19.18	16.49	36.52
0.5	12.72	16.21	13.90	31.44
1	10.27	13.14	11.23	25.96
2	7.74	9.95	8.48	20.04
3	6.23	8.03	6.84	16.36
Initial Distance= 5 Miles				
0.1	14.49	18.41	15.81	35.22
0.25	11.29	14.43	12.35	28.29
0.5	8.80	11.28	9.64	22.55
1	6.23	8.03	6.84	16.36
2	3.60	4.65	3.95	9.67
3	2.02	2.62	2.22	5.51

note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

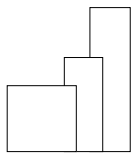
Table 9: Estimated Percentage Price Declines using Model 1, Selected Distances

A complete description of the regression methodology is contained in the Clarkson report, which McCann submits under separate cover as addenda for consideration.

### McCann Value Impact Study

Additional sale data studied by McCann for home values in a rural Illinois location adjacent to the Mendota Hills wind turbine project in Lee County is included in **Exhibit B** of this report. Despite the booming market conditions represented by the 2003-early 2005 sale dates, **the homes within 2 miles of the nearest turbine reflect an average sale price per square foot that is 25% lower** than homes located outside that 2-mile perimeter.

Thus an impaired view, inadequate setback, and stigma associated with proximity to large scale turbines, measured to project value loss from a property possessing a “premium” vista, indicates that a 13% premium could become a 21% reduction, or a net property value reduction of 34%. This is well supported by the range of property case studies of value loss for individual homes that range from 20% to 40% and in some instances a complete loss of equity when homes are completely unmarketable, or are acquired by wind developers and re-sold for losses up to 80%. Some developer buyouts were followed by demolition of the otherwise livable homes.



This range of value loss for the nearest residential properties is fairly classified as significant, preventable and highly probable. The probability of damages to the value of homes is quantified with empirical data rather than speculation, and is clearly indicated to a high degree of professional certainty.

Finally, individual repeat sales (sale-resale) of existing homes in Somerset Pennsylvania, and near a project in Melancthon, Ontario, are summarized as follows:

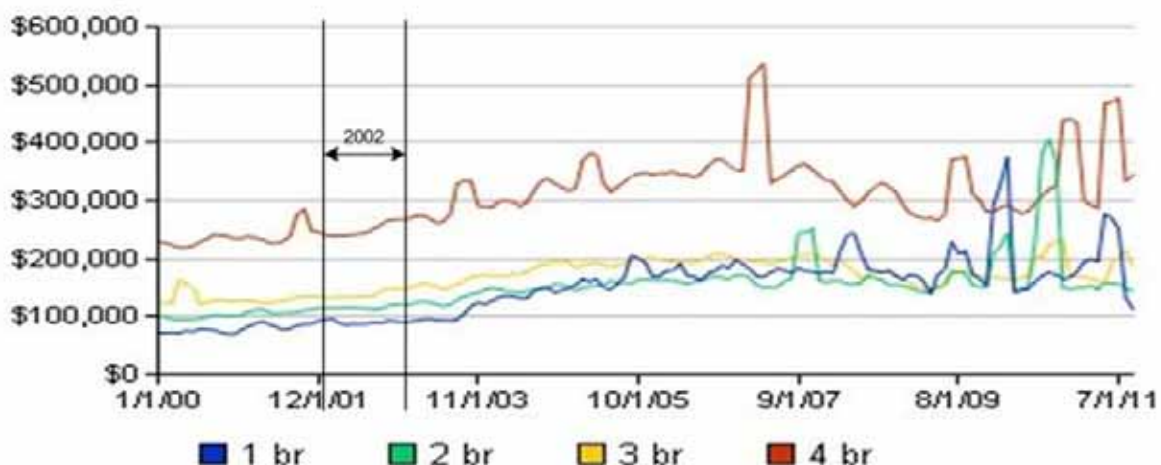
**McCann Table 1**

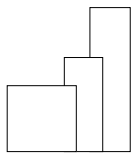
Location	Year	"Old" Value	"New" Value	% Decrease
Somerset	2002	101,049	20,000	80.2
Somerset	2002	104,447	65,000	37.8
Melancthon	2009	500,000	288,400	42.3
Melancthon	2009	350,000	175,000	50.0
Melancthon	2009	305,000	278,000	8.9
Melancthon	2009	302,670	215,000	29.0

The Somerset data are the transactions excluded by the LBNL authors, while the Melancthon resales were buy outs of neighbors to the Canadian Hydro wind project at an Ontario location. Homes were bought out with confidentiality clauses (gag orders), prohibiting the sellers from directly talking about the health problems they experienced, but resold by the developer to parties who reportedly also agreed to a waiver about noise, etc.

The two following charts depict relevant local property value trends, which reveal the buyout prices were at or about "market", and the resales were truly at a loss well below market value.

**Average Sales Price for homes in Pennsylvania**

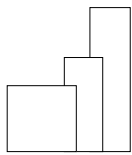




<b>Ontario MLS Sale Prices</b>		
<b>Year</b>	<b>Average</b>	<b>% Increase</b>
2006	278,364	na
2007	299,544	7.6
2008	302,354	0.9
2009	318,366	5.3
2010	342,245	7.5
2011 ytd	363,722	6.3

While not a study that contains thousands of sales, this is considered to be a relevant study since it is based on sale-resale of homes located near turbines, and since in both locations the turbine developer was the party buying and reselling the homes. Thus, if the claim is made that turbines do not affect values, this data indicates the claim is not supported by wind developers own business decisions in selling homes. The following table presents the results of several independent studies of property value impacts from adjacent wind energy projects:

<b>SUMMARY OF VALUE IMPACT STUDIES</b>						
<b>Author</b>	<b>Year</b>	<b>Location</b>	<b>Method</b>	<b>Property</b>	<b>Distance</b>	<b>Impact</b>
McCann	2009	Lee County, IL	Paired Sales	Residential	2 miles	(25%)
Hoen	2009	Various	Regression	Residential	5 miles 3K ft – 1 mi	Apprec. (5.5-8%)
Hinman	2010	McLean County, IL	Regression	Residential	3 miles ½ mile	(11.9%)
Canning & Simmons	2010	Chatham Kent, Ont.	Regression Paired sales	Residential	Viewshed	(7-13%) (9%)
Appraisal Group One	2009	Fond du Lac, Wisc.	Regression & Survey	Residential lots	Visible vs. Not visible	(30-40%) (24-39%)
Lincoln Twp Moratorium Committee	2000 – 2002	Kewaunee, Wisconsin	AV ratio study 104 v. 76%	Residential	1 mile	(24%)
Gardner	2009	Texas	Paired Sales	Residential	1.8 miles	(25%)
Luxemburger	2007 – 2008	Amaranth Ontario	Paired Sales	Residential	3 NM	(15%) \$48,000
Heintzelman Tuttle	2011	Northern NY State	Regression Repeat Sales Census Block	Residential	1 -3 miles	Varies to >45%



Each of the preceding studies indicates that proximity to turbines has a significant value impact, and the impact extends well beyond the typical abutter setback distances. The Heintzelman Clarkson University study is helpful to understand the correlation of distance to the degree of value loss, and is much more focused on smaller incremental ranges, as was suggested to be needed by Hoen in the LBNL report.

Regardless of which study is considered, however, the question is not IF there is a value loss, but rather how MUCH of a loss. Actual losses are documented and measured, and at distances of ½ mile to 2 or 3 miles, the Project represents a bona fide risk to Nantucket property values and assessed valuation property tax base.  
(See McCann exhibit E)

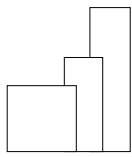
The Madaket Landfill Turbine will be within 1 mile of over 500 residential properties, as depicted on McCann Exhibit D, which is 1 mile from the landfill perimeter and approximately 1.25 miles from the Turbine foundation. Within this range, approximately \$900 million in residential property value, as derived from the Town of Nantucket Assessor database summary, as reflected by Exhibit E. Further, the Rand Acoustics map shown as McCann Exhibit C graphically depicts the noise impact distances, with adverse community impacts extending beyond 1 mile from the Madaket Landfill Turbine.

On a macro basis, residential property value diminution can be reasonably and reliably forecast for a minimum of 1.25 miles from the Turbine, due to the combined visual and noise impacts, together with the nuisance and overall stigma of a Turbine in close proximity, at 15% to 30% reduction. Based upon the McCann Exhibit E summary of officially recorded residential property values, a total **loss of homeowner equity is projected to be from \$135 million to \$270 million**. Clearly, this degree of probable impact is far in excess of any economic benefit anticipated by the Town of Nantucket to be derived from the sale of electricity from the Madaket Landfill Turbine.

Since all properties will not be sold within a few months of the Turbine being developed, it will take a number of years for the entire projected impact to be realized, as indicated by LBNL figure ES-4. As properties do sell, it will provide the basis for “comparables” to be appropriately applied in the Town of Nantucket Assessor sale studies. However, in my experience, many of the nearby and most severely impacted properties do not sell at all, further delaying the adjustment to the underlying assessment base.

#### **Property Value Guarantee (PVG)**

Announcement and/or approval of wind energy facilities have served as constructive notice of future plans for development of wind turbine projects, and property values have been shown to decline based on pre-construction anticipation of wind projects.



As such, there is ample evidence to either deny such related projects within 1 to 3 miles of homes or require a PVG.

To my knowledge, the Town of Nantucket has not offered any such guarantee for any home or property owner, including Project area residents who already live and own property within 1-1.25 miles from the proposed turbine who are likely to be impacted by the Turbine noise and related nuisance.

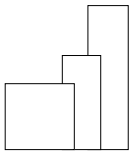
Despite all the industry claims to the contrary, significant value impacts have in fact occurred, and have even resulted in the abandonment of homes, as well as other extraordinary nuisances, health problems, etc.

As a personal observation, in 30 years of appraising and studying real estate values, damages claims, zoning and land use issues, I have never before observed such a widespread and consistent series of similar, negative reports coming from residents living by any other type of facility. It is an observable trend in the market, both for owner-occupants and the home-buying market.

Even the principal author of the LBNL study, Ben Hoen, now recommends implementation of Property Value Guarantees (PVG's) in the context of wind energy project mitigation of impacts. A brief interview with Ben Hoen, which is available on the web, is contained in **McCann Exhibit F**. This exhibit contains a printed version of the Hoen comments about his study, as well as a link to listen to the audio recording.

(see page 32 of linked webinar)

[http://www.windpoweringamerica.gov/newengland/pdfs/2010/webinar\\_neweep\\_property\\_values\\_hoen.pdf](http://www.windpoweringamerica.gov/newengland/pdfs/2010/webinar_neweep_property_values_hoen.pdf)



## Property Value Risks Will Persist Unless They Are Measured, Mitigated and Managed

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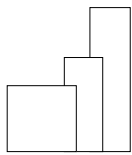
### Manage

Manage risks in the short term for homeowners through tenable/workable measures

- Offer some combination of neighbor agreements/incentives and/or property value guarantees (e.g., Dekalb County, IL) to nearby homeowners as are economically tenable and legally workable
- Conduct follow up studies (e.g., surveys, appraisals)
- Realize that cumulative impacts may exist
- Realize that real or perceived risks may increase/decrease as more/better information become available

Distance from turbines includes visual impacts which relates to the impact on current owner use and enjoyment, but also is highly cited as a basis for buyer aversion when marketing such property. Pre-construction knowledge of pending or approved wind projects also leaves homeowners wishing to sell with the ethical dilemma of making full disclosure of known or expected nuisances to potential buyers, or facing possible legal repercussions and financial liability for failing to make such a disclosure. When litigated, courts have been documented as having awarding damages to uninformed buyers, when sellers knew or should have known of pending wind projects.

Turbine developments have a negative impact or “nuisance” due to the circumstances that the project and use has a dominant presence, impairs aesthetics, negatively changes the character of the neighboring residential property settings or perception thereof, whether isolated and remote or clusters of residential properties.



Any number of potential variable impacts has a demonstrable adverse impact on the use, enjoyment, marketability or value of the subject property neighboring use and it creates a man-made detriment to neighboring property and results in a negative impact for any homes that “got in the way”. This is exactly why adequate setbacks are important. To mitigate against adverse impacts on neighboring property.

Certainly the scale of the Madaket Landfill Turbine is unprecedented locally, in terms of height, intensity and proposed close proximity to hundreds of non-industrial uses and neighbors. Typical industry-sought setbacks for large scale turbines have proven to be inadequate to accomplish the stated purpose of typical zoning codes and ordinances, as inadequate setbacks have failed to protect the public health, safety and welfare, or the neighboring property values, compatibility and character of host locations.

### Conclusion

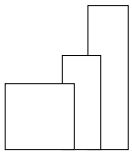
After completing my review of the subject location, it is clear that numerous homes in the Nantucket neighborhoods nearest the Madaket Landfill Turbine will be adversely impacted, and the best available evidence indicates that **value loss of 10% to 25% and as much as 40%** in some instances will result for homes within approximately **½ to 1 or 2 miles of the turbines**. This impact is not expected to be uniform, and some losses may well be lower and others higher.

Even if most of the area owners never put their homes on the market and lose equity via sale at the impacted values, the loss of equity in their occupied homes still results in financial loss. This magnitude of impact is considered severe, and avoiding such impacts is one of the purposes of zoning and Special Permit standards for project approval.

### Opinions

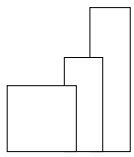
Based upon the McCann evaluation of the Madaket Landfill Turbine against the standards for a Special Permit cited in the Zoning Bylaw, as well as the preceding real estate value impact study, ***the Project fails to comply with the mandatory requirements for approval of the proposed height variance and/or Special Permit.*** The basis for this conclusion is as follows:

- The adverse effects on area property values outweigh the financial benefit to the Town of Nantucket. Many homes would be significantly impacted, consistent with the percentage value loss range documented in the McCann property value study and review of other studies.
- The fiscal impact and impact on local property tax base can be expected to undergo significant and justified pressure for assessment reductions on Nantucket residences, again, within distance ranges studied that reflect



significant value losses. The Project will be detrimental to the economic welfare of the community, as measured in fiscal impact of potential assessed valuation appeals and by reason of millions of dollars in property value diminution.

- The Project is not compatible with the character of the natural open space and marsh land, nor the residential properties with impaired vistas, etc. The Project use will change the essential character of the area in which it is proposed.
- The project has inadequate setbacks to prevent the Turbine from being disturbing to existing or future permitted uses in the same general vicinity and in the community as a whole.
- The applicant has not agreed to implement any reasonable measures to mitigate the aesthetic impacts of the Project that result in value loss. Property Value Guarantees are effective tools, if carefully designed to leave property owners “whole”, and even the LBNL author now recognizes the validity of a PVG.
- The turbine height of 325 feet and the spinning, blade flicker and reflection will NOT be in harmony with the visual character of the neighborhood, including views and vistas and the character of the neighborhood. There is nothing built in Nantucket to my knowledge that is the height of a 30+ story building, and the turbine will become the dominant presence within at least a mile or two of any other land use. Views and vistas create value for property, and impairment of vistas with non-compatible, immense, spinning machines simply cannot blend in to any mixed residential area or recreational based community.
- The turbine’s architectural design will not be compatible with the character and scale of the adjacent and surrounding neighborhoods. Turbines are not architecturally designed but, rather, utilitarian by design. Large steel poles and the spinning (or still) blades are completely disproportionate in scale and contrary to the character of small towns and rural neighborhoods. Despite the denial of wind industry spokespeople of low-frequency or sub-audible noise impacts, the fact remains that a significant number of people are highly disturbed by this type of turbine impact, which clearly demonstrates a lack of compatibility for turbines to be placed in close proximity to residential uses. The design of turbines cannot avoid the noise impacts, including sub-audible, amplitude modulation noise.
- Liability issues for the Town of Nantucket, as land owner/lessor and owner of the project, are likely to begin if the turbines are developed, as nuisance, health and property value damage claims are litigated. The fiscal impact to the Town could very well suffer in the long-term, despite short term jobs, revenue and benefits anticipated by the Town/Applicant.



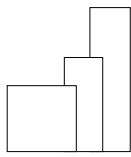
## Recommendations

From a real estate valuation perspective and based on the estimated loss of residential market value as a direct result of the Madaket Landfill Turbine influences, McCann offers the following recommendations to the Town of Nantucket Zoning Board of Appeals and Planning Board SPGA:

- Deny the application on the basis of failure to comply with the required zoning and planning approval criteria, as cited herein.
- If the decision is made to approve the Project, place conditions that may mitigate some of the impacts of the project, to the extent physically possible. Examples of conditions include:
  - ✓ Require a Property Value Guarantee (PVG) that allows owners to sell to the Town at owners option at the then current market value, excluding Project influence, within several years of construction and operation of the turbine, or compensation to the nearby owners (1 mile minimum distance from the Turbine in the event that the owners elect to continue living in the Project area post-development.
  - ✓ Require bonding of the PVG.
  - ✓ Require effective firefighting measures within the nacelle of each turbine, i.e., Halon systems, etc.
  - ✓ Consider **requiring a height limit** that is compatible with the surrounding uses.
  - ✓ Consider requiring that turbines be shut off at night to **minimize noise and nuisance impacts**.
  - ✓ Consider requiring a cut-off switch under the control of the Town, in order to allow for quick response to complaints or pending hazard issues.

Additional documents, facts, data and studies and market trend information is retained in the appraiser's work file, in the event expert opinions expressed herein and the basis for the opinions must be refined or given in testimony in any future legal proceedings.

I reserve the right to supplement my opinions at a later date, if the need arises and/or if additional information becomes available. Further, McCann's ongoing study of wind energy projects and their impacts may result in future disclosures and market information relevant to wind energy development issues.



## McCann Exhibit A

### Appendix D: Vista Ratings with Photos

#### POOR VISTA

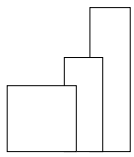


#### BELOW AVERAGE VISTA



#### AVERAGE VISTA





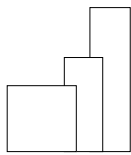
ABOVE AVERAGE VISTA



PREMIUM VISTA



Source: LBNL Appendix D, report page 120 & 121



## McCann Exhibit B

### Mendota Hills Wind Energy Project

Sale #	Address	Sale Date	Price	Grantor	Grantee	Style	Size SF	\$/SF
1	629 W. Chestnut	Oct 2003	\$37,000	Estes	Lipe	1.5	1,161	\$31.87
2	323 W. Chestnut	Oct 2004	\$40,000	Reed	Hovious	1.5	1,425	\$28.07
3	1019 Steward Rd.	May 2003	\$40,000	Houle-Ward	Reyns	2	1,408	\$28.41
4	91143 Paw Paw	Mar 2005	\$187,000	Zaylik	Pachero	2	1,571	\$119.03
5	1224 IL Rte. 251	Jun 2003	\$138,000	Gittleson	Kowalski	2	1,272	\$108.49
6	339 Chestnut St.	Jan 2003	\$72,000	White	Flynn	2	1,684	\$42.76
7	630 W. Chestnut	Sep 2003	\$126,000	Eddy	Morath, Sr.	1.5	1,728	\$72.92
8	427 Chestnut St.	Oct 2003	\$87,000	Hesik	Rourke, Jr.	1.5	1,380	\$63.04
9	138 Cherry St.	Sep 2004	\$80,000	Hammond	Alexander	1.5	1,326	\$60.33
10	536 W. Cherry	Oct 2004	\$63,500	Johnson	Fitzpatrick	1.5	999	\$63.56
11	885 Compton Rd.	Oct 2004	\$68,900	Boysen	Gellings	1	480	\$143.54
12	518 W. Cherry St.	Apr 2003	\$87,500	Allen	Beckman	1	927	\$94.39
13	222 Maple St.	Dec 2004	\$150,000	Clark	Cummings	1	1,852	\$80.99
14	444 W. Main St.	Mar 2005	\$109,900	Miller	Michaels	1	1,402	\$78.39
15	2874 Beemerville	Jul 2003	\$367,000	Finkboner	DGNB TRT	1	2,201	<u>\$166.74</u>
Average sale price								<b>\$78.84</b>
16	1310 Melugins Grove	Apr 2004	\$179,000	Lyons	Overton	2	1,952	\$91.70
17	2612 Shady Oaks Rd.	Apr 2003	\$131,000	Smith	Papich	1.5	1,208	\$108.44
18	3448 Cyclone Rd.	Mar 2003	\$105,900	Munyon	Pippenger	2	1,456	\$72.73
19	2524 Johnson St.	Aug 2004	\$61,800	Copeland	Lampson	1.5	948	\$65.19
20	741 Third St.	Feb 2004	\$63,500	Eckhardt	Rosales	1.5	868	\$73.16
21	613 Church Rd.	May 2003	\$115,000	Merkel	Parpart	1.5	1,458	\$78.88
22	3435 Willow Creek	Jun 2003	\$118,000	Swiatek	Brydun	2	884	\$133.48
23	3021 Cottage Hill	Mar 2005	\$182,000	Russ	Curtis	1.5	1,239	\$146.89
24	3385 Willow Creek	Mar 2003	\$180,000	McCoy	Carver	2	2,840	\$63.38
25	745 Second St.	Dec 2004	\$59,000	Wilson	Calderon	1.5	1,161	\$50.82
26	761 4th St.	Mar 2003	\$68,000	Stewart	Elsinger	1	724	\$93.92
27	2774 Welland Rd.	Apr 2003	\$93,000	Batha	Crumpton	1.5	1,104	\$84.24
28	558 Earlville Rd.	Jan 2003	\$145,000	Hodge	Ikeler	2	1,280	\$113.28
29	2505 Wood St.	Aug 2004	\$105,000	Janiak	Bullock	2	1,812	\$57.95
30	385 Earlville Rd.	Aug 2004	\$280,000	Rago	Diehl	2	2,142	\$130.72
31	3095 Cyclone Rd.	Dec 2004	\$169,900	Summerhill	Rainbolt	2	2,048	\$82.96
32	742 Second St.	Jan 2003	\$103,000	Delhotel	Stewart	2	1,876	\$54.90
33	395 Angling Rd.	Mar 2005	\$119,000	BMV Prop.	Herendeen	1	680	\$175.00
34	2515 Wood St.	Apr 2004	\$80,000	Jones	Sarver	1	912	\$87.72
35	1218 Locust Rd.	Jan 2005	\$169,000	Wachowski	Gembeck	1	1,040	\$162.50
36	901 Melugens Grove	Aug 2003	\$228,000	Kidd	Rajan	1	2,000	\$114.00
37	1490 German Rd.	Aug 2004	\$85,000	Firlit	Challand	2	2,144	\$39.65
38	603 Ogee Rd.	Apr 2004	\$285,000	Anderson	Miller	1	1,920	\$148.44
39	546 Camahan Rd.	Jan 2005	\$110,000	Coley	Sarabia	1	1,296	\$84.88
40	1353 County Line	Nov 2003	\$185,000	Vallejo	Bozaeth	1.5	1,338	\$138.27
41	2512 Johnson St.	Feb 2005	\$123,000	Montavon	Sutton	2	2,232	\$55.11
42	2509 Herman Rd.	Apr 2004	\$142,900	Bresson	Arjes	1	1,404	\$101.78
43	955 Woodlawn	Jul 2003	\$265,000	Swan	LaRosa	1.5	1,918	\$138.16
44	1279 Locust Rd.	Mar 2003	\$270,000	Witte	olin	1	2,156	\$125.23
45	648 Ogee	Nov 2003	\$225,000	Fickenscher	Rojas	1	1,768	\$127.26
46	1339 Woodlawn Rd.	Sep 2003	\$230,000	Howell	Barnhill	1	1,701	\$135.21
47	1349 Woodlawn Rd.	May 2003	\$207,500	Howell	Wiskari	1	1,809	\$114.70
48	711 O'Gee Rd.	Aug 2004	\$185,000	Groevengoed	Carabal	1	1,352	\$136.83
49	1295 Locust Rd.	May 2004	\$300,000	Hagan	Lowe	1	2,672	\$112.28
50	860 Paw Paw Rd.	May 2004	\$185,000	Wiskur	Pogreba	1	1,148	\$161.15
51	3011 Honeysuckle	Mar 2005	\$355,000	Abbott	Brandt	2	3,655	\$97.13
52	489 Earlville Rd.	Nov 2004	\$165,000	Schlafke	Fromhertz	2	1,400	\$127.86
53	2512 Shaw Rd.	Jun 2004	\$153,500	Hlavin	Kapinski	2	1,638	<u>\$93.71</u>
Average sale price								<b>\$104.72</b>

Sales 16-53 located > 2 miles from turbines  
 Sales 1-15 located < = 2 miles from turbines

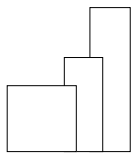
\$104.72 sq ft  
 \$78.84 sq ft

Difference in sale price per square foot

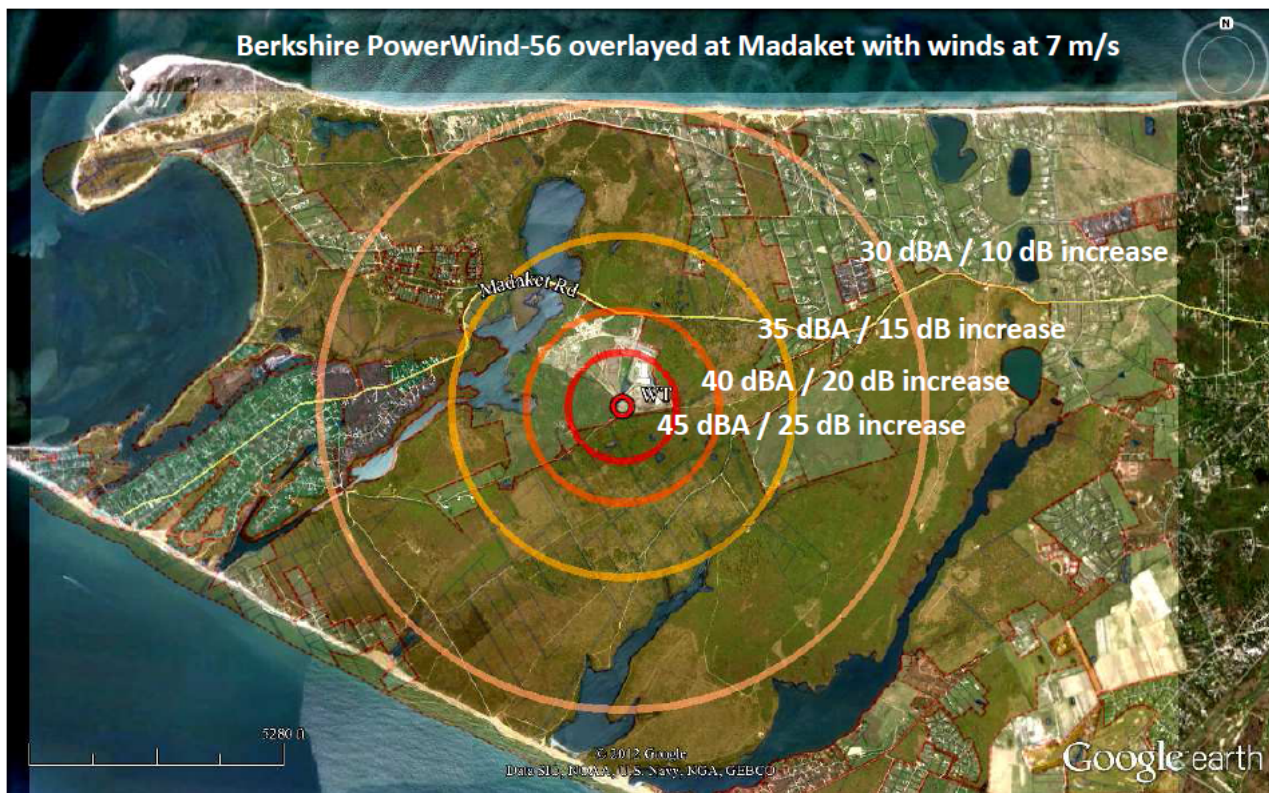
\$25.89 sq ft

Average Value diminution within 2 miles of turbines

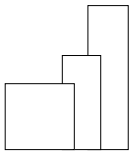
25%



## McCann Exhibit C

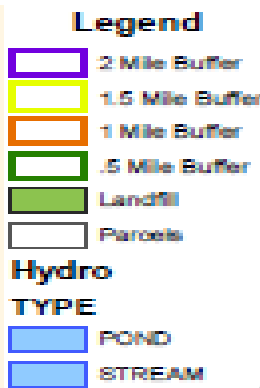
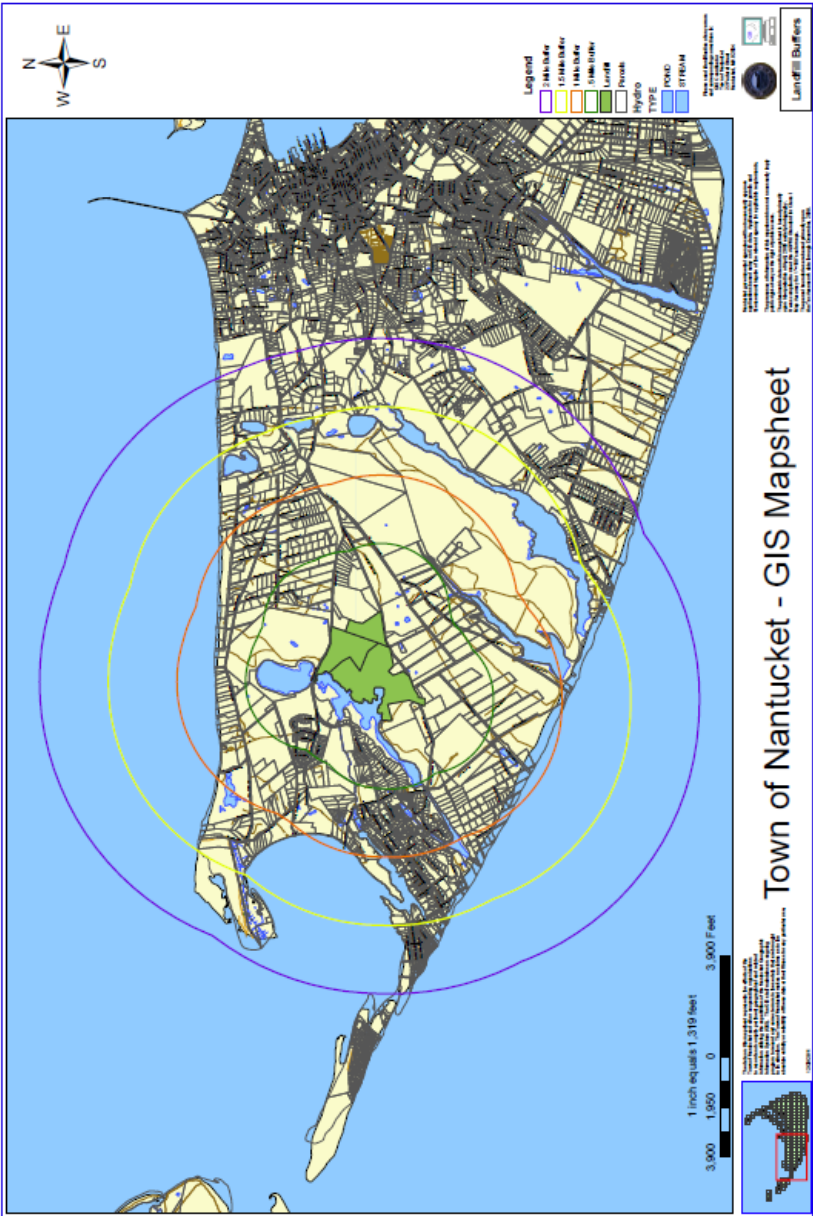


Source: Rand Acoustics

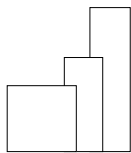


McCann Exhibit D

Figure 1: Impact Areas From Proposed IWT at 0.5 mi, 1.0 mi, 1.5 mi, and 2.0 mi  
Image provided by Town Of Nantucket GIS Office 12-20-11



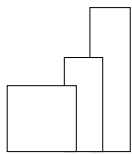
Source: Common Sense Nantucket



## McCann Exhibit E

Cumulative Value of all rings: TAXED Properties			
Location	Approx # Res Parcels (Cumulative)	Assessor Valuation as of 12-20-11 (Cumulative)	Tax @2012E 3.62/1000
Buffer 0.5 mi	150 E	174,563,800	631,921
Buffer 1.0 mi	500 E	907,676,600	3,285,789
Buffer 1.5 mi	870 E	1,443,807,400	5,226,583
Buffer 2.0 mi	1200 E	2,155,052,100	7,801,289

Source: Common Sense Nantucket; derived from Town of Nantucket Assessors database as of December 2011.



## McCann Exhibit F

*posted:* December 21, 2010 •

### **Ben Hoen on need for Property Value Guarantee**

*Author:* Schneider, Clif

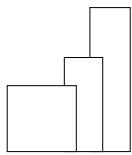
The following is an excerpt from a conversation I had in April 2010 with Ben Hoen, whose work with property value impacts associated with wind projects is widely referenced by developers, including those developers hoping to have wind projects approved here in Jefferson and St. Lawrence Counties. Hoen's comments below are very different from the spin suggested by Madden of BP Alternative Energy and Acciona's FEIS. Hoen indicates if developers believe turbines won't devalue neighboring property they should guarantee it, and he's right:

"You know we are very cautious about what happens close to the turbines. We really don't know what's going on there (e.g., 1,250 ft from turbines). I just spoke in Illinois about this. You might know about a Property Value Guarantee. It's a dicey situation and complicated, but I think homes that are very close, there is just too much unknown right now; that seems reasonable. I think **one of the things that often happens is that (wind) developers put our report forward and say look property values aren't affected, and that's not what we would say specifically.** On the other hand, they have little ground to stand on if they say we won't guarantee that. I think for homes that are close we have a lot more ambiguity and real issues. If we are talking about views that's one thing, if we are hearing it or shadow flicker that might be really regular, the kind of things that happen at night. ...

"I'm not a lawyer and I'm not the developer, these (PVGs) are just options in the tool kit. I don't know whether it's reasonable to put together, I have looked at one, I don't know if there is a better way to write it or whether the one I read from Illinois is good or bad. They have to be thought about, they all probably have cost implications, so the developer is not going to give away the house if they were too generous; on the other hand if they are not generous enough they don't have any impact. That's just one of the tools available, there are neighbor agreements that may be more applicable whether folks nearby get compensation, if they are not a participating land owner. One of the things I've always hoped is somebody would offer one or the other and see what landowners would do."

*Reported by:*  
Clif Schneider  
April 12, 2010

[Listen to the recording of Hoen's comment:](#)



## McCann Exhibit G

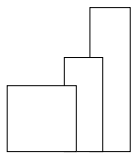
The Appraiser has reviewed the definition of the word “substantial”, in order to assist in evaluating whether the impact on residential property value expected to be caused by the Madaket Turbine meets or fails the adverse impact test cited in the Nantucket Bylaw, with regard to Planning Board criteria for approval. The cited definition is from Wikipedia, as follows:

Synonyms: abundant, big, big-deal, bulky, consequential, considerable, durable, extraordinary, firm, generous, goodly, heavy, heavyweight, hefty, key, large, major-league, massive, material, meaningful, momentous, plentiful, principal, serious, significant, sizable, solid, sound, stable, steady, stout, strong, sturdy, superabundant, tidy, valuable, vast, weighty, well-built, worthwhile.

### ***Substantial***

- 1. of ample or considerable amount, quantity, size, etc.: a substantial sum of money.***
- 2. of a corporeal or material nature; tangible; real.***
- 3. of solid character or quality; firm, stout, or strong: a substantial physique.***
- 4. basic or essential; fundamental: two stories in substantial agreement.***
- 5. wealthy or influential: one of the substantial men of the town.***

Clearly, the degree of impact in percentage or dollar terms, as stated previously, indicates that the adverse impact is substantial.



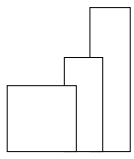
## **Nantucket Field Inspection (Character of the Community)**



**Sankaty Lighthouse**



**View from Monomoy/Shimmo toward Town**



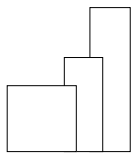
McCann Appraisal, LLC



**Harbor front property in Town**



**Residential area in Town**



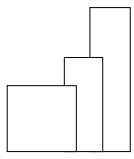
McCann Appraisal, LLC



**Retail area in Town**



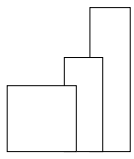
**Retail street in Town**



**Beach house at EEL Point**



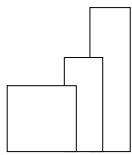
**End of Madaket Road**



View of Madaket Landfill across Long Pond



View from Madaket Road at Long Pond toward Landfill



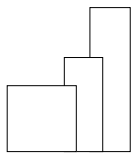
## CERTIFICATION

The undersigned, representing McCANN APPRAISAL, LLC, do hereby certify to the best of our knowledge and belief that:

- FIRST: The statements of fact contained in this consulting report are true and correct.
- SECOND: The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions and represents the personal, impartial and unbiased professional analyses, opinions, and conclusions of the undersigned.
- THIRD: We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to any of the parties involved.
- FOURTH: We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- FIFTH: Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
- SIXTH: Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- SEVENTH: Our analysis, opinions, and conclusions were developed, and this report has been prepared in conformity with the Uniform Standards of Professional Appraisal Practice.
- EIGHTH: No physical inspection was made by McCann Appraisal, LLC of the property that is the subject of this report. The undersigned utilized photographs, maps and property record card data for characterizing and understanding the character of the subject property:
- NINTH: No one other than the undersigned provided significant real property appraisal assistance to the person signing this certification.
- TENTH: Neither the undersigned nor McCann Appraisal, LLC has previously appraised the subject property.

IN WITNESS WHEREOF, THE UNDERSIGNED has caused these statements to be signed and attested to.

Michael S. McCann, CRA  
State Certified General Real Estate Appraiser  
License No.553.001252 (Expires 9/30/2011)



## **PROFESSIONAL BIOGRAPHY**

### **MICHAEL S. MCCANN, CRA**

Michael S. McCann has been exclusively engaged in the real estate appraisal profession since 1980, and is the owner of McCann Appraisal, LLC.

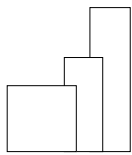
#### **EXPERIENCE**

His appraisal experience has included market value appraisals of various types of commercial, office, residential, retail, industrial and vacant property, along with a wide variety of unique or special purpose real estate, such as limestone quarries, hotels, contaminated properties, etc. He has gained a wide variety of experience in real estate zoning evaluations and property value impact studies, including analysis of utility scale wind turbine generating facilities, gas-fired electric generating plants, shopping centers, industrial facilities, limestone quarries, sanitary landfills and transfer station waste disposal facilities. He has been retained as an independent consultant to municipalities, government agencies, corporations, attorneys, developers lending institutions and private owners, and has spoken at seminars for the Appraisal Institute, the Illinois State Bar Association and Lorman Education Services on topics including the vacation of public right of ways (1986), and Property Taxation in the New Millennium (2000), Zoning and Land Use in Illinois (2005, 2006).

In addition to evaluation of eminent domain real estate acquisitions for a wide variety of property owners & condemning authorities, Mr. McCann has served as a Condemnation Commissioner (2000-2002) appointed by the United States District Court - Northern District, for the purpose of determining just compensation to property owners, under a federal condemnation matter for a natural gas pipeline project in Will County, Illinois.

#### **EXPERT TESTIMONY**

Assignments include appraisals, studies and consultation regarding real estate located in 21 states. He has qualified and testified as an expert witness in Federal Court, and for condemnation, property tax appeal and zoning matters in the Counties of Cook, Will, Boone, Lake, Madison, St. Clair, Iroquois, Fulton, McHenry, Ogle & Kendall Circuit Courts, as well as the Chicago and Cook County Zoning Boards of Appeal, the Property Tax Appeal Board (PTAB) and tax court & Commissions of Illinois, Wisconsin, and Ohio, Circuit Courts in New Jersey and Indiana, as well as zoning, planning, and land use and County Boards in Texas, Missouri, Idaho, Michigan, New Mexico and various metropolitan Chicago area locales. He has also been certified as an expert on the Uniform Standards of Professional Appraisal Practice (USPAP) by the Cook County, Illinois Circuit Court. Mr. McCann has substantial experience in large-scale condemnation and acquisition projects and project coordination at the request of various governmental agencies and departments. These include appraisals for land acquisition projects such as the Chicago White Sox Stadium project, the Southwest Transit (Orange Line) CTA rail extension to Chicago's Midway Airport, the United Center Stadium for the Chicago Bulls and Blackhawks, the minor league baseball league, Silver Cross Field stadium in Joliet, Illinois, as well as many other urban renewal, acquisition and neighborhood revitalization projects.



### **REAL ESTATE EDUCATION**

Specialized appraisal education includes successful completion of Real Estate Appraisal Principles, Appraisal Procedures, Residential Valuation, Capitalization Theory and Techniques Part A, Standards of Professional Practice Parts A, B and C, Case Studies in Real Estate Valuation, Highest and Best Use and Market Analysis, Advanced Income Capitalization, Subdivision Analysis and Special Purpose Properties, Eminent Domain and Condemnation, and Valuation of Detrimental Conditions in Real Estate offered by the Appraisal Institute. In addition, he has completed the Society of Real Estate Appraisers' Marketability and Market Analysis course, the Executive Enterprises - Environmental Regulation course, and a variety of continuing education real estate seminars.

### **DESIGNATIONS & PROFESSIONAL AFFILIATIONS**

Mr. McCann is a State Certified Associate Member of the Appraisal Institute, and the National Association of Review Appraisers & Mortgage Underwriters designated him as a Certified Review Appraiser (CRA). He was elected in 2003 as a member of Lambda Alpha International, an honorary land economics society, and he served several years as a member of the Appraiser's Council of the Chicago Board of Realtors.

### **LICENSES**

State Certified General Real Estate Appraiser in the State of Illinois (License No. 533.001252) and is current with all continuing education requirements.