

**Town of Rhinebeck**  
**Special Board Meeting**  
**Agenda**  
**June 30, 2016 3:00 pm**

**A. Call to Order**

**B. Pledge of Allegiance**

**C. Resolutions**

1. Resolution 2016178 Receiving Amended Local Law No. \_\_\_ of 2016 Entitled "A Local Law Repealing Chapter 78, Historic Buildings, and Amending Chapter 125, Zoning, of the Town of Rhinebeck Code" and Continuing the Public Hearing on the Local Law Adoption Process
2. Resolution 2016180 Hiring Secretary to the Planning Board
3. Resolution 2016181 Installation of Dock at Rhinecliff Landing by Dutchess County Sheriff's Department for Basing of a Sheriff's Patrol Boat
4. Resolution 2016182 Requesting Coast Guard Hold a Public Hearing on Plan to Establish Certain Hudson River Ship Moorings
5. Resolution 2016183 Grant from Frost Foundation for Construction of Cemetery Wall

**D. Discussion**

1. Removal of Recreation Committee Members (Tab 6)
2. Part-time help for filing and archival compliance
3. EPA Solar Photovoltaic Screening Study for Landfill (Tab 7)

**E. Adjournment**

**TOWN OF RHINEBECK**

**RESOLUTION NO. 2016178**

**RECEIVING AMENDED LOCAL LAW NO. \_\_\_ OF 2016 ENTITLED “A LOCAL LAW REPEALING CHAPTER 78, HISTORIC BUILDINGS, AND AMENDING CHAPTER 125, ZONING, OF THE TOWN OF RHINEBECK CODE” AND CONTINUING THE PUBLIC HEARING ON THE LOCAL LAW ADOPTION PROCESS**

WHEREAS, the Town’s Zoning Code, adopted as Local Law No. 6 of 2009 in December 2008 (“Zoning Law”) has been in effect for in excess of six years; and

WHEREAS, during these six years various “housekeeping issues” have occurred in matters of interpretation and administration of the Zoning law; and

WHEREAS, throughout the past months the Zoning Law Review Task Group comprised of the Town Supervisor, Planning Board Chair and Vice Chair, ZBA Chair, Land Use Attorney, ZEO and Planning Consultant has met, discussed these issues, and proposed measures to (1) correct errors or oversights in the drafting of the 2009 Zoning Law that have become apparent as its provisions have been applied; (2) clarify certain other provisions; and (3) in doing so, simplify and otherwise facilitate both understanding and compliance by applicants with its provisions and by Town officials, including the ZEO, Planning Board and ZBA, in its administration; and

WHEREAS, the Zoning Law Review Task Group set forth its recommendations in an April 21, 2016 “Report of the Zoning Law Review Task Group, Recommendations in Review of Rhinebeck Town Code Chapter 125, Zoning, and Chapter 78, Historic Buildings”; and

WHEREAS, the Town Board reviewed the Report of the Zoning Law Review Task Group and determined it in the public interest to consider the implementation of its recommendations, including enactment of the proposed Local Law set forth within the Report; and

WHEREAS, a copy of said Report inclusive of said proposed Local Law entitled “Local Law No. \_\_\_ of 2016 Repealing Chapter 78, Historic Buildings, and Amending Chapter 125,

Zoning, of the Town of Rhinebeck Code” had been provided to the Town Board and the Town Clerk; and

WHEREAS, the Town Board determined that the proposed action is a Type I action under SEQRA and that the Town Board is the only involved agency in the enactment of this Local Law and has reviewed a Part 1 of a Full Environmental Assessment Form prepared for the Town Board by the Town Planning Consultant; and

WHEREAS, the Town Board, by Resolution No. 2016136 commenced the Local Law adoption process by introducing the said Local Law on May 9, 2016 and scheduled a public hearing on said Local Law for June 13, 2016; and

WHEREAS, the Town Board duly opened the public hearing on June 13, 2016 and received comments from the Dutchess County Department of Planning and Development, the Town Planning Board and members of the Town Board and continued the public hearing to June 27, 2016; and

WHEREAS, as a result of the comments of the Town Board at the above-referenced public hearing, certain changes and modifications have been made to the said Local Law by the Town’s consultants and the Zoning Law Review Task Group and the Local Law has been presented to the Town Board on June 27, 2016 in final form for adoption purposes; and

WHEREAS, the Town Board has been advised by the Attorney to the Town that the said Local Law must be in final form on the desks of the Town Board members for at least seven days prior to adoption and that it is advisable to forward the said Local Law as amended and this Resolution to the Dutchess County Department of Planning and Development and to the Planning Board in the event that either desires to further comment on said Local Law prior to its adoption; now, therefore, be it

RESOLVED, that the Town Board hereby acknowledges receipt and accepts the said Local Law, as amended; and, be it further

RESOLVED, that the Town Board hereby continues the public hearing on said Local Law for July 25, 2016 at 6:45 pm; and be it further

RESOLVED, that the Town Clerk is hereby directed to duly publish notice of said continued public hearing and post the amended law on the Town's website; and, be it further

RESOLVED, that the Town Clerk is hereby directed to send a copy of this Resolution and the said Local Law, as amended, to the Dutchess County Department of Planning and Development and to the Town Planning Board in the event that they feel the need to make any further comments on said Local Law, as amended, prior to adoption.

**Tabled on the floor June 27, 2016.**

**Report of Zoning Law Review Task Group**  
**Recommendations in Review of Rhinebeck Town Code**  
**Chapter 125, Zoning, and Chapter 78, Historic Buildings**

**April 21, 2016**  
**Revised June 20, 2016**

Town Code Chapter 125, "The Zoning Law of the Town of Rhinebeck, Dutchess County, New York" was adopted by the Town Board as Local Law No. 6 of 2009, on December 29, 2009. Local Law No. 6 of 2009 comprehensively amended the Town's prior Zoning Law dating from June 12, 1989, and from time-to-time amended.

Since December 29, 2009, four local laws have been adopted by the Town Board in amendment of the Zoning Law, these being:

- On March 12, 2012, Local Law No. 1 of 2012, which addressed certain "housekeeping" issues of a ministerial nature that had arisen during the Town's initial two years of experience under the "new" Zoning Law.
- On May 13, 2013, Local Law No. 2 of 2013, which reclassified certain land from Rural Countryside (RC5) District to Office Research Park (ORP) District and provided for the establishment of "special event venue" as a special permit use.
- On March 24, 2014, Local Law No. \_\_\_ of 2014, which designated certain lands within the Rural Countryside (RC5) District as also within the Neighborhood Infill Overlay (NI-O) District.
- On September 28, 2015, Local Law No. \_\_\_, 2015, which while maintaining the underlying Rural Countryside (RC5) District designation modified the boundaries of the Mining Overlay (Mi-O) District as applicable to certain of the lands within the RC5 District.

In addition, a sequence of local laws have been adopted first establishing and then extending on a year-to-year basis a moratorium on implementation of the "Green Building Standards" set forth within Section 125-61, of the 2009 Zoning Law. More recently, on February 22, 2016, the Town Board introduced Local Law No. \_\_\_, 2016, providing for the repeal of the "Green Building Standards", and adopted said Local Law on April 11, 2016.

During the past three months a Zoning Law Review Task Group comprised of the Town Supervisor, Planning Board Chair and Vice Chair, ZBA Chair, Land Use Attorney, ZEO and Planning Consultant have discussed in the spirit of Local Law No. 1 of 2012, additional "housekeeping" issues that have continued to occur or otherwise arisen as the Town has experienced an additional four years under the 2009 Zoning Law. It has not been the intent of this effort, except in the matter of a single perceived correction, to address, as did the three of the Local Laws adopted by the Town Board, the zoning district classification of any parcel or parcels within the Town.

It has instead been the intent of this effort to (1) focus on correcting errors or oversights in the drafting of the 2009 Zoning Law that have become apparent as its provisions have been applied, (2) clarify certain of other provisions and (3) in doing so, simplify and otherwise facilitate both understanding and compliance by applicants with its provisions and by Town officials, including the ZEO, Planning Board and ZBA, in its administration.

Further the Task Group recommends that the Planning Board's consideration of the courses of action proposed for consideration by the Town Board within the attached draft local law serve to satisfy the below requirement set forth at Section 125-12 of the Zoning Law:

*From time to time, at intervals of not more than five years, the Planning Board shall conduct a review of the effectiveness of the provisions of this chapter, including the location of zoning district boundaries, and shall submit a report thereon to the Town Board, recommending such changes or amendments, if any, which may be desirable in the interest of public health, safety, convenience, necessity or welfare.*

A brief discussion of the principal recommendations offered by the Task Group follows:

- Recommendation that all parties with a role in administration of the Zoning Law acknowledge that both existing legal nonconforming uses and existing legal non-complying conditions, whether the latter be termed "nonconforming" or "noncomplying", and particularly those related to either the area and bulk, or dimensional, requirements set forth within the District Schedule of Area and Bulk Regulations or numerical requirements set forth within the Supplementary Regulations, have been customarily protected under zoning laws through the concept of "grandfathering" by general rule and that any other requirement to secure relief from the ZBA on a case-by-case basis to continue indefinitely these non-compliances, whether apart from or in tandem with requests for any other permit or approval by the Town, is neither necessary nor a productive exercise. Further while these non-compliances are protected it is not the role of the ZBA to "undo" any of these non-compliances by virtue of the grant of an area variance.
- Recommendation there be clarification and modification in the provisions regulating accessory structures, most evident to the Planning Board by virtue of the numerous cases brought forward involving the installation of fixed location generators and the construction or installation of other minor improvements and generally with respect to the current practice based upon ambiguous provisions in the Zoning Law of applying principal building setbacks to all accessory structures and including even minor accessory structures in consideration of limitations as to both the number and aggregate square footage of such structures authorized.

More specifically, modifications recommended in the regulation of accessory structures include the following:

- Elimination of special use permit and/or site plan approval for most accessory structures with a floor area or other structure footprint of less than 50 square feet.
- In the matter of required setbacks for accessory structures the intent of the recommendations made by the Task Group is to fill a gap which exists in Town Code Chapter 125. As now legislated, a minimum setback of 20 feet is specified for all accessory structures with the exception of solar collectors where a lesser setback is authorized and for the few special permit uses where setbacks the same as those applicable to a principal dwelling are specified. Clearly, on one hand the presence of the latter supports the position the minimum setbacks set forth in the District Schedule of Area and Bulk Regulations were not intended to apply to accessory structures (that is, there would have been no reason to state the need for those few uses to comply with principal

building setbacks) while, on the other hand, it can be recognized that a minimum setback of 20 feet for any accessory structure is inconsistent with the residential development of the larger lots or parcels required in the RL5, RC5, RA10 and HP20 Districts.

- In the matter of the aggregate accessory structure square footage allowance the Task Group has recommended a modified standard for the larger parcels required in the RC5, RA10 and HP20 Districts based upon the present 300 square feet per acre allowance when considered in terms of a minimum complying lot of 5 acres within the Town's most widespread zoning district, the RC5 District.
- Recommendation of amendments to address through definition and associated percentages detailing the three distinct and overall components of "coverage", which are described here as being "maximum building coverage", "maximum lot (or impervious surface) coverage" and "minimum open space" and which in the aggregate total 100% of a lot or parcel.

The 2009 Zoning Law includes only standards for maximum coverage and minimum open space. While these do not aggregate to 100%, in practice the maximum coverage standard which was intended to apply only to buildings and other structures (both principal and accessory) has been consistently applied to the composite footprint of all buildings and other structures and all other impervious surface areas on a lot.

Recommendations include proposed modifications in the definition of "Coverage, Lot or Impervious Surface Coverage" and the addition of a definition of "Building Coverage". Upon adoption of the proposed amendments the delta between the total of maximum building coverage and minimum open space and 100% will be the maximum percentage of the lot available for the installation of impervious surfaces not included within the definition of Building Coverage.

- Recommendation that all parties with a role in administration of the Zoning Law acknowledge, and where appropriate amendments be adopted to clarify understanding of, the somewhat expansive, role set forth for the Planning Board within Town Code Chapter 125 in the consideration of certain "waivers" concerning what are foremost "planning and/or environmental matters" instead of reserving these matters for variance consideration by the ZBA. Examples of this circumstance within the 2009 Zoning Law include the following:
  - Within Article VI, Section 125-69, at Subsection E, paragraph 11, the Planning Board is the agency empowered upon specific request of an applicant to waive or modify upon issuance of written findings and with imposition of reasonable conditions any of the requirements set forth within Section 125-69. Rhinecliff Overlay (Rc-O) District "provided that the public interest is protected, the plan is in keeping with the general spirit and intent of these regulation and full compliance with SEQR is provided" in its consideration of an application for special use permit.
  - Within Article VIII, Section 125-87, at Subsection B, paragraph 1, it is provided that no application for site plan approval, special use permit approval, and/or subdivision plat approval within the CB-S District may be approved unless the standards and guidelines set forth within Article VIII, Neighborhood Design Standards and Guidelines, have been incorporated into the development design to the greatest extent practicable. In its

consideration of the application the Planning Board is empowered as a condition of approval to modify the area and bulk regulations found in Article IV and may impose modifications that would have to be incorporated into the proposed action to merit a determination of consistency with the standards and guidelines set forth herein.

- In the matter of fences or walls either in excess of the maximum height standard or designed as a solid barrier allowing for no passage of view within Article IV, Section 125-38, the Planning Board is the agency empowered to waive or modify these requirements in consideration of an application for special use permit for the intended installation.

On the other hand, recommendation is made that another element within the waiver authority extended the Planning Board be eliminated. Within Article VI, Section 125-66, at Subsection E, the 2009 Zoning Law empowers the Planning Board in its consideration of an application for special use permit to waive or modify upon issuance of written findings and with imposition of reasonable conditions any of the requirements set forth within Section 125-68. Specific standards for certain uses. This empowerment is beyond the reasonable authority given a Planning Board and might even be construed in its setting aside of specific standards for a given use to be relief which could only be granted by the ZBA through a use variance and not an area variance.

- Recommendation that a mapping error made at the time of the final drafting of the proposed Zoning Law, confirmed as such by the Master Plan Committee Chairperson, and reflected in the adopted 2009 Zoning Law be corrected, this being in the case of a single parcel on NYS Route 9 occupied by Phantom Gardener, a permitted nursery business.

More specifically, this single lot is depicted on the Zoning Districts Map where it lies near Route 9 within the CB-S District and to its rear within the RA10 District. It is understood this circumstance was not intended but instead is the result of a drafting error made as the CB-S District boundary was depicted in the months leading to December 2009; simply stated, the boundary of the CB-S District was drawn as a straight line instead of "bumping out" to encompass the whole of this single parcel. The Zoning District Map should have encompassed the whole parcel in a manner consistent with the approach taken by the drafters of the Zoning District Map at other locations throughout the community in depicting zoning district boundaries.

- Recommendation of various ministerial corrections; modifications in submission timing and requirements; cross-referencing to related provisions within the Zoning Law; modified and additional definitions, including those consistent with amendments that have occurred to the NYS Agricultural and Markets Law; and like non-policy refinements proposed by either the Zoning Enforcement Officer of the Town Planning Consultant based upon their day-to-day experience in interpreting and/or otherwise applying the 2009 Zoning Law when providing guidance to the Planning Board and/or ZBA and concomitantly assisting applicants and their professionals through required processes.
- Recommendation that Town Code Chapter 78, Historic Buildings, be acknowledged to be duplicative legislation and thus be repealed.

More specifically, Town Code Chapter 125 as adopted in December 2009 incorporates in their entirety the provisions of Town Code Chapter 78, Historic Buildings, as Subsections A through

F, H and I and establishes additional provisions concerning "adaptive reuse" which are set forth within Subsection G. Town Code Chapter 78 had been earlier adopted by the Town Board on February 14, 2005 as a final prerequisite after more than 15 years of dialogue to approval of the Town's Local Waterfront Revitalization Program by the New York State Department of State Coastal Management Unit and should have been repealed in December 2009 to eliminate the presence of fully duplicate local legislation. It is recommended such repeal occur as part of this "housekeeping" effort to obviate the need recognized by some applicants to apply at this time for dual approvals under the identical terms of Chapter 78 and Chapter 125, Section 125-62, Subsections A through F.

In issuing this report the Task Group acknowledges there are additional matters which might have been addressed but were deemed to either fall outside this "housekeeping" effort, being at one level either policy issues or matters involving need for substantial evaluation of planning and legal implications or at another level involving routine items within the discretion of those responsible for administering the Zoning Law. Principal among these matters include, but are not limited to, the drafting of private road standards to complement the conservation density subdivision principles set forth within the 2009 Zoning Law and related Chapter 101, Subdivision of Land; the regulation of emerging uses such as "live-work units"; "airbnb" accommodations and solar energy farms; the permissibility of certain additional uses within some portion of the Civic District; the regulation of nonconforming signs; the possibility of re-instituting requirement for grading permits as present in the pre-2009 Zoning Law; as stated within the Zoning Law providing ready access to the Town's Natural Resource Inventory and other documents "in electronic form on the Town of Rhinebeck's web-site"; and the marshalling of the necessary resources to effectively enforce the Zoning Law.

Lastly, no modifications have been proposed in the referral requirements under NYS General Municipal Law Section 239 stated within the Zoning Law in recognition that the agreement recently executed by Dutchess County and the Town of Rhinebeck with respect to these requirements is for a limited duration, one year, and may or may not be continued in either its present or modified form. It is however recommended discussion occur with the County Planning Department of the modification of this agreement, either now or upon its renewal, to add among the eliminated referrals "site plans for all individual single-family or two-family uses" and modify among the referrals not eliminated "site plans (all)" to read "site plans for all other uses". Without this modification, many small residential projects remain the subject of required referral to County Planning due to the requirement set forth within Town Code Chapter 125, Section 125-73, that any matter subject of application for special use permit (for example, including all projects within the Rc-O or WR-O Districts) be also subject to requirement for an application for site plan approval.

In closing the Task Group recommends this report be considered and endorsed by the Planning Board in fulfillment of its periodic review requirement and subsequently the draft local law presented, accompanied by required environmental assessment and coastal assessment forms, be introduced on its own initiative, considered and adopted by the Town Board in accordance with the requirements and/or procedures set forth within Town Code Chapter 125, Zoning, and, as pertinent, NYS Town Law, General Municipal Law, Municipal Home Rule Law, and Environmental Conservation Law, and the Town's Waterfront Consistency Law.

Upon subsequent consideration on June 20, 2016, of comments by the Dutchess County Department of Planning and Development, the CAB and others received following the Town

Board's introduction and processing of the Proposed Local Law, the Task Group now recommends the regulation of agricultural and farm uses be added to the above list of matters to be addressed beyond this "housekeeping effort" and that the Proposed Local Law be adopted by the Town Board as revised to June 20, 2016, and attached to this Report.

**Proposed Local Law No. \_\_, 2016  
Amendment of Town of Rhinebeck Code  
Chapter 125, Zoning, and Chapter 78, Historic Buildings  
Revised June 20, 2016**

Throughout the below presentation existing text is shown in *italics*, text proposed for deletion is both italicized and set forth within *[brackets]* and text proposed for addition is both italicized and underlined.

Section 1. Town Code Chapter 78, Historic Buildings.

The Town Board of the Town of Rhinebeck hereby repeals Town Code Chapter 78, Historic Buildings, adopted by Local Law No. 1 of 2005, in its entirety.

Section 2. Town Code Chapter 125, Zoning

The Town Board of the Town of Rhinebeck hereby amends Town Code Chapter 125, Zoning, adopted by Local Law No. 6 of 2009, and from time-to-time amended, in the manner set forth below:

*Article I. Scope and Purposes.*

- *Section 125-6. How to use Zoning Law.*
  - Modify the opening sentence within Subsection E as follows:

*E. Article IX applies to nonconforming [uses, structure and bulk] and noncomplying buildings, structures and uses. .....*
  - Modify the second sentence within Subsection H as follows:

*H. Appendix A contains complementary Design Standards adopted by the Town Board as an integral part of this chapter. The Design Standards are used in conjunction with Article VII to help applicants understand what is intended by the criteria for site design, building design, landscape design and [lighting] design of both lighting and signage......*
- *Section 125-11. Effect of existing violations.*

Modify *Section 125-11. Effect of existing violations.* as follows:

- By deleting in its entirety the below paragraph:

*[No subdivision, site plan or special use permit shall be approved, no building permit, certificate of use, or certificate of occupancy issued, or variance granted for any premises upon which there is an existing violation of this chapter or any related Town, county or state regulation governing either building construction, development or the use of land, buildings and structures within the Town of Rhinebeck. This limitation does not, however, prohibit such an approval, issuance or grant with respect to a legal nonconforming use or legal nonconforming structure.]*

- By adding the below Subsections:

- A. *No application for subdivision plat approval, site plan approval, special use permit, certificate of demolition or removal, change of nonconforming use, or variance pursuant to this Zoning Law shall be deemed complete for purposes of commencing review of the same by either the Planning Board or the Zoning Board of Appeals, as applicable, for any premises or property on which there is an existing violation of this Zoning Law or of any Town, county or state law or regulation governing building construction and/or the development and use of land, buildings and structures within the Town of Rhinebeck. This provision shall not be interpreted to prohibit the issuance of a certificate of demolition or removal if demolition or removal is deemed by the Code Enforcement Officer to be the reasonable means to remedy a condition determined by the Code Enforcement Officer to be an imminent threat to public health and safety.*
- B. *No building permit, sign permit, certificate of occupancy or certificate of compliance shall be issued by the Zoning Enforcement Officer or Code Enforcement Officer for any premises or property on which there is an existing violation of this Zoning Law or of any Town, county or state law or regulation governing building construction, and/or the development and use of land, buildings and structures within the Town of Rhinebeck.*
- C. *For purposes of this Section, a premises or property shall be deemed to be in violation of this Zoning Law where a Stop Work Order, Notice of Violation, Order to Remedy Violation or similar notice or order has been issued by the Town's Code Enforcement Officer and/or Zoning Enforcement Officer in accordance with the provisions of the Code of the Town of Rhinebeck or the Town of Rhinebeck has filed a criminal, or civil, action in a court of competent jurisdiction and the violation which is the subject of the order, notice or legal action has not been remedied by the property owner. In the event the automatic stay provisions of Section 125-111 of the Code of the Town of Rhinebeck, or Section 267-a (6) of the Town Law, are invoked by timely appeal of any such order or notice to the Zoning Board of Appeals, the applicable Board or the Zoning Enforcement Officer can deem the application complete for purposes of commencing review but no final approval shall be granted by the Board until such time as the Zoning Board of Appeals has reversed the determination of the officer or the violation has been remedied. For purposes of this provision, remedy of a violation shall be deemed to have occurred*

when the officer who issued the order or notice has inspected the property and has notified the property owner in writing that the violation has been satisfactorily remedied.

Article II. Establishment of Zoning Districts.

- Section 125-16. Zoning districts maps.

Amend the Zoning Districts Map cited within Section 125-16 and appearing as Attachment 1.2 so as to classify the entirety of TMP \_\_\_\_\_ within the Community Business South (CB-S) District instead of only its easterly portion as presently classified and depicted.

- Section 125-19. Application of zoning district regulations.

Amend Section 125-19. Application of zoning district regulations. Subsection F as follows:

F. Except as otherwise provided by this chapter, there shall be no more than one principal building or use and its accessory structures or uses on any one lot within any residential district. This limitation shall however not be construed to prohibit the conduct of agriculture, conservation or forestry use in combination with another permitted building or use and its accessory structures or uses on any lot within any residential district except the Neighborhood Residential (NR), Village Gateway (VG) and Rhinecliff Hamlet (Rc-H) Districts.

Article III. Use Regulations.

- Section 125-20. District Schedule of Use Regulations.

- Within the District Schedule of Use Regulations noted in Subsection A and appearing as Attachment 2, 2:1 through 2:7:
  - Add within Attachment 2:2 under Accessory Uses and in proper alphabetical sequence "Private airstrip or helicopter pad / landing area" as a prohibited use in all zoning districts.
  - Add within Attachment 2:3 under General Uses and in proper alphabetical sequence "Private airstrip or helicopter pad / landing area" as a prohibited use in all zoning districts.
  - Delete within Attachment 2:1 the use "Guest cottage" under the category "Residential Uses".
  - Add within Attachment 2:2 and in proper alphabetical sequence the use "Guest cottage" under the category "Accessory Uses" with the district-by-district classification of "Guest cottage" being established as a special permit use subject

to site plan approval within the Historic Preservation (HP20), Rural Agricultural (RA10), Rural Countryside (RC5), Residential Low Density (RL5), Residential Medium Density (RM1), Water Resources Protection Overlay (WR-O), and Active Senior – Floating (ASH-F) Districts and a prohibited use in all other zoning districts.

- In the matter of a “*Guest cottage*” as a special permit use subject to site plan approval within the Residential Medium Density (RM1) District add a reference within Attachment 2:2 to footnote 8.
- Modify within Attachment 2:2 the use “*Elder cottage housing (ECHO) or cottage dwelling*” under the category “*Accessory Uses*” to read “*ECHO unit (Elder cottage housing opportunity)*” in a manner consistent with the definition of this use and the special conditions set forth at Section 125-68F.
- Within Attachments 2:4 through 2:6, under the heading “*Special Conditions*”, delete the reference to Section 125-68K at each location the reference presently occurs, being set forth in the matter of the following “*Business and Service Uses*”:
  - *Advertising and mailing*
  - *Antiques shop*
  - *Apparel and home goods*
  - *Artisans shop and gallery*
  - *Auto body shop*
  - *Bank*
  - *Bicycle shop*
  - *Bookstore*
  - *Business or professional office*
  - *Business service (not listed elsewhere)*
  - *Employment services*
  - *Florist shop*
  - *Home furnishings / appliances*
  - *Limousine or taxi*
  - *Non-motorized water sports shop*
  - *Office equipment and leasing*
  - *Photofinishing*
  - *Retail business (not otherwise specified)*
  - *Small equipment rental or sales*
  - *Wholesale business*
- Modify within Attachment 2:5 the use “*Gas station*” to read “*Gas station or automobile service facility*”.

#### Article IV. Area and Bulk Regulations.

- Section 125-21. District Schedule of Area and Bulk Regulations.

- On Subsection A, Attachment 3, modify the column heading “*Maximum Coverage*” to read “*Maximum Building Coverage*”.
- On Subsection A, Attachment 3, modify the column heading “*Minimum Building Setbacks*” to read “*Minimum Building Setbacks (Principal Buildings)*”.
- Modify Subsection A, Attachment 3, by adding a new column heading “*Maximum Lot Coverage*” and stating thereunder for each of the zoning districts the below-stated percentage as calculated by deducting the minimum open space requirement for the zoning district from 100%:

*HP20 – 20%; RA10 – 20%; RC5 – 25%; RL5 – 25%; RM1 – 35%; Rc-B – 35%; Ni-O – 35%; BP – 80%; Cr-B – 65%; CB-N – 55%; CB-S – 55%; GW-N – 55%; GW-E – 55%; GW-S – 55%; GB – 55%; ORP – 65%; and LC – 60%.*

- *Section 125-22. Existing lots of record. Subsection A.*

Modify the caption of, and first sentence within, Subsection A. *Existing nonconforming lots of record*. In the manner set forth below:

A. *Existing [nonconforming] lots of record.*

*A building or structure may be erected as either a permitted use or special permitted use as may be applicable on any existing lot of record which, as defined in Article XIII, of this chapter, does not conform to the lot area, lot width and/or lot frontage requirements of the District Schedule of Area and Bulk Regulations, provided that:*

- *Section 125-27. Accessory structures.*

Modify the entirety of Subsection A. in the manner set forth below:

A. *Except for structures used for agricultural purposes when conducted using sound agricultural practices as defined by the New York State Department of Agriculture and Markets, or for bona fide works of art such as sculptures, [for Class 2 home occupations for which a special use permit has been granted, or for detached accessory dwelling units permitted in accordance with the special use requirements of Article VI of this chapter] the following limitations shall apply to all accessory structures as defined in Article XIII of this chapter:*

(1) *No such structure shall exceed 20 feet in height in any [residence] residential district.*

(2) Delete the below paragraph reading:

*[No structure shall be set back less than 20 feet from any lot line.]*

Add a substitute paragraph reading:

Except for solar collectors regulated as to location within Article V, Section 125-47(D)(9) of this chapter, no structure shall be set back from any lot line less than the greatest of the minimum setbacks determined upon application of the following criteria:

- (a) 20 feet;
  - (b) 60% of the minimum rear setback and 75% of the minimum side setbacks set forth within the District Schedule of Area and Bulk Regulations for a principal building in the zoning district;
  - (c) 200% of the height of the accessory structure; or
  - (d) The minimum setbacks set forth for such uses as Class 2 home occupations, detached accessory dwelling units and guest cottages, within Article VI, Section 125-68. Specific standards for certain uses.
- (3) Except for agricultural structures, guest cottages or [caretakers' houses] caretaker's dwellings, no such structure shall either project closer to the fronting street than the principal building on the lot or be located within a required front yard. A guest cottage or caretaker's dwelling must however meet the minimum setback requirements for the zoning district.
- (4) In all zoning districts except HP20 and RA10, [All] all roofed or otherwise enclosed accessory structures, except for agricultural buildings, shall in the aggregate comprise not more floor area than the principal dwelling on the lot or 1,500 square feet, whichever is the more restrictive. Within the HP20 and RA10 Districts the aggregate of such structures shall not exceed the general rule of 1,500 square feet or 300 square feet per acre or part thereof of lot or parcel area, whichever is the less restrictive.
- (5) All such roofed or otherwise enclosed structures in the aggregate shall not occupy more than 20% or [, in the case of roofed structures,] more than 1,000 square feet of any required yard.

Add a new paragraph 6 reading:

- (6) In addition, the aggregate of both roofed and non-roofed structures, such as swimming pools, may not exceed more than 40% of any required yard.

Re-number paragraph 6 as paragraph 7 and modify as below:

- (7) Not more than three [such] roofed or otherwise enclosed accessory structures, other than [a permitted sign or] agricultural buildings and those structures less than 50 square feet in floor area or structure footprint, of which not more than one accessory structure shall be a private garage detached from the dwelling, shall be permitted on an individual lot in a residential district. In the event the lot exceeds

10 acres, additional accessory structures may be sited if a special use permit is granted by the Planning Board in accordance with Article VI of this chapter.

- Section 125-33. Special setbacks on scenic roads and in scenic areas.
  - Within Subsection B, paragraph 1, modify the term [CAC] to read CAB.
  - Modify Subsection B. paragraph 4, in the manner set forth below:

(4) The construction of a driveway and the installation of underground utilities is permitted through the buffer area provided that native and natural vegetation are maintained to the extent practicable and both erosion and siltation controls and tree protection measures approved by the Zoning Enforcement Officer are installed prior to the commencement of any construction work on site and are properly maintained throughout the construction period.

Article V. Supplementary Regulations.

- Section 125-36. Off-street parking and loading standards.

Modify the first sentence within Section 125-35, Subsection L, paragraph 1, in the manner set forth below:

All off-street parking shall be located in conformance with the minimum parking setbacks set forth within Section 125-21, District Schedule of Area and Bulk Regulations, and where practicable behind or to the side of the principal building(s) [except as provided in Subsection M below].
- Section 125-37. Sign regulations.
  - Add the following at the end of Subsection A, Intent and Purposes:

Also refer to Section 125-76, Subsection G, Signs; Section 125-89, Subsection I, General Signage Standards; and Section 125-140, Terms used in Section 125-37, Sign regulations, of this chapter.
  - Add the following at the end of Subsection D, Permit required:

Upon issuance of the sign permit, the sign work must be completed within one year and the applicant must notify the Zoning Enforcement Officer when the sign installation is complete. If the sign work is incomplete, the sign permit shall expire one year from the date of issuance. The applicant may apply in writing to the ZEO for an extension of the sign permit, who may then extend the permit once for a period of not more than six calendar months.
  - Modify Subsection F, Exempt signs. paragraph 9 a in the manner set forth below:

One sign, not exceeding 16 square feet in area, on a farm or farm [stand] market premises.

- *Section 125-38. Fences, gates and walls.*

- Modify the caption of Section 125-38 in the manner set forth below:

*Section 125-38. Fences, gates, [and] walls and berms.*

- Modify Subsection A in the manner set forth below:

*Fences, gates and walls shall as a permitted use not exceed six feet in height when erected in a required side or rear yard nor exceed four feet in height when erected within 50 feet of the front lot line or highway right-of-way. Except where accessory to agriculture and forestry uses, any fencing which exceeds six feet in height or which consists of a solid fence or wall that does not allow for the passage of views shall be subject to the issuance of a special use permit by the Planning Board in accordance with Article VI of this chapter.*

- Modify Subsection F in the manner set forth below:

*A berm shall be deemed to be a fence, gate or wall within the meaning of this section if the berm is constructed and landscaped to provide a property boundary delineation, protection or privacy to a property owner, and has not received Planning Board approval in accordance with either subdivision plat and/or site plan review and approval procedures.*

- Add a new Subsection H reading:

*The installation of fences consisting of flexible plastic, vinyl mesh or any other non-rigid material and constructed in a manner without posts and supports of the type associated with permanent construction is prohibited in all districts. The above prohibition shall not apply to either of the following: (1) siltation fence or similar protective barrier employed during the course of land development or construction work for which required permits and approvals have been granted by the Town, county or state, or (2) natural burlap or black plastic or vinyl fence mesh fence employed on a seasonal basis to protect natural landscaping from snow, deer and other damage, with however the use of more visible color mesh or other material prohibited for this purpose.*

- Add a new Subsection I reading:

*Also refer to Section 125-25. Corner lots, Section 125-48. Required screening for nonresidential uses; Section 125-89. Guidelines applicable to both residential and nonresidential development; Section 125-91, Residential neighborhood areas; and Section 125-135, Terms used throughout chapter.*

- *Section 125-39. Excavation as part of site preparation:*

- Within Subsection A correct typographical error by modifying “regarding” to read “re-grading”.

- Section 125-40. Development near streams, rivers, wetlands and other water bodies.
  - Add a new Subsection D reading:
 

D. Also refer to Section 125-32, Freshwater wetlands and floodplains; 125-39, Excavation as part of site preparation; 125-41, Development within Flood Fringe Overlay (FF-O) District; and 125-54, Development within Water Resources Protection Overlay (WR-O) District of this chapter and Town Code Chapter 120, Wetlands.
- Section 125-42. Home occupations.
  - Modify the last line within Subsection A in the manner set forth below:
 

*Such characteristics are identified through thresholds in [Subsection M] Subsections I and N herein.*
  - Modify Subsection K as set forth below:
 

*K. If a use is prohibited in all districts [,] under the District Schedule of Use Regulations found in Article III, it shall additionally be prohibited as a home occupation.*
  - Add a new Subsection P reading:
 

Also refer to Section 125-68, Specific standards for certain uses, Subsection 125-68 (G); Section 125-135, Terms used throughout this chapter; and all of Article VI, Sections 125-65 through 125-70.
- Section 125-46. Swimming pools.
 

Modify Section 125-46 in the manner set forth below:

*Any outdoor swimming pool, spa, whirlpool or hot tub, as defined within Article XIII of this chapter, shall be subject to all requirements of the New York State Uniform Fire Prevention and Building Code and Residential Code.*
- Section 125-49. Agriculture.
  - Modify the phrase reading “except the mixed-use and neighborhood residential districts (i.e., Rc-H, Rc-B, Nr and VG)” within the opening paragraph of Section 125-49 as follows:
 

*except the mixed-use and neighborhood residential districts (i.e., Rc-H, Rc-B, Rc-HT, Nr and VG) and the NI-O District*
  - Modify the last sentence within Subsection G, paragraph 3(f) as follows:
 

*Action by the Planning Board shall follow the procedures enumerated in Article VII, Section [125-76] 125-78, of this chapter.*

- Section 125-51. Roadside Stands.

Add a new Subsection E reading:

*E. Also refer to Section 125-37, Sign regulations.*

- Section 125-54. Development within Water Resources Protection Overlay (WR-O) District. Subsection A.

Modify Subsection A, Special use permit required. by deleting in its entirety the second sentence as set forth below:

*[The Town Zoning Board of Appeals shall treat any application for a variance from the provisions of the WR-O District regulations as a use variance.]*

- Section 125-55. Preservation of natural and cultural features; design standards.

- Modify the last two sentences within Subsection A in the manner set forth below:

*The Town further finds that development that conforms to the Town's Design Standards ..... is appropriate if such development is carefully planned to maintain, conserve and enhance the scenic features of the area and the landscape views from public roads and waterways. Aesthetic resource conservation will also have the effect of protecting Rhinebeck's significant wildlife habitats, biodiversity, watersheds, water quality, air quality and other environmentally fragile areas as well as preserving open space and maintaining visual character.*

- Section 125-57. Landscaping standards.

Modify the second sentence within Subsection E, paragraph 1, in the manner set forth below:

*"[In parking lots of ½ acre or more, at] At least 20% of the area within the inside perimeter of the parking surface of the parking area shall be landscaped and maintained with trees, shrubs and other plant materials, as determined necessary by the Planning Board."*

- Section 125-58. Noise regulations.

- Modify Subsection E by deleting in its entirety the fourth sentence reading:

*[The Town Zoning Enforcement Officers, the local law enforcement agencies and such other employees or officials authorized by the Town Board shall be trained in the use of dbA sound meters, and the sound meters shall be certified for accuracy.]*

- Delete in their entirety Subsection G. Application for special use permit; Subsection H. Applicant to obtain other necessary permits; Subsection I, Revocation of special use permit; and Subsection J, Powers and duties of the Planning Board; and re-number Subsection K as Subsection G.

- *Section 125-59. Habitat and natural resource management.*

Within Subsection G, *Quality control / followup.* modify the term [CAC] to read CAB.

- *Section 125-60. Stormwater management.*

- Modify Subsection B, paragraph 1 as set forth below:

*Require land development activities to conform to the substantive requirements of the New York State Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction [Activities GP-02-01] Activity GP-0-15-002 or as amended or revised.*

- *Section 125-62. Historic buildings.*

- Within Subsection B, *Definitions.* modify [Article XIII, Section 125-38] to read Article XIII, Section 125-138.

- Add a new Section 125-64.2 reading as follows:

125-64.2. Maximum Floor Area of Certain Buildings.

For all Business and Service Uses set forth within Article III, Section 125-20, District Schedule of Use Regulations, Attachment 2, and located within any district except the Office Research Park (ORP) District, the maximum gross floor area of any individual building housing one or more of the listed uses shall be 8,000 square feet. No such building shall be attached by roofed area to any other such building and shall be separated, except for pedestrian walkways occupying not more than 10% of the intervening open space, from any other such building on at least two sides by not less than 50 feet of maintained and suitably landscaped open space.

- Add a new Section 125-64.3 reading as follows:

125-64.3. Generators.

Any generator proposed to be sited at a fixed location on a parcel within the Rhinecliff Overlay (Rc-O) or Neighborhood Infill (NI-O) Districts or to be sited at a fixed location on a parcel in any other residential district within 200 feet of a property boundary or other dwelling shall be designed and /or equipped with noise-dampening features such as, but not limited to, insulated housing and/or silencing mufflers determined suitable by the Zoning Enforcement Officer to achieve reasonable compliance with Town noise standards prior to the issuance of a building permit for the generator's installation. This provision shall not apply to portable generators.

Article VI. *Special Use Permit Requirements.*

- *Section 125-66. Application procedures.*

- Modify Subsection A. *Application and fee.* as set forth below:

*All special use permit applications are made to the Zoning Enforcement Officer (ZEO) in writing, on forms, and in accordance with the review procedures prescribed by this section of the Zoning Law. In the event that the Zoning Enforcement Officer determines that the proposed building and/or use subject of the application meets all of the requirements of the Zoning Law, the application shall be forwarded, accompanied by such written determination, by the ZEO to the Planning Board for further review in accordance with the provisions of the Zoning Law and/or Subdivision Regulations and the Planning Board's procedures, including placement on the next regular meeting agenda for initial presentation, determination as to completeness and processing as may be timely under the Zoning Law and SEQRA of any application both received by the ZEO not less than 21 calendar days prior to the meeting and forwarded by the ZEO not less than 14 calendar days prior to the meeting. In the event the ZEO finds the application does not comply in one or more aspects with the provisions of the Zoning Law, the application shall be denied by the ZEO, with leave to either appeal the ZEO's determination to the Zoning Board of Appeals in accordance with the provisions of Article XI of this chapter or correct the deficiencies in the application determined by the ZEO and resubmit the same to the ZEO for reconsideration. In order to be considered complete, a special use application shall be accompanied by the following:*

- Modify Subsection B. *Public notice and hearing.* as set forth below:

*The Planning Board shall, within 62 calendar days of [receipt of the complete application] its determination an application is complete, conduct a public hearing on any such special permit application.*

- Modify Subsection C. *Agency and consultant review.* as set forth below:

*In its review, the Planning Board may consult with the Town [Code Enforcement Officer and Zoning] Zoning and Code Enforcement Officers, the Superintendent of Highways, the Conservation Advisory [Council] Board, the Town Historian, other local and county officials and its designated private planning, legal and engineering consultants, .....*

- Modify Subsection D. *Required referral.* by adding at the end of this Section the sentence set forth below:

*In the matter of any application involving land within the Local Waterfront Revitalization Area the Planning Board shall also refer the application to the Town's Waterfront Advisory Committee pursuant to the requirements of Town Code Chapter 118, Waterfront Consistency Review for a report as to consistency of the application with coastal policies.*

- Delete in its entirety Subsection E. *Waiver of requirements.* and renumber subsequent present Subsections F through N as E through M.

*[E. Waiver of requirements.*

*The Planning Board may waive any specific requirements set forth in Article VI, Section 125-68, of this chapter for the approval of a special use permit. The grant of any such waiver shall be accompanied by a written finding that compliance with the requirements is either not requisite in the interest of the public health, safety and general welfare or is inappropriate to the particular special permit use. The Planning Board may, in granting waivers, incorporate such reasonable conditions as will, in its judgment, substantially secure the objectives of the requirements so waived. No waiver or modification may be deemed approved or granted by implication. All waivers and modifications must be expressly set forth in the findings of the Planning Board.]*

- Modify present Subsection F. *Area variances.* as set forth below:

*F. [Area variances] Variances.*

*Where a proposed special use permit use contains one or more features which do not comply with the special use permit regulations, application may be made to the Zoning Board of Appeals for [an area] a variance pursuant to Article XI of this chapter [without the necessity of a decision or determination of the Zoning Enforcement Officer].*

- Modify present Subsection G. *Decisions.* as set forth below:

*Every decision of the Planning Board with respect to a special use permit application shall be made within 62 calendar days of the close of the public hearing, which resolution shall clearly state the decision, including findings pertinent to both the Zoning Law and, when applicable, Town Code Chapter 118, Waterfront Consistency Review, and any modifications attached thereto. The time within which the Planning Board shall render its decision may be extended by mutual consent of the applicant and the Board. Each such decision shall be filed in the office of the Town Clerk within five business days after such decision is rendered, and a copy thereof shall be mailed to the applicant. The public hearing may not be closed and [No] the time periods for decision-making in this subsection shall not begin to run until the Planning Board or other designated lead agency has either classified the proposed action as a Type II Action for which further environmental quality review is precluded, accepted a draft environmental impact as complete or adopted a negative declaration under SEQR. The failure of the Planning Board to render a decision within the time period set forth in this subsection shall not be deemed to be an automatic approval of the special use permit application.*

- Modify present Subsection I. *Effect of special use permit approval.* by substituting the term "Zoning Enforcement Officer" for "Code Enforcement Officer" within paragraphs (1) and (4).

- Further modify present Subsection I. *Effect of special use permit approval.* by modifying the first sentence within Subsection I as set forth below:

*The Planning Board may require in its resolution of approval that a special use permit be renewed periodically, typically being for a period of three to five years and in consideration of land uses such as mining where jurisdiction is shared by the Town and a county or state agency.*

- Section 125-67. *General standards.* Subsection H.

- Revise Subsection H. as set forth below:

*Except for [preexisting] existing lots of record subject of Article IV, Section 125-22 of this chapter, the use shall meet the prescribed area and bulk requirements for the district in which it is located and as further specified in the supplementary regulations, including but not limited to setbacks, maximum height, environmental and open space standards, required off-street parking, lighting, noise and sign regulations.*

- Section 125-68. *Specific standards for certain uses.* Subsections F, I, K, LL, NN and PP.

- Modify the opening line of Subsection F. *Elder cottage housing opportunity (ECHO) unit or cottage housing unit, provided:* by deleting the phrase "or cottage housing unit". In addition, delete the phrase "or cottage housing unit" in both the opening line of Subsection 2 and paragraphs (a) and (e) therein.

- Within Subsection I. *Cemetery*, paragraph 1 modify the second sentence as follows:

*Burial or memorial plots [of] with headstones, monuments or other grave markers limited to less than six feet in height may be located as close as 25 feet to any residential property line.*

- Delete in its entirety below Subsection K and mark this Subsection reserved:

*[K. Maximum floor area of a nonresidential building.*

*(1) The maximum interior floor area of an establishment shall be 8,000 square feet.]*

- Within Subsection LL. *Country Inn 1.* delete the second of three parentheses within paragraph 3.

- Within Subsection NN. *Major excavation and/or tree clearing.* add the following at the end of paragraph (1):

*Also refer to Section 125-39, Excavation as part of site preparation; Section 125-54, Development within the Water Resources Protection Overlay (WR-O) District; Section 125-55, Preservation of natural and cultural features; design standards; Section 125-*

57. Landscaping standards; Section 125-60. Stormwater management; and 125-135. Terms uses throughout this chapter, of this chapter and Town Code Chapter 101. Subdivision of Land, Section 101-6.2, Subdivision design standards.

- Within Subsection PP. *Bed-and-breakfast establishment.* correct a typographical error within paragraph 1 by modifying "home vetoccupation" to read "home occupation".
- *Section 125-69. Rhinecliff Overlay (Rc-O) District.*

Modify Subsection E, paragraph (11) *Waivers.* as set forth below:

11. *Waivers.* *The Planning Board may waive or modify any requirement under this Section 125-69 under the following circumstances:*

- (a) *Where the Planning Board finds that compliance with the objectives and guidelines for either additions to existing structures or new construction is not possible due to the exceptional conditions of topography, access, location, shape or other physical features of the site, the minimum requirements of these regulations may be waived or modified, provided that the public interest is protected, the plan is in keeping with the general spirit and intent of these regulations and full compliance with SEQR and the Town's Local Waterfront Revitalization Program is still provided.*
- (b) *No waiver or modification may be granted if it would have the effect of nullifying the intent and purpose of the Zoning Law, the Comprehensive Plan or these regulations. No waiver or modification may be made on a condition which would otherwise require variance from the Town Zoning Board of Appeals, such as in the case of request for approval of a use not authorized within the underlying zoning district. The Planning Board may refer a request for a waiver to the Zoning Board of Appeals for an interpretation as to whether such request constitutes a waiver or variance. The Planning Board may hold a public hearing on a request for waiver from the standards set forth within this section, in addition to the mandatory public hearings on the proposed special use permit and site plan approval.*
- (c) *The Planning Board may, in granting waivers of, or modifications to [these] the standards or guidelines herein, incorporate such reasonable conditions as will, in its judgment, substantially secure the objectives of the requirements so waived.*
- (d) *No waiver or modification may be deemed approved or granted by implication. All waivers and modifications must be expressly sought in writing by the applicant and set forth in the written findings, resolution and minutes of the Planning Board.*

- *Section 125-70. Rhinecliff Hamlet Transition (Rc-HT) District.*

Modify Subsection C, paragraph 3, subparagraph (d) as set forth below:

*If feasible and applicable, parking shall be located behind the front façade line of the principal dwelling unit on the lot or preferably behind the building, and it shall be suitably screened with planting and/or fencing designed in accordance with Section 125-38 and Section 125-57 of this chapter and approved by the Planning Board.*

Article VII. Site Plan Review and Approval.

- Section 125-71. Purposes.

Modify the opening sentence of Section 125-71 as follows:

*The purpose of this Article ..... as expressed in its Comprehensive Plan and Local Waterfront Revitalization Program, thereby protecting the natural, cultural, historic and rural landscapes and aesthetic qualities of the Town.*

- Section 125-73. Uses subject to site plan approval.

- Modify Subsection A. as set forth below:

*All special permit uses cited in the District Schedule of Use Regulations and accessory uses to special permit uses, or as identified herein, shall be subject to site plan review and approval, with this provision not to be construed as requiring site plan review and approval by the Planning Board for either maintenance which should be performed on a periodic basis of structures of all types in their continuing use, including the landscaping of properties, [or] the substantially identical replacement by design, location, dimension and material of site appurtenances such as fencing, signs, walkways and driveways but not to include the replacement of either off-site commercial or other advertising signs or noncomplying lighting.*

*Further, the construction and/or installation of accessory structures of less than 50 square feet in floor area or structure footprint which are proposed in conformance with the minimum setback requirements found within Article IV, Section 125-27, shall not be subject to the requirement for site plan review and approval unless both of the following criteria apply:*

*(1) the use is otherwise established as a special permit use within Article IV, Section 125-40, Development near streams, rivers, wetlands and other water bodies, Section 125-41, Development within Flood Fringe Overlay (FF-O) District, and/or Section 125-54, Development within Water Resources Protection Overlay (WR-O) District, of this chapter, and*

*(2) notwithstanding the requirement for special use permit otherwise stated within Section 125-40, Subsection A, paragraph 3, and Section 125-54, Subsection C for any development within 1000 feet of the Hudson River, the use is located within 250 feet of the Hudson River.*

- Modify the opening paragraph of Subsection B as set forth below:

With the exception of agriculture, forestry and conservation uses and the construction and/or installation of accessory structures of less than 50 square feet in floor area or structure footprint, including those proposed accessory structures located within areas identified in paragraphs (2), (3) and (4) below, site plan approval is required for excavation and construction activities associated with all permitted and accessory uses thereto within areas of environmental sensitivity as identified herein:

- Section 125-74. Sketch Plan Conference.

- Modify the caption of Section 125-74 to read:

Section 125-74. Pre-Application and Sketch Plan Conferences.

- Add a new Subsection A reading as set forth below and re-number Subsections A through C as B through D:

Except in the case of site plan applications for modification of an existing single-family dwelling, the filing of any new application for Planning Board review and approval of a site plan and/or special use permit must be preceded by a pre-application conference with the Planning Board Chair, the Planning Consultant and other persons who may be designated by the Chair. The purpose of the pre-application conference is to conceptually review the proposed development of buildings or the use of open land and associated site improvements, identify related application and submission requirements, and discuss Planning Board procedures under this chapter and related regulations such as SEQRA.

- Section 125-75. Application for site plan approval.

- Modify Subsection A in the manner set forth below.

All site plan applications, accompanied when applicable by a related request for waiver of requirements within the purview of the Planning Board as established in Section 125-77(F) of this chapter, are made to the Zoning Enforcement Officer (ZEO) in writing, on forms, and in accordance with the review procedures prescribed by this section of the Zoning Law. In the event that the Zoning Enforcement Officer determines the application meets all of the requirements of the Zoning Law, the application shall be forwarded, accompanied by such written determination, by the ZEO to the Planning Board for further review in accordance with the provisions of the Zoning Law and/or Subdivision Regulations and the Planning Board's procedures, including placement on the next regular meeting agenda for initial presentation, determination of completeness and processing as may be timely under the Zoning Law and SEQRA of any application both received by the ZEO not less than 21 calendar days prior to the meeting and forwarded by the ZEO not less than 14 calendar days prior to the meeting. In the event the ZEO finds the application does not comply in one or more aspects with the provisions of the Zoning Law, the application shall be denied by the ZEO, with leave to appeal the ZEO's determination to the Zoning Board of Appeals in accordance with the provisions of Article XI of this chapter.

- Modify the opening paragraph within Subsection C in the manner set forth below:

*Within three calendar months of the sketch plan conference, a complete application for site plan approval shall be made and shall be accompanied by no fewer than [12 paper prints] five full-scale prints and seven half-scale prints of the proposed site plan drawings (or as many additional half-scale prints as may be required for circulation purposes under SEQR) and twelve copies of supporting site assessment data, related technical reports and environmental assessment documents and, unless impracticable, one electronic file of the proposed site plan drawings, site assessment data, related technical reports and environmental impact assessment documents, in a form usable by the Town Engineer and Town Planner and for posting on the Town of Rhinebeck website. The Planning Board may reduce the number of paper copies of such documents upon satisfaction of the electronic filing .....*

- Add the following sentence at the end of Subsection C, paragraph 2, subparagraph b, Environmental assessment form:

*Upon initiating preparation of a required full EAF applicants shall employ the Environmental Mapper found on the NYSDEC web-site as an informational resource.*

- *Section 125-77. Planning Board review of site plan.*

- *Modify Subsection D. Public notice and hearing. as set forth below:*

*The Planning Board shall, within 62 calendar days of [the receipt of the complete application] its determination that an application is complete, conduct a public hearing on any such site plan application.*

- *Modify Subsection E. Required referral. by adding at the end of the Subsection the sentence set forth below:*

*In the matter of any application involving land within the Local Waterfront Revitalization Area, the Planning Board shall also refer the application to the Town's Waterfront Advisory Committee pursuant to the requirements of Town Code Chapter 118, Waterfront Consistency Review for a report as to the consistency of the application with coastal policies.*

- *Section 125-78. Planning Board action on site plan.*

- *Modify the opening paragraph of Section 125-78. Planning Board action on site plan. as set forth below:*

*[Within 62 days of the close of the public hearing, the Planning Board shall act on the site plan application.] Every decision of the Planning Board with respect to an application for site plan approval shall be made within 62 calendar days of the close of the public hearing. The time within which the Planning Board must act on the application may be extended by mutual consent of the Planning Board and applicant. The public hearing may not be closed and the time periods for decision-making in this subsection shall not begin to run until the Planning Board or other designated lead agency has either classified the proposed action as a Type II Action for which further*

environmental quality review is precluded, accepted a draft environmental impact as complete or adopted a negative declaration under SEQR. The failure of the Planning Board to render a decision within the time period set forth in this subsection shall not be deemed to be an automatic approval of the application for site plan approval.

- Modify Subsection A. *Action by resolution.* by adding at the end of paragraph (1) a sentence reading:

The Planning Board's resolution shall include findings as pertinent to both the Zoning Law and, when applicable, Town Code Chapter 118, Waterfront Consistency Review.

- Modify the last sentence of the opening paragraph of Subsection B. *Submission requirements for stamping.* as set forth below:

The site plan submitted for stamping shall conform strictly to the site plan approved by the Planning Board, except that it shall further incorporate any revisions or other modifications required by the Planning Board and shall be accompanied by a minimum of four copies of the following additional information:

- Modify Subsection C. *Effect of stamping by the Planning Board.* paragraph (2) as set forth below:

After approval or approval with modifications by the Planning Board, any changes, modifications or alterations from the site plan approved by the Planning Board can only be granted based upon application for an amendment to the approved site plan, except in the instance of a request for, and authorization of, a field change involving a limited modification in the approved site plan in the matter of one or more portions of the work not begun by the applicant and determined by the ZEO following consultation with the Planning Board Chair to both involve neither an increase in either building footprint, other impervious area or other dimensional measure set forth within this chapter nor to raise any other planning or environmental issues. The Zoning Board of Appeals shall not have the power to entertain a variance from the approved site plan after site plan approval is granted.

- *Section 125-81. Inspection of improvements.*

- Modify the caption of *Section 125-81* as set forth below:

Inspection of building and site improvements.

- Further modify *Section 125-81* in the manner set forth below:

The Code Enforcement Officer shall be responsible for the inspection of all buildings and accessory structures for which a building permit is required, and the Zoning Enforcement Officer shall be responsible for the overall inspection of all other site improvements, [including] which may include coordination with the designated Town Engineer and other local officials and agencies, as may be appropriate on projects

subject to site plan approval. Reasonable expenses incurred by the Town for inspections by the designated Town Engineer or other appropriate professionals shall, in addition to costs associated with site plan review and fee paid for a certificate of use, be reimbursed to the Town by the applicant in accordance with Article XIV of this chapter and the fee schedule established and annually reviewed by the Town Board.

Prior to the applicant, owner, operator or occupant utilizing the site, such person shall contact the Zoning Enforcement Officer and request a final inspection of the site work for compliance with the approved site plan. Prior to the issuance of a certificate of use, the Zoning Enforcement Officer shall inspect the land and all site improvements for site plan compliance. Prior to the issuance of the certificate of use the applicant shall provide the ZEO with a written notarized statement as to the applicant's intended use of the land, site, building or structure. Prior to any use of the site and prior to occupancy of any building or land, the applicant shall first obtain the certificate of use from the ZEO, and then obtain the certificate of occupancy or certificate of compliance from the Code Enforcement Officer. Also refer to Section 125-110, Certificates of use, of this chapter.

Upon completion of the work governed by the building permit and associated approved site plan and related request for final inspection, there shall be filed with the Code Enforcement Officer and Zoning Enforcement Officer an affidavit of the registered architect or licensed professional engineer who filed the original plans, of the registered architect or licensed professional engineer who supervised the conduct of the work or of the superintendent of construction who supervised the work and who, by reason of his experience, is qualified to superintend the work for which a certificate of occupancy / use is sought. This affidavit shall state that the approved plans of the structure and all related site improvements set forth on the approved site plan for which a certificate of occupancy is sought have been examined and that the structure has been erected and the site improvements installed in accordance with the approved plans and, as erected and installed, comply with all other requirements governing the building construction and site improvements except insofar as variations therefrom have been legally authorized by the Code Enforcement Officer, Zoning Enforcement Officer and/or Planning Board, as applicable. Such variations shall be specified in the affidavit. For all commercial, institutional and multi-family residential projects involving construction of new buildings, substantial additions to existing buildings, and/or installation of major site improvements, completion of the work, whether completed in strict accordance with the approved plans or inclusive of any legally-authorized variations, shall be documented through submission of an as-built drawing.

Upon completion of the work governed by the building permit and associated approved site plan and receipt of the request for final inspection, accompanied by the above-cited affidavit and as-built drawing as may be required, the Code Enforcement Officer and Zoning Enforcement Officer shall conduct inspections of the work for which the building permit and related site plan approval were issued. When, after final inspection, it is found that the heretofore proposed work has been completed in accordance with the applications, plans and specifications, and supporting data filed in connection with the issuance of the building permit and the grant of site plan approval, or as these documents may have been legally amended, the Zoning

Enforcement Officer may first issue a certificate of use and the Code Enforcement Officer may then issue a certificate of occupancy or compliance. If it is found the proposed work has not been properly completed, either the Code Enforcement Officer or Zoning Enforcement Officer, as applicable to the deficient work, shall order the work completed in conformity with the building permit, the approved site plan and other applicable regulations and requirements governing building construction and the installation of site improvements.

Article VIII. Neighborhood Design Standards and Guidelines.

- Section 125-87. Districts. Subsection B.
  - Modify Subsection B. Community Business – South (CB-S) District. paragraph (2) as set forth below:

*Projects deemed consistent with the standards and guidelines of this article by the Planning Board are eligible for an increase in density of 50% [over the minimum] from the maximum density otherwise authorized pursuant to the requirements of Article IV, Area and Bulk Regulations. As may be applicable, [Any] any increase in density granted shall comply with the 8,000 square foot individual building limitation for specific uses subject to [Article VI, Section 125-68K] Article V, Section 125-64.2, of this chapter. Nothing herein shall prevent the development of multiple buildings to achieve the density permitted, provided each individual building complies with the 8,000 square foot limitation.*

Article IX. Nonconforming Buildings, Structures and Uses.

- Modify the title of Article IX in the manner set forth below:

*Nonconforming and Noncomplying Buildings, Structures and Uses.*

- Add the below sentence at the end of Section 125-93. Applicability.:

Nothing contained in either this Article, or elsewhere within this Chapter, shall be construed as requiring the grant of a variance by the Zoning Board of Appeals to maintain or restore a nonconforming or noncomplying building, structure or use, in accordance with the provisions of below Sections 125-94, 125-95 and 125-96.

- Modify Section 125-94. Subsection A, paragraph 5 as set forth below:

*Any noncomplying building or structure declared unsafe by the Zoning Enforcement Officer, the Code Enforcement Officer or other proper authority may be restored to a proper condition within the time period provided by such authority.*

Article X. Administration and Enforcement of Zoning Law and New York State Uniform Fire Prevention and Building Code.

- Section 125-105. Zoning Enforcement Officer.

- Modify Subsection A paragraph (1) as set forth below:

To receive and review all applications for special use permits, site plan approval and [subdivisions] subdivision plat approval and either a certificate of removal or demolition or certificate of economic hardship pursuant to the provisions of this chapter. In the event that the Zoning Enforcement Officer determines that the proposed building and/or uses subject of the application, accompanied when applicable by related requests for waiver(s) within the purview of the Planning Board, meets all of the requirements of the Zoning Law, the application shall be forwarded by the ZEO to the Planning Board for further review in accordance with the provisions of the Zoning Law and/or Subdivision Regulations. In the event the ZEO finds that the application does not comply in one or more respects with the provisions of the Zoning Law, the application shall be denied by the ZEO, with leave to appeal the ZEO's determination to the Zoning Board of Appeals in accordance with the provisions of Article XI of this chapter. All applications that require either a freshwater wetlands permit from the New York State Department of Environmental Conservation or involve development within a regulated area consisting of a wetland and its associated buffer as established under the Town of Rhinebeck Freshwater Wetlands Law shall be forwarded by the ZEO to the Planning Board for review in accordance with [the Town of Rhinebeck Freshwater Wetlands Law] said law.

- Add within Subsection A paragraphs (13) and (14) reading as follows:

(13) To inspect in the role of, or in coordination with the Town's stormwater management officer as may otherwise be applicable, the installation of storm water management measures pursuant to Article V, Section 125-60. Storm water management, of this chapter.

(14) To issue those demolition permits governed by the provisions of Article V, Section 125-62. Historic Buildings, of this chapter.

- Section 125-106. Building permits.

- Add Subsection L as set forth below:

L. Relationship with other Town approvals.

Prior to the issuance of a building permit for any work subject of site plan approval, special use permit approval and/or subdivision plat approval by the Planning Board, the Code Enforcement Officer must first receive from the Planning Board a copy of the Resolution of Approval and a copy of the Approved Site Plan or Subdivision Plat stamped and signed by the Planning Board Chair.

- *Section 125-111. Filing of decisions; appeals.*

- Modify Subsection B as set forth below:

B. *An appeal to the Zoning Board of Appeals shall be taken within 60 days after the filing of any such order by filing with the official a notice of appeal specifying the grounds therefor and the relief sought. The applicant shall provide a sufficient number of copies of all documents (both six paper copies, unless the ZBA Clerk requires more, and an electronic copy of all appeals documents) to the ZBA Clerk. The official from whom the appeal is taken shall forthwith transmit to the Zoning Board of Appeals all of the papers constituting the record upon which the action appealed from was taken.*

*Article XI. Zoning Board of Appeals. Section 125-125. Procedure.*

- Modify the second sentence within of Subsection B *Application and fee.* by deleting the words “*or Uniform Code*”.
- Modify the final sentence within Subsection B. *Application and fee.* in the manner set forth below:

*Each application shall also be accompanied by a short or full environmental assessment form as required by the Board of Appeals pursuant to SEQR, Article 8 of the Environmental Conservation Law and Title 6, Part 617 NYCRR, and, as pertinent to the location, an agricultural data statement if within or adjacent to a certified Agricultural District, and a coastal assessment form if located within the Town’s Local Waterfront Revitalization Area.*

- Modify the first sentence within Subsection D. *Public notice and hearing.* in the manner set forth below:

*The Board of Appeals shall [fix a reasonable time and place for] convene a public hearing within 62 calendar days of the filing of [on] any such appeal or application.*

- Modify the first sentence within Subsection E. *Required referrals.* by deleting the words “*to the Regional State Park Commission having jurisdiction over any state park or parkway within 500 feet of the property affected by such appeal*”.

- Modify the last two sentences within Subsection E. *Required referrals.* as set forth below:

*“The application or appeal for variance shall also be referred prior to the public hearing to the Planning Board for its review and recommendations and, if located within the Town’s Local Waterfront Revitalization Area, to the Waterfront Advisory Committee for a report as to the consistency of the application with Town coastal policies. No action shall be taken by the Board of Appeals until both an advisory recommendation has been received from said Planning Board and, if applicable, a report received from said*

Waterfront Advisory Committee or 30 calendar days have elapsed since the Planning Board and the Waterfront Advisory Committee received upon referral from the Board such application or appeal for variance."

- o Modify Subsection F. *Decisions*. to read as set forth below:

*Every decision of the Zoning Board of Appeals on an appeal or request shall be made within 62 calendar days of the close of the public hearing by the Board, shall be recorded in accordance with standard forms adopted by the Board and shall fully set forth the circumstances of the case and contain a full record of the findings on which the decision is based, including a record of compliance with the applicable provisions of SEQR, Article 8 of the Environmental Conservation Law and Title 6, Part 617 NYCRR, and Town Code Chapter 118, Waterfront Consistency Review, as applicable to locations within the Town's LWRA.*

*The time period for decision-making in this subsection may be extended by mutual consent of the ZBA and the applicant and shall not begin to run until the ZBA or other designated lead agency has either classified the proposed action as a Type II Action for which further environmental quality review is precluded, accepted a draft environmental impact as complete or adopted a negative declaration under SEQR, which action shall precede close of the public hearing. The failure of the ZBA to render a decision within the time period set forth in this subsection shall not be deemed to be an automatic approval of the appeal or other request.*

#### Article XII. Amendments.

- Section 125-133. *Town Board procedure*.
  - o Within paragraph 3 of Subsection A. *Public notice and hearing*. substitute the term "County Legislature" for "Board of Supervisors".
  - o Modify the caption of Subsection E. *Fee*. to read E. *Filing fee*.
  - o Modify the caption of Subsection F. *Consultant's fee*. to read F. *Reimbursement for consulting fees*.

#### Article XIII. Definitions.

- Section 125-135. *Terms used throughout this chapter*.
  - o Modify the below definitions either in whole or stated part in the manner set forth below:

*ACCESSORY STRUCTURE --- A structure or building, the use of which is customarily incidental and subordinate to that of the principal structure or building and which is attached thereto, or is located on the same lot or premises. Except for an accessory dwelling unit, quest cottage or ECHO (elder cottage housing opportunity) unit*

approved under Articles VI and/or VII of this chapter, accessory structures are not for the purpose of human habitation and may include such structures or buildings as garages, swimming pools, spas, whirlpools or hot tubs, tennis courts, garden or tool sheds, barns, studios, greenhouses, and playhouses, and such elements as generators, satellite dish antennas, and solar and wind energy systems.

AGRICULTURE – by deleting in its entirety the last sentence as set forth below:

[Agriculture shall not include a confined animal feeding operation (CAFO) as defined herein.]

AREA AND BULK REGULATIONS -- The combination of controls set forth within Article IV which, in combination with Supplemental Regulations set forth within Article V and special permit standards set forth within Article VI, establish the [residential density of a lot or lots and the maximum size of a building or structure and its location on such lot] minimum area of a lot, the minimum extent of yards and open space areas and the maximum dimension of buildings and other improvements and their location on such lot. This term may also be referred to as "bulk regulations".

COTTAGE [HOME] DWELLING – A cottage [home] dwelling is similar to a detached accessory dwelling unit, but rather than being contained within another accessory structure such as a barn, garage or carriage house, shall be a detached structure separate and apart from the single-family dwelling and/or other accessory structures on the lot. A cottage [home] dwelling shall not exceed 750 square feet in gross floor area on lots less than ½ acre nor 1,000 square feet on lots ½ acre or larger, shall be built in accordance with the New York State Uniform Fire Prevention and Building Code, and shall be clearly incidental and subordinate to the principal building or structure.

COVERAGE, LOT [or IMPERVIOUS SURFACE COVERAGE] – That percentage of the plot or lot area covered by the composite building area or extended to the ground plane of all principal and accessory buildings or structures, roads, parking lots and parking areas and all other impervious surfaces as defined herein. [Such coverage excludes uncovered porches, terraces, and wooden decks, except where used for commercial purposes.]

FARM – Land and on-farm buildings, equipment and practices which contribute to the production, preparation and marketing of crops, livestock and livestock products as a commercial enterprise.

For the purposes of this chapter, the term "farm" specifically excludes riding academies and arenas, dog kennels or catteries, and the raising of fur-bearing animals.

FAST FOOD ESTABLISHMENT – An establishment, whether a principal or an accessory use, required by contractual, franchise or other legal arrangements to offer or otherwise be characterized by [some or all] two or more of the following:

FLOOR AREA, GROSS – The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and courts, without

deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include:

- A. Shafts with no openings or interior courts.
- B. Vehicular parking [and loading] areas within [the] a residential structure designed to accommodate automobiles or light, non-commercial trucks of less than 20 feet in length, except that when calculating permitted gross floor area within the Rc-O District this exclusion shall not be applied to floor area in excess of that required for the parking of two such vehicles.
- C. Floor area occupied by HVAC (heating, ventilating or air conditioning), mechanical, electrical, communications and security equipment or apparatus.
- D. Basement, cellar or attic areas, as these terms are defined under the NYS Uniform Fire Prevention and Building Code, which are neither designed nor intended for either human occupancy as habitable space or for use in the conduct and/or support of a home occupation

HOME OCCUPATION – Any limited personal service, professional service or business use customarily conducted within a dwelling or customary accessory building and carried on by the residents thereof, which is clearly incidental and secondary to use of the premises for residential purposes and does not alter the residential character thereof, and which use shall be fully consistent with the use limitations stated in Article V, Section 125-42, of this chapter.

For purposes of this chapter neither a home office for the exclusive use of a resident or residents of the premises nor artistic, literary or similar intellectual work carried on by a resident or residents of the premises and routinely involving no on-premises participation by other persons shall be construed to be a "home occupation".

LOT OF RECORD – A legally existing lot at the time of adoption of this chapter on December 29, 2009, duly filed and recorded in the Dutchess County Clerk's office as either an individual parcel of land or part of an approved subdivision, in accordance with the Town's Land Subdivision Regulations and applicable provisions of Town Law.

MOTEL – A building or group of buildings containing individual living and sleeping accommodations for hire for guests for no more than 30 days, each of which is provided with a separate exterior entrance and a parking space, and is offered for rental and use principally by motor vehicle travelers. The term "motel" includes but is not limited to every type of similar establishment known variously as an "auto court", "motor hotel", "motor inn", "motor lodge", "tourist court", "tourist cabins", or "roadside hotel".

PROHIBITED USE – Any use which is not listed as a permitted use, special permit use, or accessory use within a zoning district in the District Schedule of Use Regulations in Article III of this chapter is a prohibited use within such district. Any use not listed in the District Schedule of Use Regulations as a permitted use, special permit use or accessory use [that is not permitted or specially permitted] in one or more districts within the Town of Rhinebeck is by virtue of such exclusion deemed a prohibited use in all districts within the Town.

USE REGULATIONS – The controls which enumerate the permitted principal uses, permitted accessory uses and special permit uses, either principal or accessory, within each of the zoning districts established by this chapter.

- o Add the below definitions in proper alphabetical sequence:

BERM – A mound of earth with sloping sides that is located between areas of approximately the same elevation and typically intended for one or a combination of the following functions: creating a noise barrier; separating areas of conflicting uses; screening undesirable views; creating a private area; directing drainage; providing wind protection; or enhancing a landscape design.

BONA FIDE WORK OF ART – An original object of an established art form possessing positive aesthetic qualities and created by the artist upon application of his or her skills and with the intent of both expressing human emotion or exhibiting an individual point of view and producing a work of art; the term “bona fide work of art” shall not be construed to include any object produced for prior, present or future utilitarian purpose.

BUILDING COVERAGE. See COVERAGE, BUILDING.

COMPLETE APPLICATION. – A full submission made by an applicant for any approval required under this chapter by the Planning Board, Town Board, ZBA or ZEO, including as pertinent to the specific application and in required form, number and amounts all executed application forms and certifications; fees; escrow agreement and escrow deposits; land survey, site and building plans stamped by appropriate licensed design professionals; environmental assessment and coastal assessment forms and agricultural data statements; and other required additional information such as engineering studies or archaeological reports, to permit consideration of the application by the responsible party.

COVERAGE, BUILDING -- That percentage of the plot or lot area covered by the composite building area on or extended to the ground plane of all principal and accessory buildings or structures as defined herein. Such coverage excludes uncovered porches, terraces, and wooden decks, except where used for commercial purposes.

EXISTING LOT OF RECORD – See LOT OF RECORD.

FARM OPERATION -- The land and on-farm buildings, equipment, manure processing and handling facilities, and practices which contribute to the production, preparation and marketing of crops, livestock and livestock products as a commercial enterprise, including a commercial horse boarding operation, a timber operation, compost, mulch or other biomass crops and commercial equine operation, each as defined within Section 301 of the New York State Agriculture and Markets Law. Such farm operation may consist of one or more parcels of owned or rented land, which parcels may be contiguous or non-contiguous to each other.

FORMULA FOOD ESTABLISHMENT – See FAST FOOD ESTABLISHMENT.

GENERALLY ACCEPTED AGRICULTURAL AND FARM MANAGEMENT PRACTICES – Those activities and practices including but not limited to business and administrative activities related to the operation of a farm; operation of farm equipment; production, preservation, processing and marketing of farm products; proper use of legal agricultural chemicals and other crop protection methods; and construction, maintenance, repair and use of farm structures, including such buildings used to store farm equipment and to store and/or process farm products; and such other improvements that are necessary to the operation of the farm. Said practices are those that either have been or would be determined “sound agricultural practices” by the New York State Commissioner of Agriculture and Markets upon application of the guidelines recommended for the Commissioner’s use by the NYS Advisory Council on Agriculture, including but not limited to (1) “the practice should be legal”, (2) “the practice should not cause bodily harm or damage property off the farm”, (3) “the practice should achieve the results intended in a reasonable and supportable way”, and (4) “the practice should be necessary”.

GROSS FLOOR AREA – See FLOOR AREA, GROSS.

HELICOPTER PAD / LANDING AREA – Any land area, whether with an improved or natural surface, or water surface area used for the landing and take-off of a helicopter as either a principal or accessory use.

LOCAL WATERFRONT REVITALIZATION AREA – That area within the Town of Rhinebeck, the boundary of which was established upon local adoption and state approval of the Town’s Local Waterfront Revitalization Program (LWRP), and within which all permits, approvals and other actions by Town, county, state and federal agencies require consideration for their consistency with pertinent coastal policies set forth within the LWRP. May be cited as LWRA.

LOT COVERAGE. See COVERAGE, LOT.

NONCOMPLYING BUILDING OR STRUCTURE. A legal existing building or structure which does not conform to the applicable district regulations under either the District Schedule of Area and Bulk Regulations and/or Supplementary Regulations for minimum lot area, width or depth; minimum front, rear or side yard; maximum height; maximum principal and/or aggregate accessory structure coverage; parking

requirements; or density after the adoption on December 29, 2009, or subsequent amendment of this Chapter. This condition may also be cited as "noncomplying bulk".

NONCONFORMING USE. A legal existing use of a building or land which does not conform to the applicable use regulations set forth within the District Schedule of Use Regulations for the zoning district in which the use is located after the adoption on December 29, 2009, or subsequent amendment of this Chapter.

PRIVATE AIRSTRIP – Any land area, whether with an improved or natural surface, or water surface area used for the landing and take-off of an airplane either as a principal or accessory use.

SHORT-TERM -- See TEMPORARY.

SWIMMING POOL, SPA, WHIRLPOOL OR HOT TUB – Any outdoor pool or tank, created for the specific purpose of swimming, bathing or other human relaxation, that causes the retaining of water to a depth greater than 18 inches and is subject to the design and safety requirements set forth within the New York State Uniform Fire Prevention and Building Code and Residential Code, Appendix G, Swimming Pools, Spas and Hot Tubs.

#### Article XIV. Fee Reimbursement.

- Section 125-142. Intent.

- Modify in part Section 125-142 as set forth below:

*The intent of the Town Board is to provide a mechanism for the reimbursement of fees and expenses, incurred in connection with applications, both proposed through pre-application conferences and/or pending by virtue of submission of applications, before the Town of Rhinebeck Town Board, Zoning Board of Appeals, Zoning Enforcement Officer, and any other Town agency or department for .....*

- Section 125-143. Applications subject to fees.

- Modify Subsection B by adding within paragraph (1) as items (n) through (q) the following and renumbering present items (o) and (p) as (r) and (s):

(n) Demolition permits;

(o) Application for a certificate of demolition or removal;

(p) Application for a certificate of economic hardship;

(q) Certificates of use; and re-numbering succeeding paragraphs as (r) through (t).

## Attachments

- *Attachment 1. Zoning Districts Map(s).*
  - Modify the title of Attachment 1:1 reading “Proposed Zoning Districts Map – Hamlet of Rhinecliff Detail” to read “Zoning Districts Map – Hamlet of Rhinecliff Detail”.
  - Update the “Town of Rhinebeck, NY – Zoning Districts Map” presented as Attachment 1:2 to reflect the ORP, NI-O and Mi-O District map amendments adopted by the Town Board within the past three years, including deletion of the note appearing on the Zoning Districts Map concerning the Mi-O District.
  - Include the *Water Resources Protection Overlay (WR-O) District* under the category “Overlay Districts” within the legend on both Attachment 1:1 and Attachment 1:2 and include on both Attachments the following notation: *See Attachment 1:3 for boundaries of WR-O District.*
  - Modify the title of Attachment 1:3 reading “Town of Rhinebeck Zoning Law” to read “Town of Rhinebeck, NY – Zoning District Map – Water Resources Protection Overlay District Detail” and delete the subtitle reading “Water Resources Overlay District”.
- *Attachment 2. District Schedule of Use Regulations [Amended 05-13-2013 with Schedule dated 04-01-2010 and in part 09-01-2013]*
  - Amend Attachment 2, Attachments 2:1 through 2:6, to incorporate modifications in the list of uses and their classification as either permitted principal (P), special permit use (S), site plan approval required (\*), and/or prohibited use (-) as earlier set forth within this Local Law.
  - Delete note 2 which applies to the Rc-O District; the Rc-O District is not among the Districts set forth within Attachment 2.
  - Affix reference to note 6 to “Conservation subdivision development” on Attachment 2:1.
  - Affix the notation site plan approval required (\*) to the following Accessory Uses set forth on Attachment 2:2:
    - Accessory dwelling unit (detached) within HP20, RA10, RC5, RL5 and RM1 Districts.
    - Accessory dwelling unit (within principal structure) within HP20, RA10, RC5, RL5, RM1, Rc-Ht and Rc-B Districts.
  - Affix reference to note 7 to “Farm market” on Attachment 2:3.
- *Attachment 3. District Schedule of Area and Bulk Regulations [Amended 03-12-2012 with Schedule dated 05-01-2013]*

- Amend Attachment 3 to incorporate modifications and an addition to the column headings and addition of certain district-by-district standards as earlier set forth within this Local Law.

*General / Universal Modifications.*

- Authorize General Code Publishers to universally search Town Code Chapter 125, Zoning, and make the following modifications in either language or terms used throughout the chapter at each location found:

Substitute "CAB" for "CAC"; "Conservation Advisory Board" for "Conservation Advisory Council"; "Waterfront Resources Protection Overlay (WR-O) District" for "Waterfront Resources Overlay (WR-O) District"; "lot area, width and frontage" for "lot size"; and "SEQRA" for "SEQR".

Section 3. Effective Date.

This Local Law shall take effect immediately upon filing with the Office of The New York State Secretary of State in the manner provided by law.

**TOWN OF RHINEBECK**

**RESOLUTION NO. 2016180**

**HIRING CLERK TO PLANNING BOARD**

WHEREAS, there is an opening for a part-time clerk to the Planning Board; and

WHEREAS, the Board has found Gretchen Smith qualified for the job; now, therefore, be  
it

RESOLVED, that Gretchen Smith is hired as part-time clerk to the Planning Board at a  
salary of \$13/hour.

**Motion by:** Supervisor Spinzia  
**Second by:** Councilperson Gelb

<b>Voice Vote:</b>	<b>Aye</b>	<b>No</b>
Supervisor Spinzia	X	
Deputy Supervisor Scherr	X	
Councilperson Fernandez	X	
Councilperson Gelb	X	
Councilperson Roberts	X	

This certifies that the foregoing is a true copy of a resolution offered and adopted at a meeting of the Rhinebeck Town Board on June 13, 2016.

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JON GAUTIER, RHINEBECK TOWN CLERK

**TOWN OF RHINEBECK**

**RESOLUTION NO. 2016181**

**INSTALLATION OF DOCK AT RHINECLIFF LANDING BY DUTCHESS COUNTY  
SHERIFF'S DEPARTMENT FOR BASING OF A SHERIFF'S PATROL BOAT**

WHEREAS, the Dutchess County Sheriff's Office has made the attached proposal to the Town for the installation of a dock at the Rhinecliff Landing for the purposes of basing a Sheriff's Patrol Boat; now, therefore, be it

RESOLVED, that the attached proposal is approved, and the Supervisor is authorized to execute any documents necessary to effectuate the same.

# Dutchess County Sheriff's Office



**Proposal to:** Rhinebeck Town Board  
**Project Name:** 2016 Sheriff's Dock Proposal  
**Date of Presentation:** June 27, 2016

# Project Leader

**Captain Gerard Lennon**

**Dutchess County Sheriff's Office**

**150 N. Hamilton Street**

**Poughkeepsie, NY 12601**

**email: [glennon@dutchessny.gov](mailto:glennon@dutchessny.gov)**

**phone: 845-486-3843**

# Overview of Sheriff's Marine Patrol

- 3 Patrol Boats docked on the Hudson River
  - Enforcer 2: White's Marina (T/Poughkeepsie)
  - Enforcer 1: Hyde Park Marina (T/Hyde Park)
  - Enforcer 4: Norrie Point (T/Hyde Park)
- 16 Marine Patrol Deputies
- Provides maritime law enforcement and emergency response for approximately 40 miles of the Hudson River
- Pursuant to the Dutchess County Department of Emergency Response River Response Plan, the Sheriff's Marine Patrol is a primary responder for all incidents on the Hudson River

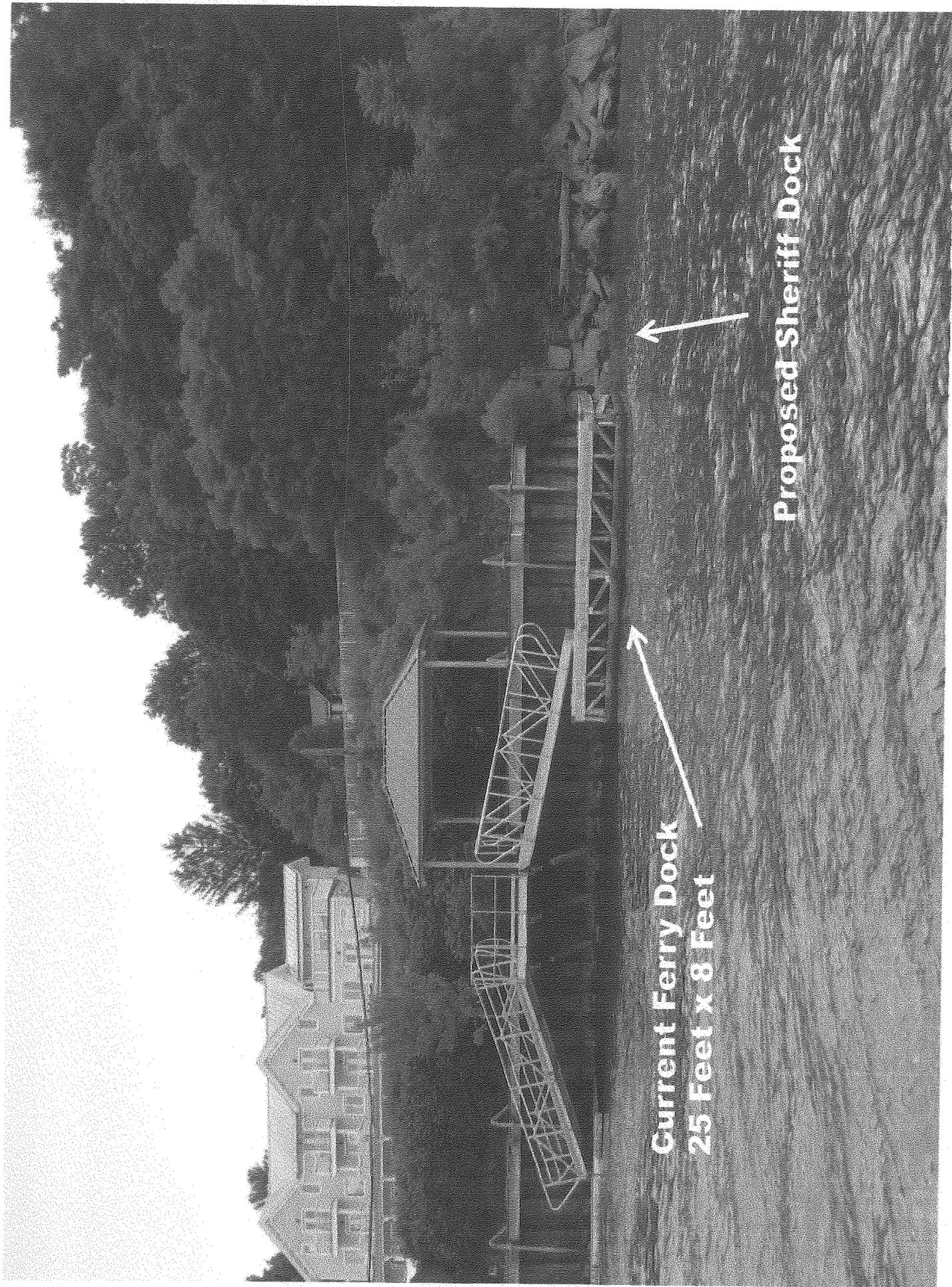
# Overview of Sheriff's Marine Patrol

(continued)

- Pursuant to agreements with the U.S. Coast Guard, the Sheriff's Marine Patrol is a primary responder for all emergency calls received by the USCG for incidents off of the Dutchess County shorelines
- Responsibilities include response to:
  - Search & Rescue (SAR cases)
  - Vessel Accidents
  - Vessel Fires
  - EMS calls on vessels
  - Disabled Vessels
  - Missing boaters/swimmers
  - Suicidal subjects on bridges

## Project Summary

The Dutchess County Sheriff's Office is seeking an agreement with the Rhinebeck Town Board that will permit the Sheriff's Office to place a boat dock in the Hudson River at the Rhinecliff Boat Launch for a Sheriff's patrol boat.



**Current Ferry Dock  
25 Feet x 8 Feet**

**Proposed Sheriff Dock**

# Goal/Objective

- The goal of this project is to decrease the response times and increase emergency services for incidents on the Hudson River off of the Rhinebeck, Red Hook and Tivoli shoreline.
  - Currently a patrol boat is docked at Norrie Point
    - Approximately 10 minute response time from Norrie Point just to the Rhinecliff Launch
- The objective of this project is to decrease Sheriff response times to all Hudson River maritime incidents in the Northern Dutchess areas by approximately 10 minutes for faster mitigation of emergency situations.

# Description of Steps

1. Present proposal to Town Board. If approved...
2. Discuss legal issues (IMA)
3. Identify location to place dock (cooperatively)
4. Sheriff's Office purchases dock (grant money already approved)
5. Install dock (cooperatively)

# Time Frame Estimate

- 2016
  - Seek approval
  - Finalize IMA
  - Identify location
  - Purchase Dock
- 2017
  - Install dock for the 2017 Boating Season

# Project Responsibilities

- **Sheriff's Office:** purchases the dock with already approved grant funding and covers the cost of annual dock maintenance at no cost to the Town of Rhinebeck.
- **Town of Rhinebeck:** provides the space and assists with placing the dock in the water and removing the dock from the water at the same time as the existing town docks at no cost the DCSSO.

Questions?

**TOWN OF RHINEBECK**

**RESOLUTION NO. 2016182**

**REQUESTING COAST GUARD HOLD A PUBLIC HEARING ON PLAN TO  
ESTABLISH CERTAIN HUDSON RIVER SHIP MOORINGS**

WHEREAS, the Town of Rhinebeck waterfront is a scenic treasure, a part of the state  
Local Waterfront Revitalization Program with a protected view shed, and

WHEREAS, the Hudson River is a source of our Town's drinking water; and

WHEREAS, the addition of long term commercial ship moorings in Esopus and Kingston  
Flats would greatly affect our waterfront and raises a myriad of concerns; now, therefore, be it

RESOLVED, that the Rhinebeck Town Board requests that the United States Coast  
Guard hold a public hearing for this project (USCG-2016-0132).

**TOWN OF RHINEBECK**

**RESOLUTION NO. 2016183**

**GRANT FROM FROST FOUNDATION FOR RESTORATION OF TOWN CEMETERY  
STONE WALL ON MILL STREET (ROUTE 9)**

WHEREAS, by Resolution 2016177 the Town approved a proposal to repair the Mill Street (Route 9) wall at the Town Cemetery; and

WHEREAS, the Cemetery Committee wishes to apply for a grant from the Frost Foundation to help pay the cost; now, therefore, be it

RESOLVED, that the Board approves seeking the above-mentioned grant and the Supervisor is authorized to sign any documents necessary to effectuate the same.

**ORIGINAL TEXT NOT ADOPTED**

**TOWN OF RHINEBECK**

**LOCAL LAW NO. \_\_\_ OF 2016**

**A LOCAL LAW AMENDING CHAPTER A130 OF THE TOWN OF RHINEBECK  
CODE TO CREATE A RECREATION ADVISORY COMMITTEE**

**BE IT ENACTED** by the Town Board of the Town of Rhinebeck as follows:

**SECTION 1. TITLE.**

This local law shall be known as “A Local Law Amending Chapter A130 of the Town of Rhinebeck Code to Create a Recreation Advisory Committee”.

**SECTION 2. PURPOSE AND INTENT.**

Section 130 of the Town Code currently refers to a “Recreation Committee” but states that the “provisions dealing with the organization and duties of the Recreation Committee were being reviewed by the Town Board at the time of the publication of this Code...and upon completion of such review they will be included here as Chapter A130”. The Town Board has concluded its review of the appropriate organization and duties of the Town of Rhinebeck Recreation Committee and the intent of this Local Law is to establish §A130 of the Town Code entitled “Recreation Advisory Committee” setting forth the purpose, composition, functions and operation, duties and responsibilities of the Recreation Committee.

**SECTION 3. AMENDMENT TO CHAPTER A130.**

Chapter A130 “Recreation Advisory Committee” of the Town Code is hereby amended to provide as follows:

“§A130-1. Establishment and purpose.

A Recreation Advisory Committee is hereby established in and for the Town of Rhinebeck to advise and consult with the Town Board and Town Recreation Director regarding all recreation programs, parks and recreation facilities of the Town located in the Town of Rhinebeck and/or the Village of Rhinebeck.

§130-2. Composition; appointment; terms.

The Recreation Advisory Committee shall consist of seven members, all of whom shall be residents of the Town or Village of Rhinebeck. However, no less than four members shall be residents of the Town of Rhinebeck. Members shall not hold any other position, elective or appointive, within the Town or Village. Members shall be appointed by the Town Board. The members of the Committee first appointed shall be appointed for such terms that the term of one member shall expire annually thereafter and their successors shall thereafter be appointed to

## ORIGINAL TEXT NOT ADOPTED

serve terms of years which shall total in number the membership of the Committee. Members of the Recreation Committee shall serve at the pleasure of the Town Board for their appointed terms. A member of the Recreation Committee who misses three consecutive meetings without just cause, or fails to actively participate in the functions of the Recreation Committee, may be removed by the Town Board upon written charges presented by the Town Board and a public hearing thereon.

### §130-3. Purpose.

- A. The purpose of the Recreation Advisory Committee is to: identify recreation programs, and recreation and park resources and needs, and determine priorities and make appropriate recommendations to the Town Board and the Recreation Director to meet those needs and priorities.
- B. Explore ways to ways and means to strengthen and support recreation programs and recreation facilities and parks of the Town of Rhinebeck located within the Town and/or Village of Rhinebeck.
- C. Increase the visibility, and promote and enhance the image, of the recreation and park opportunities to the public.
- D. Establish and maintain effective communications with the Town Board and Recreation Director. In this regard, the Town Board shall appoint a liaison to meet with the Recreation Advisory Committee at its monthly meetings.

### §130-4. Functions

The Recreation Advisory Committee shall have the following functions:

- A. To investigate and determine the needs and interests of the community for recreational facilities/programs and to make recommendations to the Town Board and the Town's Recreation Director to meet those needs.
- B. To review the existing recreation programs and bring needs/ideas for expansion and improvement of the programs to the attention of the elected officials and general citizens of the Town and Village of Rhinebeck.
- C. To recommend and help secure a comprehensive master plan or other study of parks and recreation for the acquisition, development and improvement of an adequate system of parks, facilities and recreation programs.
- D. To encourage favorable public opinions and support for parks and recreation services through such means as community and neighborhood groups and meetings.
- E. To assist in the maintenance of high standards in parks and recreation facilities and their leadership and in the quality of the program services.

## ORIGINAL TEXT NOT ADOPTED

- F. To assist the Town Board and the Recreation Director in developing partnerships with other organizations and private groups to further the objectives of the Town to provide added and varied recreation programs.
- G. To identify and recommend recreational needs for possible inclusion in the Town's recreation program and Recreation Department budget.
- H. To assist the park and recreation staff in evaluating recreation programs and activities with input from program participants.
- I. To assist in recruiting volunteers to assist with parks and recreation programs/activities.
- J. To assist the Town Board and the Recreation Director in developing program priorities.
- K. To educate the public of the importance and need for park and recreation programs, facilities and services.

### §130-5. Chairperson and Vice Chairperson

The members of the Recreation Committee shall, at their first organizational meeting, appoint by majority vote a Chairperson and Vice Chairperson to serve for a period of one year. The Chairperson and Vice Chairperson shall be similarly appointed by the Recreation Committee on an annual basis at its first meeting of the year. The term, however, for Chairperson and Vice Chairperson shall be limited to three consecutive years.

### §130-6. Meetings

Monthly meetings shall be held by the Recreation Committee at the time and place scheduled by the Chairperson. Meetings may, however, be held more often than once a month, at the discretion of the Chairperson and the Committee members. Four members of the Recreation Committee shall constitute a quorum and all votes shall be made by simple majority vote of the entire Committee. No proxy voting shall be permitted. The Recreation Committee shall have the power to adopt its own rules and regulations for the conduct of its meetings and performance of its functions. The Recreation Committee shall not, however, have the power to hire, or fire, any Town employees including, but not limited to, the Recreation Director. Those powers shall be exercised by the Town Board and may, in the Town Board's discretion, be delegated to the Town's Recreation Director.

### §130-7. Reports

The Recreation Advisory Committee shall submit a report to the Town Board of its activities on a quarterly basis each year. The Committee may, in its discretion, provide reports to the Town Board on a more frequent basis."

**ORIGINAL TEXT NOT ADOPTED**

**SECTION 4. SUPERSESSION.**

This local law is hereby adopted pursuant to the provisions of §10 of the New York State Municipal Home Rule Law. It is the intent of the Town Board to supersede any provisions of the New York State Town Law to the extent that they may be inconsistent with the provisions of this Local Law.

**SECTION 5. EFFECTIVE DATE.**

This local law shall take effect upon filing with the Secretary of State pursuant to Municipal Home Rule Law.

**TOWN OF RHINEBECK**

**LOCAL LAW NO. 4 OF 2016**

**A LOCAL LAW AMENDING CHAPTER A130 OF THE TOWN OF RHINEBECK  
CODE TO CREATE A RECREATION ADVISORY COMMITTEE**

**BE IT ENACTED** by the Town Board of the Town of Rhinebeck as follows:

**SECTION 1. TITLE.**

This local law shall be known as “A Local Law Amending Chapter A130 of the Town of Rhinebeck Code to Create a Recreation Advisory Committee.”

**SECTION 2. PURPOSE AND INTENT.**

Section 130 of the Town Code currently refers to a “Recreation Committee” but states that the “provisions dealing with the organization and duties of the Recreation Committee were being reviewed by the Town Board at the time of the publication of this Code...and upon completion of such review they will be included here as Chapter A130”. The Town Board has concluded its review of the appropriate organization and duties of the Town of Rhinebeck Recreation Committee and the intent of this Local Law is to establish §A130 of the Town Code entitled “Recreation Advisory Committee” setting forth the purpose, composition, functions and operation, duties and responsibilities of the Recreation Committee.

**SECTION 3. AMENDMENT TO CHAPTER A130.**

Chapter A130 “Recreation Advisory Committee” of the Town Code is hereby amended to provide as follows:

“§A130-1. Establishment and purpose.

A Recreation Advisory Committee is hereby established in and for the Town of Rhinebeck to advise and consult with the Town Board regarding all recreation programs, parks and recreation facilities of the Town located in the Town of Rhinebeck and/or the Village of Rhinebeck.

§130-2. Composition; appointment; terms.

The Recreation Advisory Committee shall consist of seven members, all of whom shall be residents of the Town or Village of Rhinebeck. However, no less than four members shall be residents of the Town of Rhinebeck. Members shall be appointed by the Town Board. The members of the Committee first appointed shall be appointed for such terms that the term of one member shall expire annually thereafter and their successors shall thereafter be appointed to serve terms of years which shall total in number the membership of the Committee. Members of the Recreation Committee shall serve at the pleasure of the Town Board for their appointed

terms. A member of the Recreation Committee who misses three consecutive meetings without just cause, or fails to actively participate in the functions of the Recreation Committee, may be removed by the Town Board, with or without cause.

### §130-3. Purpose.

- A. The purpose of the Recreation Advisory Committee is to: identify recreation programs, and recreation and park resources and needs, and determine priorities and make appropriate recommendations to the Town Board to meet those needs and priorities.
- B. Explore ways and means to strengthen and support recreation programs and recreation facilities and parks of the Town of Rhinebeck located within the Town and/or Village of Rhinebeck.
- C. Increase the visibility, and promote and enhance the image, of the recreation and park opportunities to the public.
- D. Establish and maintain effective communications with the Town Board. In this regard, the Town Board shall appoint a liaison to meet with the Recreation Advisory Committee at its monthly meetings.

### §130-4. Functions

The Recreation Advisory Committee shall have the following functions:

- A. To investigate and determine the needs and interests of the community for recreational facilities/programs and to make recommendations to the Town Board to meet those needs.
- B. To review the existing recreation programs and bring needs/ideas for expansion and improvement of the programs to the attention of the elected officials and general citizens of the Town and Village of Rhinebeck.
- C. To recommend and help secure a comprehensive master plan or other study of parks and recreation for the acquisition, development and improvement of an adequate system of parks, facilities and recreation programs.
- D. To encourage favorable public opinions and support for parks and recreation services through such means as community and neighborhood groups and meetings.
- E. To assist in the maintenance of high standards in parks and recreation facilities and their leadership and in the quality of the program services.
- F. To assist the Town Board developing partnerships with other organizations and private groups to further the objectives of the Town to provide added and varied recreation programs.

- G. To identify and recommend recreational needs for possible inclusion in the Town's recreation program and Recreation Department budget.
- H. To assist in evaluating recreation programs and activities with input from program participants.
- I. To assist in recruiting volunteers to assist with parks and recreation programs/activities.
- J. To assist the Town Board in developing program priorities.
- K. To educate the public of the importance and need for park and recreation programs, facilities and services.

#### §130-5. Chairperson and Vice Chairperson

The members of the Recreation Committee shall, at their first organizational meeting, appoint by majority vote a Chairperson and Vice Chairperson to serve for a period of one year. The Chairperson and Vice Chairperson shall be similarly appointed by the Recreation Committee on an annual basis at its first meeting of the year. The term, however, for Chairperson and Vice Chairperson shall be limited to three consecutive years.

#### §130-6. Meetings

Monthly meetings shall be held by the Recreation Committee at the time and place scheduled by the Chairperson. Meetings may, however, be held more often than once a month, at the discretion of the Chairperson and the Committee members. Four members of the Recreation Committee shall constitute a quorum and all votes shall be made by simple majority vote of the entire Committee. No proxy voting shall be permitted. The Recreation Committee shall have the power to adopt its own rules and regulations for the conduct of its meetings and performance of its functions. The Recreation Committee shall not, however, have the power to hire, fire, or direct any Town employees including, but not limited to, the Recreation Director. Those powers shall be exercised by the Town Board and may, in the Town Board's discretion, be delegated to the Town's Recreation Director.

#### §130-7. Reports

The Recreation Advisory Committee shall submit a report to the Town Board of its activities on a quarterly basis each year. The Committee may, in its discretion, provide reports to the Town Board on a more frequent basis.

### **SECTION 4. SUPERSESSION.**

This local law is hereby adopted pursuant to the provisions of §10 of the New York State Municipal Home Rule Law. It is the intent of the Town Board to supersede any provisions of the

New York State Town Law to the extent that they may be inconsistent with the provisions of this Local Law.

**SECTION 5. EFFECTIVE DATE.**

This local law shall take effect upon filing with the Secretary of State pursuant to Municipal Home Rule Law.



## United States Environmental Protection Agency

### Solar Photovoltaic Screening Study of Properly Closed Municipal Solid Waste Landfills - Siting Solar Photovoltaics at the Rhinebeck Landfill

Prepared by the Environmental Protection Agency, Region 2

#### **NOTICE:**

This report was prepared as an account of work sponsored by an agency of the United States government. Neither the United States government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or any agency thereof. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the United States government or any agency thereof.

#### **Acknowledgments:**

We would like to thank Elizabeth Spinzia, Town Supervisor, and Bob Fitzpatrick, Town Maintenance Supervisor, for their assistance with facilitating the Rhinebeck landfill visit.

This report is to be used for screening purposes only.

Additional evaluations will need to be conducted to fully characterize the feasibility and economics of the Rhinebeck landfill for photovoltaic (PV) installation. Third party solar developers and local utility companies may have technical and financial interests in pursuing potential solar renewable energy projects and should perform additional solar assessments to determine if projects are economically viable.

While the Rhinebeck Landfill has been screened for solar PV, the findings of this solar screening study should not be the sole basis for determining if a PV system at the site is viable. The results of this study are presented in an unbiased manner.

This study does not assess the environmental conditions at the site.

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Technical Support: Department of  
Energy/National Renewable Energy Lab  
(DOE-NREL)

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## I. Purpose of the Solar Screening Report:

Through the U.S. EPA RE-Powering America's Land Initiative, EPA promotes the reuse of potentially contaminated properties, landfills, and mining sites for renewable energy generation. This initiative identifies the renewable energy potential of these sites and provides useful resources for communities, developers, industry, state and local governments or anyone interested in reusing these sites for renewable energy development. A list of RE-Powering America Initiative resources is provided at the end of this report (Section IX) and can be found at <http://www.epa.gov/oswercpa>.

This solar screening report provides screening/preliminary information to assist the Town of Rhinebeck officials in determining the potential for solar photovoltaic (PV) electricity generation at the town landfill. In general, the solar PV system represented in this report is a standalone system sized on proposed available area located at the Rhinebeck Landfill. It should be noted that the viability of implementing a solar PV system on a landfill is highly impacted by the available area for an array, solar resource, shading, operating status, landfill cap status, distance to transmission lines, distance to major roads, favorable economic conditions, and community support.

## II. Background

The Rhinebeck Landfill serviced the Town of Rhinebeck until its closure in 1997. According the US Census as of 2015, the population of Rhinebeck is approximately 7,838 people. The Rhinebeck Landfill is operated by officials of the Town of Rhinebeck located in Dutchess County, New York. The landfill is situated approximately 1.5 miles east of New York State Route 9N and approximately a quarter mile south along Stone Church Road.

Since a geomembrane cap was used to cover the landfill in 1997, the lawn has been mowed and maintained regularly. A passive venting system exists on the landfill to manage landfill gas emissions which must be considered before installing solar panels as they may obstruct construction. The New York State Department of Environmental Conservation (NYSDEC) conducts ongoing quarterly landfill inspections. According to the last inspection of the landfill conducted in November 2015, there are no issues concerning leachate. Additionally, measures taken by the Town to control the flow of nearby streams remain effective today, including drainage pipes that were installed in 2013 because of issues with a nearby beaver dam.<sup>1</sup>

*A checklist of additional information about the landfill provided by the Town of Rhinebeck can be found in Attachment #1.*

---

<sup>1</sup> <http://www.rhobserver.com/18756/drainage-issues-easing-at-rhinebecks-capped-landfill/>

### III. Solar PV System Overview:

**Major System Components** - A typical PV system is made up of several key components including:

- PV modules,
- Inverters and
- Balance-of-System components (including mounting racks, hardware for the panels, and wiring for electrical connections). Electrical connections (including wiring, disconnect switches, fuses, and breakers) are required to meet electrical code (e.g., NEC Article 690) for both safety and equipment protection.

In most traditional applications, wiring from the arrays to inverters (typically positioned off the landfill cap) and inverters to point of interconnection is generally run as direct burial through trenches or above ground using water/gas proof electrical conduits. For landfills, a solar PV array is connected to a mounting system that is anchored to a uniformly loaded concrete foundation or a ballasted system (see figure 1). It is recommended that PV system vendors reflect these costs in the requests for proposals when costing out the overall system.

*Additional information about solar PV systems can be reviewed in Attachment #4.*

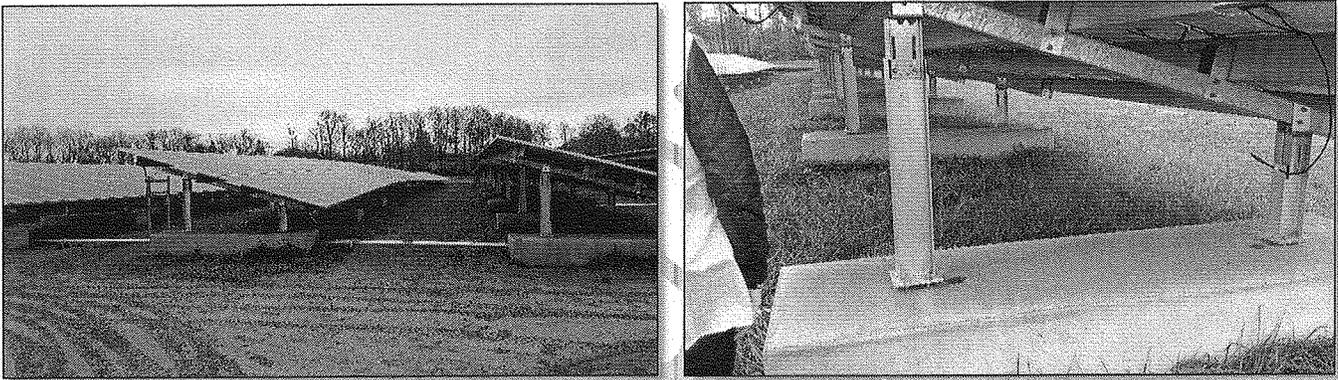


Figure 1. - Fixed Axis Solar PV Array on a ballasted concrete foundation

#### IV. Solar PV Siting Consideration/Assessment:

### Siting Considerations

On April 6, 2016, the U.S. Environmental Protection Agency, Region 2 (EPA) team, in cooperation with Town of Rhinebeck officials visited and screened the closed landfill for potential solar photovoltaic (PV) renewable energy generation. In general for closed landfills, a minimum of 2 usable acres is recommended to site PV systems. Usable acreage is typically characterized as "flat to gently sloping" southern exposures that are free from obstructions and get full sun for at least a 6-hour period each day. Other considerations for siting landfills for solar PV generation include:

Siting Concerns	Looking for:
Age of the properly closed/capped landfill	Minor settlement impacts based on the type of waste and age of the landfill. Landfill cap integrity must be maintained during construction and life of the solar PV array.
Site topography	Existing flat area and surface stability for the PV Array. Avoid slope/grade landfill areas > 10 degrees. Slope instability can give way and displace panels & impact solar performance.
Surface and vegetative conditions	Well maintained vegetative cover with minimum soil erosion concerns. Need to have existing storm water controls.
Shading/physical sunlight obstructions on the landfill	Open area with minimum shading from trees and existing on-site buildings in order to maximize sunlight on each solar panel.
Available access roads and close distance to highways/developed roads	Developed roads and easy access for material shipment and to support heavy construction vehicles entering the landfill.
Distance to available electrical transmission lines	Nearby utility lines to interconnect with the proposed solar PV system. Longer distance will have cost and efficiency impacts.
Landfill Gas	Inactive or passive gas wells with proper engineering controls. Integrating solar and landfill gas systems may require the use of gas-proof electrical conduits/fittings.
Nearby natural resources	Nearby wetlands or streams/water bodies. Be aware of any potential flooding concerns and existing endangered species inhabiting the landfill.
Town restrictions	Any specific local codes requirements/restrictions and future land reuse established by the municipality.

During the landfill visit, the EPA solar team screened for available flat and open landfill area free from sunlight obstruction and suitable to support solar panels. The EPA solar team also used a Solmetric SunEye<sup>2</sup> solar path calculator to assess shading at particular locations by analyzing the sky view where solar panels can be potentially located. By finding the solar access, the instrument can determine if the area is appropriate for solar energy generation.

*For information about the Solmetric SunEye and the SunEye annual solar access summary for the Rhinebeck landfill is available in Attachment #2*

<sup>2</sup> More information on this tool can be found at: <http://www.solmetric.com/>

## Usable Landfill Acreage

Figure 2 shows the terrain map for the Rhinebeck Landfill. In addition to revealing the specific slopes of the site, this map also displays both Federal and State flood history. The total estimated usable area for solar PV consideration at the Rhinebeck landfill is approximately 6.25 acres based on GIS and on-site assessment.

In general, the proposed usable solar PV area amounting to 6.25 acres (represented by the purple shaded area in Figure 3) consisted of flat and gently sloped well-maintained vegetative cover. Although the EPA team recommends an estimated 6.25 acres for the proposed solar PV usable area, this proposed acreage can be reassessed and adjusted by the municipality or potential third-party solar developers.

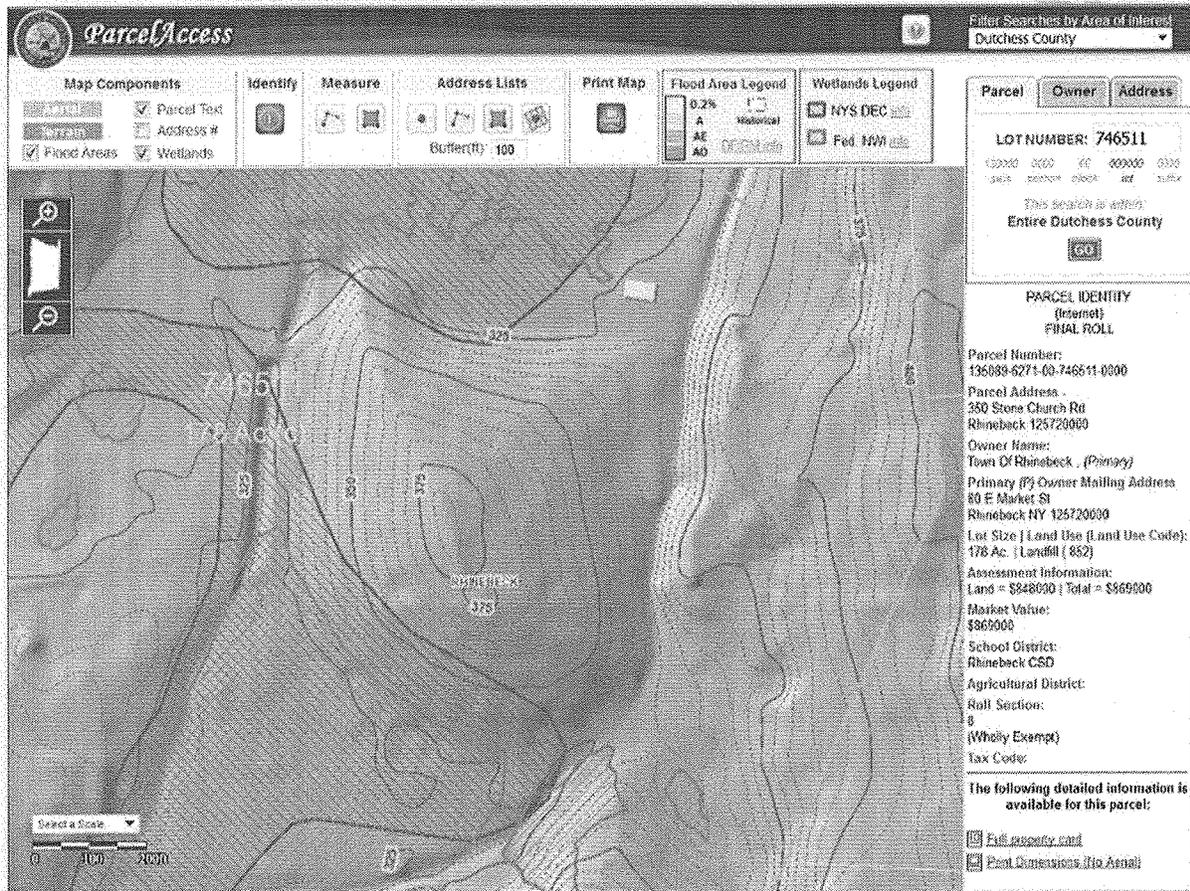


Figure 2. GIS map displaying terrain elevation and flood history (GIS provided by the Town of Rhinebeck)

Portions of the landfill with potential for flooding (blue highlighted area in Figure 2) and portions of the landfill considered too steep for efficient use of solar panels were excluded from the estimated usable solar PV area (perimeter beyond the purple shaded area in Figure 3).

Figure 3 shows the estimated potential area for the Rhinebeck Landfill. The sun icons represent the locations where SunEye data points were taken to measure solar potential. More information about SunEye data can be found in Attachment #2.



Figure 3. Aerial view of the feasible area for PV on the Rhinebeck landfill (taken with Google Earth Pro)

The following photos of the Rhinebeck Landfill were collected during the site visit and illustrates the general potential usable PV solar areas.

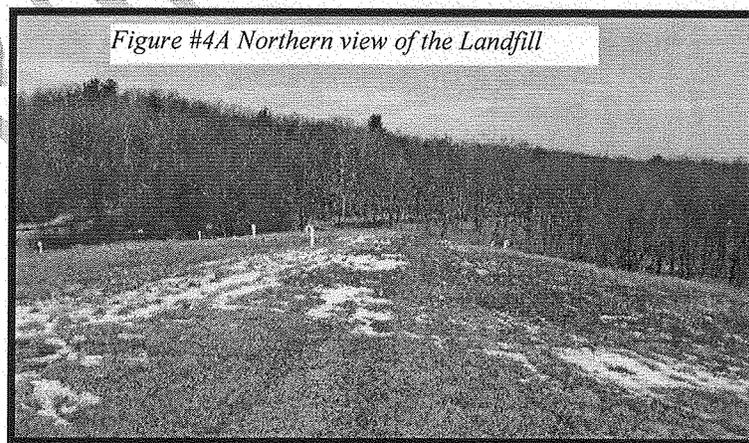


Figure #4E: East view from the southern portion of the landfill

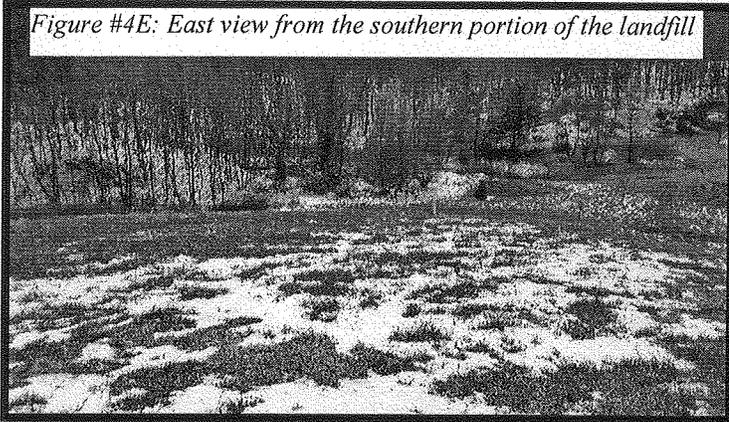


Figure #4F: Southern portion of the landfill looking north

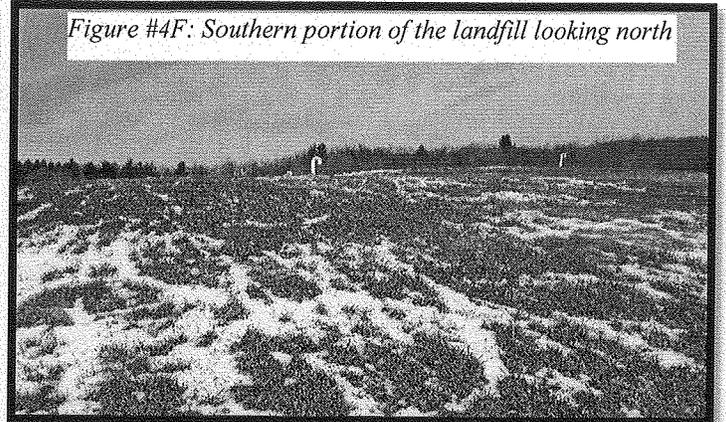


Figure #4D: Southern view looking northeast

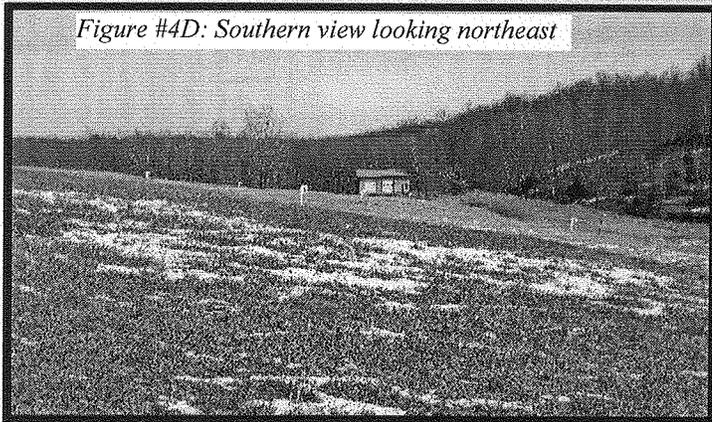


Figure #4C: View of the Southwest portion of landfill

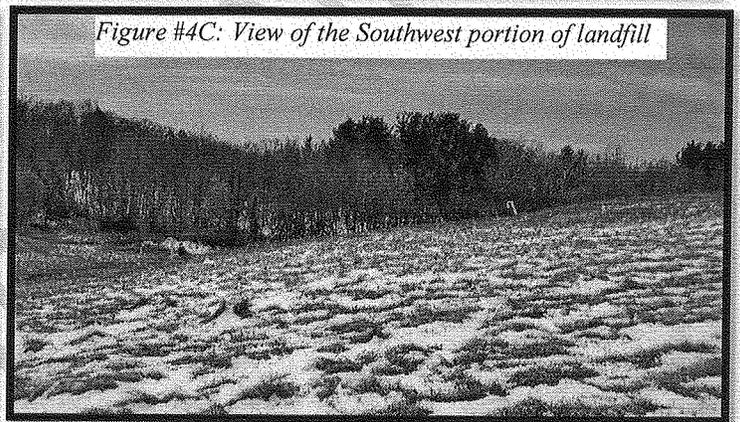
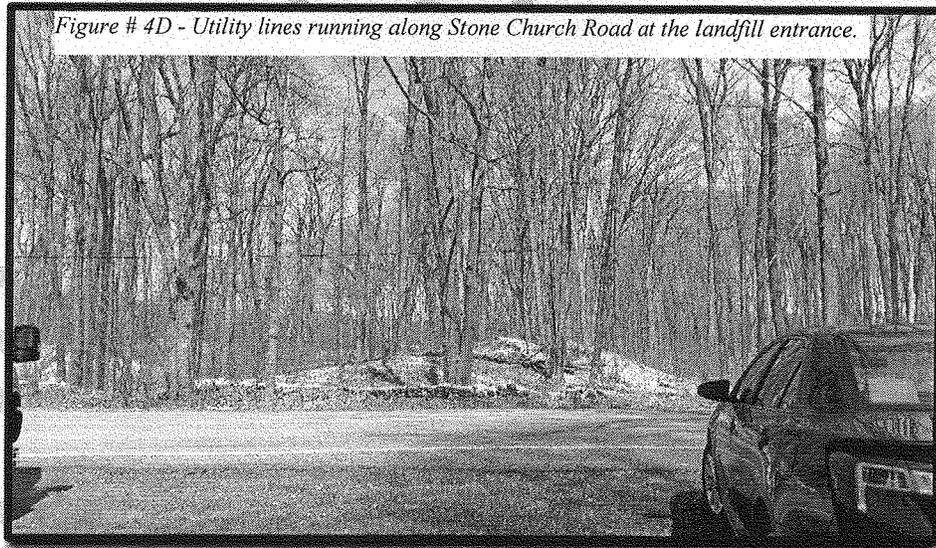


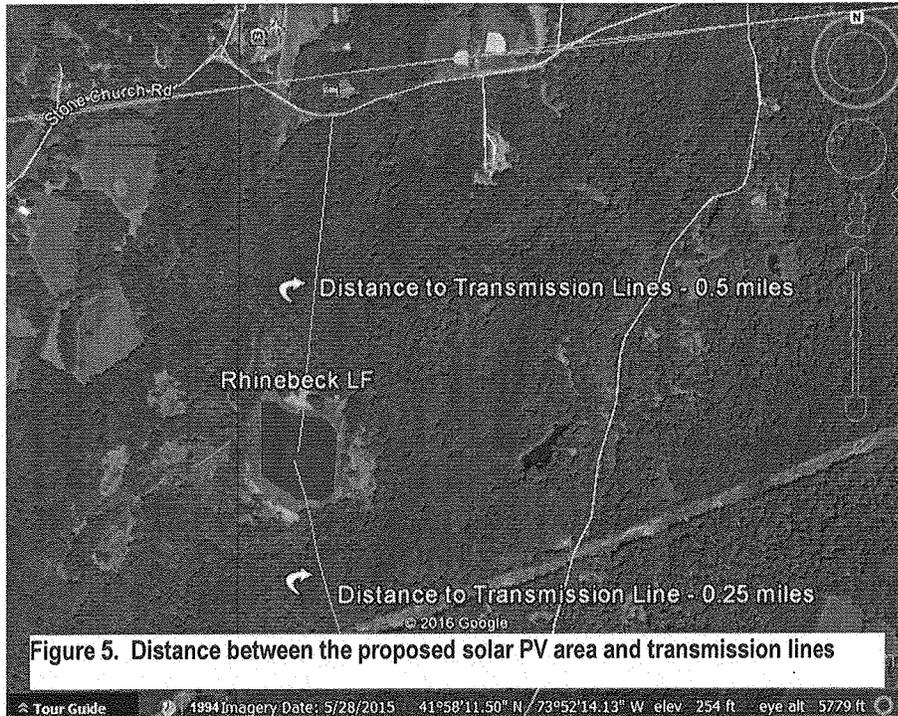
Figure # 4D - Utility lines running along Stone Church Road at the landfill entrance.



## Transmission/Utility Resources

Transmission lines run in close proximity, parallel to the landfill, both northeast and southwest of the landfill. The electrical transmission lines are located approximately 0.50 miles from the proposed solar PV areas running along Stone Church Road (north) which is visible at the landfill entrance. In general, the distance from the proposed solar PV system to the point of interconnection with electrical transmission should be within a half mile distance in order to yield more viable economic conditions

It is highly recommended that the Town of Rhinebeck consult with the electric distribution company (EDC) serving the area to discuss the potential for a solar project. In general, a preliminary interconnection transmission study from the local EDC is highly recommended early in the process if the Rhinebeck Town officials decide to pursue PV solar generation on the landfill. The EDC that serves the Town of Rhinebeck is Central Hudson Gas & Electric.<sup>3</sup>



The interconnection study will help Central Hudson Gas & Electric to determine the feasibility of interconnecting to the electrical grid, assess if potential electrical upgrades are needed, and estimate the interconnection costs. All technical pertinent information about the proposed solar PV system should be provided to Central Hudson Gas & Electric in accordance with the application requirements. Figure 5 shows the distance from the Rhinebeck Landfill to transmission lines. High power transmission lines are approximately .25 miles south of the landfill.

While the interconnection of the landfill to the local transmission line seems favorable, the transmission line available capacity to accommodate the solar power generated from the landfill will need to be assessed by Central Hudson Gas & Electric. Coordination with Central Hudson Gas & Electric is required to ensure that installations of distributed generation systems are properly designed to safely operate in parallel to the utility system, and to provide for net metering if applicable. In New York State, net metering is allowed for non-residential solar PV generation systems less than 2 MWs in size. For more information about net metering, go to section VII of the study or <http://www.centralhudson.com/dg/netmetering.aspx>.

#### Potential Off-Takers of the generated Solar PV from the Rhinebeck Landfill:

As part of the PV siting consideration, potential solar PV off-takers were also identified. The Rhinebeck Waste Water Plant and the Rhinebeck Water Department are approximately 4.1 miles from the landfill while the Town and Village Hall are approximately 4 miles south west from the landfill. Electrical consumption among these town facilities can be offset by the proposed solar power generated at this landfill. However, the actual electrical power consumption for these town facilities are unknown.

<sup>3</sup> Central Hudson Gas and Electric, <http://www.cenhud.com/dg/>  
Email - [distributedgeneration@cenhud.com](mailto:distributedgeneration@cenhud.com) or call (845) 486-5215.

## V. PVWatts System Sizing and Performance Results

### PVWatts Analysis

PVWatts<sup>4</sup> calculator is an online tool developed by the Department of Energy - National Renewable Energy Laboratory (DOE-NREL) to estimate the electricity production of a grid-connected ground- or roof-mounted photovoltaic system. It requires only a few inputs including the location of the system, system size, and basic design parameters such as if it will be a fixed tilt or a single-axis tracking PV system. The design parameters have default values or users can adjust them according to their needs.

The DC system size required in PVWatts is determined with an acre-to-power conversion factor. Based on research done by NREL of ground mounted solar PV systems, a value of 5.74 acre/MW factor was used for a fixed-tilt system. For the Town of Rhinebeck, this study recommends usable solar PV on an estimated 6.25 acres of the landfill area for a system size of 1.09 MW DC.

The landfill location is used to connect to NREL's Typical Meteorological Year (TMY) data which is the closest weather data source. NREL has compiled TMY data for thousands of locations throughout the United States. This data includes the solar irradiance, which is a measurement of solar radiation on the surface of the earth and is measured by the power (Watts) per unit area ( $m^2$ ),  $W/m^2$ . The solar radiation values represent the resource available to a flat plate collector, such as a photovoltaic panel, oriented due south at an angle from horizontal to equal to the latitude of the collector location. Solar radiation, or insolation (irradiance multiplied by time), is measured in units of Watt hours per unit area during a specific time interval. Solar radiation above 3.5 kWh/ $m^2$ /day, is considered favorable when considering PV siting locations.

For the Rhinebeck landfill, the TMY data is taken from Poughkeepsie, New York (23 miles from the landfill location) and the solar radiation level was measured at **3.92 kWh/ $m^2$ /day**. The weather station identification information, PV system specifications, energy specifications, and performance results for the Rhinebeck landfill are provided in Table 1 and Table 2.

*The monthly performance results for the proposed solar PV systems at the Rhinebeck Landfill as calculated by PVWatts can be found in Attachment #3.*

**Table 1 – PV Watts Site Identification Information for the Rhinebeck Landfill**

Weather and PV System Technical Specifications	
<b>Weather Data Source:</b>	<b>Poughkeepsie, Dutchess County, New York</b>
<b>State:</b>	<b>New York</b>
<b>Latitude:</b>	<b>41.63° N</b>
<b>Longitude:</b>	<b>73.88° W</b>
<b>Array Type:</b>	<b>Fixed-Tilt</b>
<b>Solar Radiation Levels:</b>	<b>3.92 kWh/<math>m^2</math>/day</b>
<b>System Losses*:</b>	<b>14%</b>
<b>Array Tilt:</b>	<b>20°</b>
<b>Array Azimuth:</b>	<b>180° South</b>

\*Systems Losses is another input parameter for the PV Watts calculator. It is also referred to as the DC to AC Derate Factor and is calculated from all of the losses that the system experiences when converting DC power to grid-ready AC

<sup>4</sup> <http://www.nrel.gov/rredc/pvwatts/> PVWatts®

power. These include accuracy for PV module nameplate DC rating, conversion efficiency of the inverter and transformer, mismatch, diodes and connections (voltage drops), DC and AC wiring (resistive losses), soiling, system availability, shading, sun-tracking and age.

**Table 2. PV System Yearly Performance Results for the Rhinebeck Landfill**

Rhinebeck Landfill Usable LF Area (ACRES)	Fixed-Tilt PV System			
	DC System Size*	AC Energy Based on PVWATTS**	GHG Reduction*** (metric tons CO2e)	GHG Emissions Equivalent to # of Vehicles Driven Yearly
6.25 acres	1.09 MW	1,249,930 kWh/yr	879 MTCO2e	186 Cars

\*EPA's Greenhouse Gas (GHG) Equivalencies Calculator (<http://www2.epa.gov/energy/greenhouse-gas-equivalencies-calculator>) was used to determine the GHG reductions based on the proposed AC energy.

**Cautions for Interpreting Results – Weather Variability**

Monthly and yearly energy production is modeled using photovoltaic system selected parameters and weather data that is typical or representative of long-term averages. Because weather patterns vary from year to year, the values in Table 2 are better indicators of long-term performance than of performance for a specific month or year. Photovoltaic system performance is largely proportional to the amount of solar radiation received, which may vary from the long-term average by ±30% for monthly values and ±10% for annual values.

**VI. Forecasted Economics**

In general, the forecasted economics for the solar PV system will factor in the needed PV arrays/tilt and orientation and balance of system (BOS) components including the inverter and electrical supply/equipment costs, as well as installation cost. Other cost factors for a PV system will depend on the system size, geographic location, mounting structure, type of PV module, and other soft costs (permit fees, installation/interconnection labor costs, sales tax, installer/developer profit, customer acquisitions costs, and transaction costs). For more information about understanding and managing solar soft costs go to <http://energy.gov/eere/sunshot/soft-costs>.

Based on NREL's Solar PV price and cost breakdown study<sup>5</sup>, significant cost reductions in 2015 shows the average cost for utility-scale ground-mounted systems (includes the engineering, procurement, and construction (EPC) system hardware, other EPC direct/indirect costs, and developer costs) declined from \$3.76/W in the fourth quarter of 2010 to \$1.77/W in the first quarter of 2015. However, this price is for systems 100 MW in size, much larger than the system that is being proposed for the Rhinebeck landfill. Therefore, a median price of \$1.96/W was used for a preliminary economic analysis. This was obtained as the median between \$1.77/W and \$2.15/W, a typical cost for a system 0.2 MW in size. For a landfill site, it is

<sup>5</sup> <http://www.nrel.gov/docs/fy15osti/64746.pdf> U.S. Photovoltaic Prices and Cost Breakdowns: Q1 2015 Benchmarks for Residential, Commercial, and Utility Scale Systems

necessary to use a ballasted system in order to ensure the integrity of the landfill cap. This increases the cost by approximately 25%, bringing the price used in this analysis to \$2.45/W.

With an increasing demand and supply, potential cost reductions may be expected as market conditions continue to evolve. It should be emphasized that this is a very rudimentary estimation of the economics involved for this proposed area and a more detailed analysis will be necessary moving forward. The projected estimated cost only factors the estimated initial installation costs and does not reflect the true cost of the system since available NYS incentives that may lower the costs are not included and the associated soft costs to develop the solar PV can vary for this project. Additional steps may be necessary in order to install PV panels at these sites, such as site preparation and the interconnection requirements, which can drive the overall cost.

Table 3 provides the initial system costs for a fixed tilt PV system based on the above stated pricing assumptions. The project is expected to have an optimal 25 year lifespan, although the system can be reasonably expected to continue operation past this point.

**Table 3. PVWatts Initial Economic Considerations**

Fixed-Tilt PV System	
Initial installation system cost	\$2.45 /Wdc
Rhinebeck Landfill PV System Size (6.25 acres)*	1.09 MW
Projected Estimated System Cost	\$2,670,500
Average regional cost of electricity** (combined sectors as of February 2016)	13.63 ¢/kWh

\*Assumes 6.25 acres of solar PV usable area for the Rhinebeck landfill and an area-to-power conversion of 5.74 Acres/MW based on historical data provided by NREL.

\*\*Average regional combined cost of electricity for the State of NY found through the US Energy Information Administration (USEIA) as of February 2016. [http://www.eia.gov/electricity/monthly/epm\\_table\\_grapher.cfm?t=epmt\\_5\\_6\\_a](http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_6_a)

## VII. Benefits:

In general, due to the presence of suspected or known contaminants, landfills have limited redevelopment potential and solar PV installations can be a viable reuse. Many municipal solid waste (MSW) landfills are particularly well-suited for solar development because they are often:

- Located near critical infrastructure including electric transmission lines and roads;
- Located near areas with high energy demand (e.g., large population bases);
- Constructed in areas of low grade (0-10%) needed for siting of solar PV structures;
- Offered at lower land costs when compared to open space;
- May be adequately zoned for renewable energy;
- May have environmental conditions that are not well-suited for commercial or residential redevelopment;
- Can provide job opportunities in urban and rural communities;
- Are able to accommodate net metered or utility scale projects; and
- May reduce the environmental impacts of energy systems (e.g., reduce greenhouse gas emissions).

The **New York State Energy Research and Development Authority (NYSERDA)** promotes energy efficiency and the use of renewable energy sources in New York. According to NYSERDA, solar PV generation offers the following key benefits:

- PV systems are gentle on the environment, in contrast with electricity generated by fossil fuels;
- PV-generated electricity creates no noise, air, or water pollution;
- PV systems provide long-term stabilization of electrical costs;
- When combined with a battery backup system, a PV unit can provide power when utility power is not available;

In addition, this study outlines various financial incentives (Section VI – Incentives) that could assist in financing the implementation of a solar PV system including incentives offered by NYSERDA.<sup>6</sup> To learn about programs and funding opportunities available through NYSERDA from the NY-Sun Initiative, contact Maureen Leddy, Associate Project Manager, NYSERDA via email at [maureen.leddy@nyserdera.ny.gov](mailto:maureen.leddy@nyserdera.ny.gov) or go to <http://www.ny-sun.ny.gov/>.

#### **Net Metering/Remote Net Metering:**

In New York State, another benefit to implementing a renewable energy system is **net metering/remote net metering**. Net metering/remote net metering is allowed for non-residential solar PV generation systems less than 2 MWs in size. In a conventional net metering situation, a **customer-sited renewable energy system** is connected to the utility grid through a customer's utility meter. This is known as "behind-the-meter generation." At any given moment, if the site is using more electricity than the system is producing, all the electricity produced by the system is used on-site and the site's electricity needs are supplemented from the grid. If the site is using less electricity than the system is producing, the excess electricity is exported to the grid and the customer receives a credit. This is typically recorded as negative use and is commonly referred to as the "meter spinning backwards." At the end of the billing cycle, the grid-supplied electricity and the credits for any exported electricity are reconciled, and any surplus credits can be carried forward to the next billing cycle. The specifics of net metering are dependent on the customer's service classification. Customers who are eligible for remote net metering may apply those credits to electric bills from facilities that are not located at the same physical location as the PV system. Additional information about net/remote net metering can be found at: <http://www.nyserdera.ny.gov/Energy-Efficiency-and-Renewable-Programs/Renewables/Net-Metering-Interconnection.aspx>

It should be noted that the New York State Public Service Commission (PSC) ordered (effective December 15, 2014) changes to net metering minimum caps, tariff revisions, and other related items and findings for further consideration. The PSC order can be found at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={460384B1-A9DE-4306-B3D2-6B9211FB9056}>. It is highly recommended that the Town of Rhinebeck consult with Central Hudson Gas & Electric to discuss net metering opportunities.

#### **Power Purchase Agreements:**

A number of municipalities that own or operate landfills have expressed interest in potential revenue flow from solar PV systems. In some cases, revenue can be generated by the use of PV on a landfill site pending actual site conditions, financial incentives, economic conditions, and support from the utility companies. While the findings of this report do not recommend how a solar array at a landfill will be financed, if the municipality decides that they do not want to invest their own funds to build the solar site,

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<sup>6</sup> <http://www.nyserdera.ny.gov/>

they can consider entering into a Power Purchase Agreement (PPA) with a solar developer who would assume the cost of development. To learn more about PPA structures, please go to the following PPA checklist for state and local governments link: <http://www.nrel.gov/docs/fy10osti/46668.pdf> or the Interstate Renewable Energy Council PPA toolkit for local governments: <http://www.irecusa.org/solar-power-purchase-agreements-a-toolkit-for-local-governments/>

### Incentives

The economics of a PV system will also depend on NYS financial incentives, available federal tax credit, the regional cost of electricity, the solar resource, solar panel tilt and orientation, site conditions, distance to the electrical interconnection, and other critical requirements highlighted in this report. Table 4 provides several possible financial incentives that can be considered by the Town of Rhinebeck officials to assist with financing the proposed solar PV systems.

**Table 4. Summary of Applicable Incentives**

<b>Federal and State Investment Tax Credit*</b>	As of December 2015, System owners may continue to qualify up to 30% Federal Investment Tax Credit which is expected to step down to 26 percent in 2020 and 22 percent in 2021. After 2023, the residential credit will drop to zero while the commercial and utility credit will drop to a permanent 10 percent. Always consult with your qualified tax professional or accountant to determine your eligibility for tax credits.
<b>Modified Accelerated Cost Recovery System (MACRS)</b>	MACRS depreciation is also considered another important financial incentive. The MACRS is a method of depreciation in which a business' investments in certain tangible property are recovered, for tax purposes, over a specified time period through annual deductions. Qualifying solar energy equipment is eligible for a cost recovery period of five years. More information about MARCS is available at: <a href="http://www.seia.org/policy/finance-tax/depreciation-solar-energy-property-macrs">http://www.seia.org/policy/finance-tax/depreciation-solar-energy-property-macrs</a> .
<b>NY-Sun Solar Electric Incentive Program</b>	NYSERDA provides cash incentives for the installation by Eligible Installers/Contractors of new grid-connected Electric Photovoltaic (PV) systems that are 200 kW or less for non-residential sites. (Revised 4/2016) More information is available at: <a href="http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-2112-Solar-PV-Program-Financial-Incentives">http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-2112-Solar-PV-Program-Financial-Incentives</a>
<b>NY-Sun Initiative for PV Systems Greater than 200 kW</b>	Incentives for solar PV installations are available on a rolling application first-come, first-served basis for eligible projects. More information is available at: <a href="http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-3082-NY-Sun-Commercial-Industrial-Incentive-Program">http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-3082-NY-Sun-Commercial-Industrial-Incentive-Program</a> .
<b>Community Solar NY Round 2</b>	NYSERDA provides marketing materials and technical assistance as well as funding for campaign expenses for local governments, school districts, and other community partners who qualify to participate in Community Solar NY, a new effort to make solar easier and more affordable through community-driven initiatives. More information about the short term support from NYSEDA go to: <a href="http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-3011-Community-Solar-NY-Round-2">http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-3011-Community-Solar-NY-Round-2</a>
<b>Clean Energy Financing Arrangements</b>	The New York Green Bank invites private sector capital providers and other clean energy industry participants to propose partnership arrangements with the Green Bank that would facilitate the financing of clean energy projects (including energy generation and energy savings projects) in the State of New York. More information is available at: <a href="http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/RFP-1-Clean-Energy-Financing-Arrangements">http://www.nyserda.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/RFP-1-Clean-Energy-Financing-Arrangements</a>
<b>Other Incentives</b>	For other applicable incentives, go to the following website: <a href="http://www.dsireusa.org/incentives/index.cfm?state=NY">http://www.dsireusa.org/incentives/index.cfm?state=NY</a>

## VIII. RE-Powering America's Land

Through the RE-Powering America's Land Initiative, the U.S. EPA promotes the reuse of potentially contaminated properties, landfills, and mining sites for renewable energy generation. This initiative identifies the renewable energy potential of these sites and provides useful resources for communities, developers, industry, state and local governments or anyone interested in reusing these sites for renewable energy development. Various RE-Powering America Initiative resources are summarized below and can be found at <http://www.epa.gov/oswercpa>.

- **Mapping and Screening Tools** - Under Mapping and Screening tools, EPA's RE-Powering America's Land team screened more than 80,000 potentially contaminated sites and MSW landfills covering nearly 43 million acres across the United States for suitability to site renewable energy generation facilities, including utility-scale solar. Maps depicting the locations of these EPA tracked sites and their potential for supporting renewable energy generation can be found at [www.epa.gov/oswercpa/mapping\\_tool.htm](http://www.epa.gov/oswercpa/mapping_tool.htm). These maps enable users to view screening results for various renewable energy technologies at each site.
- **Technical Assistance and Support** - As part of the RE-Powering America's Land Initiative, the EPA and the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) are evaluating the feasibility of developing renewable energy production on Superfund, brownfields, and former landfills or mining sites. This project pairs EPA's expertise on contaminated sites with the renewable energy expertise of NREL. A list of feasibility studies for renewable energy production for various technologies including solar and can be found at [www.epa.gov/oswercpa/rd\\_tech\\_assist.htm](http://www.epa.gov/oswercpa/rd_tech_assist.htm).
- **Redevelopment Tools and Resources** - Under Redevelopment Tools and Resources, EPA and NREL created the joint publication, "**Best Practices for Siting Solar PV on Municipal Solid Waste Landfills**" to provide assistance in addressing common technical challenges of siting PV on MSW landfills (such as impacts to landfill settlement differentials and the PV solar performance, impacts to other landfill systems, understanding landfill cap integrity/characteristics, and understanding landfill post-closure requirements for solar PV design considerations) and provide other useful information for solar developers, landfill owners, and federal, state, and local government entities. Other documents for stakeholders to consider are "**RE-Powering Finance Fact Sheet**", "**Handbook on Siting Renewable Energy Projects while Addressing Environmental Issues**", and "**Revised Bona Fide Prospective Purchaser (BFPP) Provisions Enforcement Guidance for Tenants.**"
- **Fact Sheets and Success Stories** - The RE-Powering team highlights numerous successful stories and fact sheets of renewable energy projects implemented throughout the United States. The RE-Powering America team also maintains a list of completed renewable energy installations on contaminated sites and landfills. To date, the RE-Powering Initiative has identified 135 renewable energy installations on 180 contaminated lands, landfills, and mine sites, with a cumulative installed capacity over 1124 megawatts (MW) and consistent growth in total installations since the inception of the RE-Powering Initiative.

## IX. Conclusions

Overall, the Rhinebeck Landfill appears to have favorable site conditions to support solar PV generation and economic viable reuse. The majority of the landfill has gentle slopes around the perimeter of the site and offers adequate flat vegetative areas which makes it an ideal site to install solar panels. Shading obstructions are

almost nonexistent on the Rhinebeck landfill, including the area along the southern portion (trees). Additionally, storm water mitigation measures are in place which will reduce the risks of panels being displaced or damaged. Transmission lines are conveniently placed near the landfill, offering potential interconnection with the local utility. In general, the proposed location appears to offer adequate usable area for the installation of solar photovoltaic panels. Based on EPA's screening and assessment of the existing physical landfill conditions, EPA supports the potential of solar PV generation at the Town of Rhinebeck landfill.

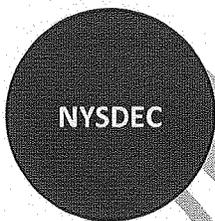
Benefits from solar generation on the landfill could include competitively priced electricity from the project, revenues via land lease payments from a solar developer, potentially reduced landfill operation and maintenance responsibilities and costs, job creation and stimulation of the local economy during solar construction, and reduction in greenhouse gas emissions from current power sources. Thus, using obtainable and accessible land that is unavailable for redevelopment allows for repurpose of land that would not otherwise be productive.

While this solar screening study provides the PV system sizes based on proposed usable area, the actual system installation will need to factor the availability of funds and the amount of power that can be sold. As indicated earlier, a third-party developer power purchase agreement (PPA) is another feasible way for a system to be financed for these sites. In exchange for access to a site through a lease arrangement, third-party solar developers can finance, develop, own, and operate the solar projects utilizing their own expertise and sources of financing. These private enterprises are also able to take advantage of the federal tax benefits that cannot be captured by municipalities (or other entities that do not pay corporate income taxes), which should lower the total system cost. Once the system is installed, the third-party solar developer can sell the electricity to the site host (local town facilities) or local utility via a PPA – which will sell the electricity at negotiated rate for a fixed period of time for a term typically varying from 20-25 years.

## X. Next Steps

Early and proper planning with other key stakeholders is critical to the success of a solar PV system. The following stakeholders should be consulted in the early stages of a solar PV project:

### New York State Department of Environmental Conservation (NYSDEC):



The Town of Rhinebeck must coordinate early with the **NYSDEC**. To initiate this process, contact James Lansing, Region 3 Materials Management Engineer at (845) 256-3123 or via email at [james.lansing@dec.ny.gov](mailto:james.lansing@dec.ny.gov). NYSDEC's review and approval of the proposed solar PV work is necessary in order to ensure that the integrity and protective measures put in place for the existing landfill cap are maintained throughout the life of the project.

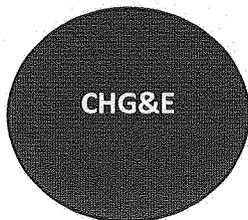
To that end, it will be necessary to provide all related information to NYSDEC for the proposed solar PV system including:

- Location of the landfill and the PV system size,
- Estimated usable area on the landfill for the solar PV installation,
- The mounting foundation type placed on the landfill,
- The landfill cap's ability to withstand both the construction and long-term operation loads of the PV system,
- Impacts to the landfill cap integrity,
- Proper set back from the gas vents and no impacts to the gas venting,
- Potential storm water management issues, and
- Any additional information requested by NYSDEC.

In general, NYSDEC regional representatives' names and contact information can be found at

<http://www.dec.ny.gov/chemical/76718.html>. For general questions associated with solar development at New York landfills, contact Gus Carayiannis, Chief, Bureau of Permitting and Planning at (518) 402-8678 or via email at [gus.carayiannis@dec.ny.gov](mailto:gus.carayiannis@dec.ny.gov).

**Coordination with the Local Utility Provider:**



Central Hudson Gas & Electric should be consulted early in the planning stages so that the municipality can be alerted to any potential transmission interconnection issues that might exist or equipment upgrades needed to facilitate the solar project. The Town of Rhinebeck officials may request a transmission interconnection study from Central Hudson Gas & Electric. As indicated earlier, all technical pertinent information about the proposed solar PV system should be provided to Central Hudson Gas & Electric in accordance with their application requirements.

**Coordination with the NYSERDA, NY SUN - PV Training Network (PVTN):**



In addition to the solar PV financial incentives from NYSERDA, the NY-Sun PV Trainer Network can offer education, training, and technical assistance for municipalities interested in identifying and developing solar electric markets while mitigating barriers. The NYSERDA PVTN can also provide help and training to municipalities with the solar procurement process, streamlining the solar permit process, and one on one technical assistance.

For more information and training offered by the NYSERDA PVTN, go to <https://training.ny-sun.ny.gov> or contact Vickie Colello at [vicki.collelo@nyserda.ny.gov](mailto:vicki.collelo@nyserda.ny.gov) or call (518) 862-1090.

NY-Sun PVTN offers additional resources at <https://training.ny-sun.ny.gov/resources>. Of particular interest to municipalities, is the "Solar Procurement Guidelines for Local Governments in New York State".

**As a reminder, this report is to be used for screening purposes only.**

**Additional evaluations will need to be conducted to fully characterize the feasibility and economics of the Rhinebeck landfill for PV installation. Third party solar developers and local utility companies may have technical and financial interests in pursuing potential solar renewable energy projects and should perform additional solar assessments to determine if projects are economically viable.**

**This study does not assess the environmental conditions at the site.**

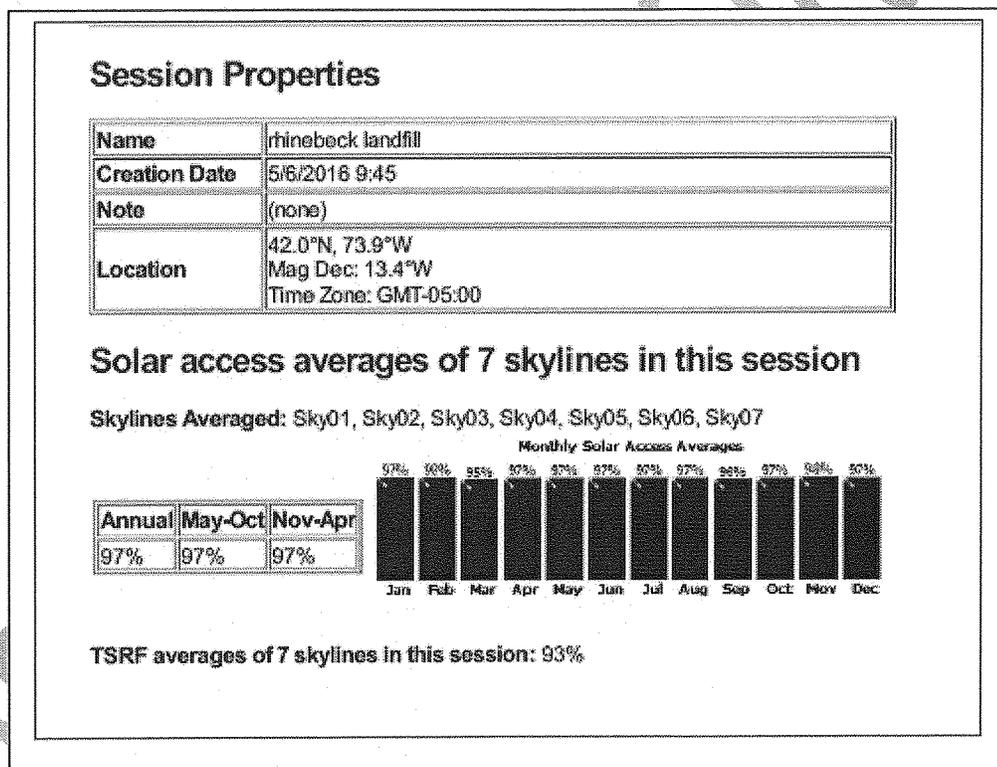
## Attachment #1 – Rhinebeck Landfill Information

Landfill General and Closure Information	
Landfill/site name	Rhinebeck landfill
Landfill physical address	350 Stone Church Rd. Rhinebeck, NY
Landfill site operator/owner	Town of Rhinebeck
County official contact	Elizabeth Spinzia, Town Supervisor – (845)-876-3409, town.supervisor@rhinebeck-ny.gov
Landfill closure date	1997
Annual post-closure monitoring/maintenance report	<a href="http://ecode360.com/documents/RH0960/public/186067072.pdf">http://ecode360.com/documents/RH0960/public/186067072.pdf</a> 2014
Final landfill closure plan	NA
Landfill Physical Characteristics	
Landfill size	8.5 acres
Landfill cap type	Geomembrane Cap and vegetative – regularly mowed
Potential usable landfill area for solar PV	6.25
Landfill orientation	
Physical conditions	Well maintained vegetative area. Flat area, gently sloped in the outer perimeter. Open to the sunlight along the northern and southern section of the landfill.
Landfill shading concerns	None. Minor tree shading along southern section of the landfill.
Landfill settlement/floodplains/wetlands concerns	Measures to control stream flow in place
Existing landfill treatment systems	Annual post closure monitoring
Landfill contour maps or other site maps	Attached.
Utility Information	
Utility company serving the area	Central Hudson Gas & Electric - Linda M. Harrison, Manager - Customer Account Services Phone : 845-486-5623
Nearby major highways	NYS Route 9N 1.5-2 miles away
Distance to electrical transmission lines	.50 miles from the Stone Church Road.
Location of substations	NA
Landfill electrical load/classification	Attached
Other	
Ongoing remediation at the site	NA
Private parties associated with the landfill	No.
Existing site liens/bankruptcy status	NA
Previous solar or interconnection studies	NA
Nearest critical infrastructure from landfill	Northern Dutchess Hospital – 4.5 miles, Town and Village Hall – 5.5 miles, Village Wastewater Plant – 5 miles
Potential off-takers of solar power generated	TBD
Community/municipality support	Not at this time
Can the load bearing capacity of the landfill accommodate loading from a solar system?	NA
Potentially responsible parties (PRPs)	NA
Estimated PV solar energy generation based on potential usable landfill area (6.25)	Fixed-tilt PV system – 1.09 MW (based on 5.74 acres/MW area-to-power conversion factor)

## Attachment #2 – SunEye Solar Measurements

The EPA solar assessment team used a Solmetric SunEye<sup>7</sup> solar path calculator to assess shading at particular locations by analyzing the sky view where solar panels will be located. By finding the solar access, the instrument can determine if the area is appropriate for solar panels. PV modules are very sensitive to shading. When shaded (either partially or fully), the panel is unable to optimally collect the high-energy beam radiation from the sun. PV modules are made up of many individual cells that all produce a small amount of current and voltage. These individual cells are connected in series to produce a larger current. If an individual cell is shaded, it acts as resistance to the whole series circuit, impeding current flow and dissipating power rather than producing it. By finding the solar access, it can be determined if the area is appropriate for solar power generation.

The assessment team collected seven Solmetric SunEye data points (skyline views) at across the entire perimeter of the landfill in sections with adequate flat area as shown is Figure #3. Overall, solar access yields averaged 97% annual solar exposure, which is within the favorable annual solar access range for PV systems.



The Total Solar Resource Fraction (TSRF) is the ratio of insolation available accounting for both shading and Tilt and Orientation Factor (TOF), compared to the total insolation available at a given location at the optimum tilt and orientation and with no shading. TRSF is also expressed in percent. The TOF is the solar insolation at the actual tilt and orientation divided by the insolation at the optimum tilt and orientation, expressed in percent.

<sup>7</sup> More information on this tool can be found at: <http://www.solmetric.com/>

**Attachment #3 – Monthly Performance Results for the Rhinebeck Landfill**

Performance Results 1,090 kW Fixed-Tilt PV System		
Month	Solar Radiation* (kWh/m <sup>2</sup> /day)	AC Energy (kWh)
January	3.02	87,497
February	2.71	71,842
March	4.73	131,402
April	4.14	108,710
May	5.45	143,939
June	5.28	131,894
July	5.20	134,674
August	4.53	116,272
September	3.74	95,828
October	3.15	85,579
November	2.85	76,613
December	2.28	65,679
<b>Total</b>	<b>3.92*</b> Monthly Average	<b>1,249,929**</b> Annual

\*Solar Radiation values above 3.5 kWh/m<sup>2</sup>/day are considered favorable when considering PV siting locations.

\*\*The solar photovoltaic performance degradation, a reduction in power generation due to long-term exposure, is under 1% per year. Silicon modules have a lifespan range of 25–30 years but can keep producing energy beyond this range. For information about, a reduction in power generation due to long-term exposure, go to <http://www.nrel.gov/docs/fy12osti/51664.pdf>.

## Attachment #4 – PV Systems Overview

### Major System Components

A typical PV system is made up of several key components including:

- PV modules,
- inverters and
- balance-of-system components (including mounting racks, hardware for the panels, and wiring for electrical connections). Electrical connections (including wiring, disconnect switches, fuses, and breakers) are required to meet electrical code (e.g., NEC Article 690) for both safety and equipment protection.

In most traditional applications, wiring from the arrays to inverters and inverters to point of interconnection is generally run as direct burial through trenches. It is recommended that PV system vendors reflect these costs in the requests for proposals when costing out the overall system.

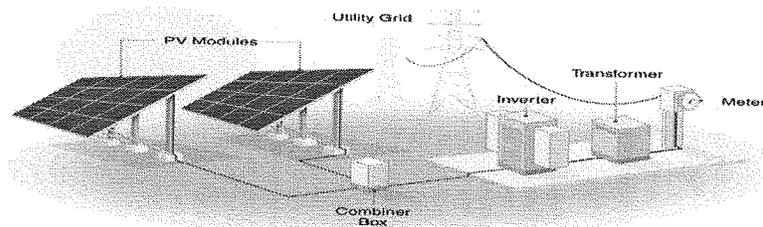


Figure 6. Ground mount array (source: NREL)

Solar PV cells are the electricity-generating component of a solar energy system. When sunlight (photons) strikes a PV cell, an electric current is produced by stimulating electrons (negative charges) in a layer in the cell designed to give up electrons easily. The existing electric field in the solar cell pulls these electrons to another layer. By connecting the cell to an external load, this current (movement of charges) can then be used to power the load, e.g., light bulb.

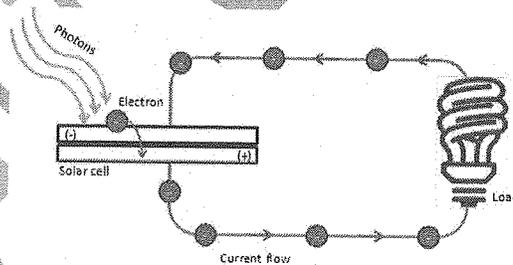


Figure 7. Generation of electricity from a PV cell (source: EPA)

PV cells are assembled into a PV panel or module. PV modules are then connected to create an array. The modules are connected in series and then in parallel as needed to reach the specific voltage and current requirements for the array. The direct current (DC) electricity generated by the array is then converted by an inverter to usable alternating current (AC) that can be consumed by adjoining buildings and facilities or exported to the electricity grid. PV system size varies from small residential (2-10 kilowatts (kW)), commercial (100-500 kW), to large utility scale (10+ megawatts (MW)). Central distribution plants are also currently being built in the 100 MW+ scale. Electricity from utility-scale systems is commonly sold back to the electricity grid.

The solar array has to be secured and oriented optimally to maximize system output. The structure holding the modules is referred to as the mounting system. The mounting systems can be ground mounted utilizing a ballast system on top of a landfill cap where there are commonly large unshaded areas. For ground mount systems, the mounting system can be either directly anchored into the ground (via driven piers or concrete footers) or ballasted on the surface without ground penetration. Mounting systems must withstand local wind loads, which range from 90–120 mph range for most areas or 130 mph or more for areas with hurricane potential. Depending on the region, snow and ice loads must also be a design consideration for the mounting system.

## PV Module

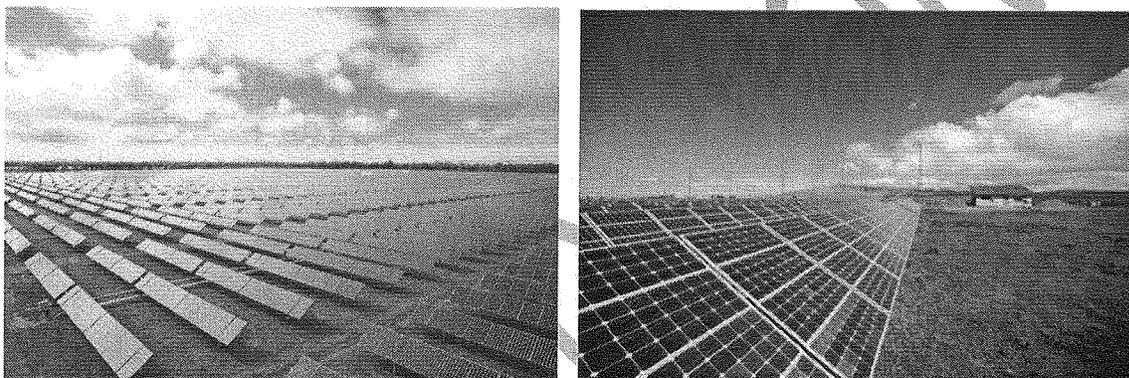
Module technologies are differentiated by the type of PV material used, resulting in a range of conversion efficiencies from light energy to electrical energy. The module efficiency is a measure of the percentage of solar energy converted into electricity. Two common PV technologies that have been widely used for commercial- and utility-scale projects are crystalline silicon and thin film.

### Crystalline Silicon

Traditional solar cells are made from silicon. Silicon is quite abundant and nontoxic. It builds on a strong industry on both supply (silicon industry) and product side. This technology has been demonstrated for a consistent and high efficiency over 30 years in the field. The performance degradation, a reduction in power generation due to long-term exposure, is under 1% per year. Silicon modules have a lifespan in the 25-30-year range but can keep producing energy beyond this range.

Typical overall efficiency of silicon solar panels is between 12% and 18%. However, some manufacturers of mono-crystalline panels claim an overall efficiency nearing 20%. This range of efficiencies represents significant variation among the crystalline silicon technologies available. The technology is generally divided into mono- and multi-crystalline technologies, which indicates the presence of grain-boundaries (i.e., multiple crystals) in the cell materials and is controlled by raw material selection and manufacturing technique. Crystalline silicon panels are widely used based on deployments worldwide.

Figure 8 shows two examples of crystalline solar panels: mono- and multi-silicon installed on tracking mounting systems.



**Figure 8. Mono- and multi-crystalline solar panels. Photos by (left) SunPower Corporation, NREL 23816 and (right) SunPower, NREL 13823**

### Thin Film

Thin-film PV cells are made from amorphous silicon (a-Si) or non-silicon materials such as cadmium telluride (CdTe). Thin-film cells use layers of semiconductor materials only a few micrometers thick. Due to the unique nature of thin films, some thin-film cells are constructed into flexible modules, enabling such applications as solar energy covers for landfills such as a geomembrane system. Other thin film modules are assembled into rigid constructions that can be used in fixed tilt or, in some cases, tracking system configurations.

The efficiency of thin-film solar cells is generally lower than for crystalline cells. Current overall efficiency of a thin-film panel is between 6% and 8% for a-Si and 11-12% for CdTe. Figure 4 shows thin-film solar panels. Industry standard warranties of both crystalline and thin film PV panels typically guarantee system performance of 80% of the rated power output for 25 years. After 25 years, they will continue producing electricity at a lower performance level.

### Mounting Systems

The array has to be secured and oriented optimally to maximize system output. The structure holding the modules is referred to as the mounting system. Typical ground mounted systems can be categorized as fixed-tilt or tracking. Fixed-tilt mounting structures consist of panels installed at a set angle, typically based on site latitude and wind conditions, to increase exposure to solar radiation throughout the year. Fixed-tilt systems are used at many landfill sites. Fixed-tilt systems have lower maintenance costs but generate less energy (kWh) per unit power (kW) of capacity than tracking systems. The selection of mounting type is dependent on many factors including installation size, electricity rates, government incentives, land constraints, soil conditions, alignment and latitude requirements, and local weather.

The mounting system design will also need to meet applicable local building code requirements with respect to snow, wind, and seismic zones. Selection of mounting types should also consider frost protection needs especially in cold regions. Contaminated land applications may raise additional design considerations due to site conditions, including differential settlement. Selection of the mounting system is also heavily dependent on anchoring or foundation selection.

### **Inverters**

Inverters convert DC electricity from the PV array into AC electricity, which can connect seamlessly to the electricity grid. Inverter efficiencies can be as high as 98.5%. Inverters also sense the utility power frequency and synchronize the PV-produced power to that frequency. When utility power is not present, the inverter will stop producing AC power to prevent "islanding," a condition which could be dangerous to utility workers trying to fix a de-energized distribution system. This safety feature is built into all grid-connected inverters in the market.

Electricity produced from the PV system may also be fed to a step-up transformer to increase the voltage to match the grid. There are two primary types of inverters for grid-connected systems: string and micro inverters. Each type has strengths and weakness and may be recommended for different types of installations.

### **Wiring for Electrical Connections**

Electrical connections, including wiring, disconnect switches, fuses, and breakers are required to meet electrical code (e.g., NEC Article 690) for both safety and equipment protection. In most traditional applications, wiring from (i) the arrays to inverters and (ii) inverters to point of interconnection is generally run as direct burial through trenches.

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## Attachment #5 – Glossary or Definition of Terms

Glossary or Definition of Terms	
PV	Photovoltaic energy
AC	Alternating current, which can be transmitted over+ power lines
DC	Direct current, which cannot be transmitted over power lines
Ballast	A footing on which a solar panel can be placed which will not penetrate the landfill cap
Inverter	A machine which takes in direct current and converts it to alternating current, which can then be transmitted to an electrical substation for transmission to a utility company
Energy Density	The amount of energy available per a given region of space (per unit volume); this is impacted by the packing factor, which is the number of solar arrays that can be placed in a specific area
kW or kWh	Kilowatt or kilowatt hours
MW or MWh	Megawatt or megawatt hours
ITC	Investment tax credits
O&M	Operations and maintenance
Payback Period	Number of years until the project is paid for
PPA	Power purchase agreement, which is a legal contract between an electricity provider and a purchaser that defines all commercial terms for the sale of electricity

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