

## Historic District Review Committee

Staff Report  
June 14, 2010

### Action Item

**CAPP 2010-0011 Lynn: Solar Roof Panels in the Goose Creek Historic District: MCPI 457-27-7914.** *Deferred from the May 17, 2010 meeting*

### Background

The applicant seeks approval of the installation of solar panels on a historic (circa 1790-1820) brick home at 19060 Lincoln Road south of the village of Lincoln in the rural area of the Goose Creek Historic District historically known as "Montrose." The two story home with side wing is constructed of Flemish Brick Bond on the front (north) elevation and common Bond on the side and rear (south) elevations. The main block of the house has two gable end chimneys and the roof is sheathed in green standing seam metal. The home is typical of the historic Quaker residences in the Goose Creek area and is considered to be a contributing structure to both the National Register and County designated Goose Creek Historic District. Though once part of a larger tract of land, the house currently sits on 8.65 acres. The property contains associated historic and non-historic dependencies, including a swimming pool. The property is used as both a private residence and as a Bed and Breakfast.

The subject property is located on the east side of Lincoln Road where the landscape remains predominantly agricultural. On the west side of Lincoln Road, adjacent to the subject property, a recent suburban subdivision boasts large homes on three acre lots. The historic house sits roughly perpendicular to Lincoln Road and is sited fairly close to the road.

The applicant proposes to install eighteen 31" x 62" solar panels on the west half of the rear (south) roof of the main block of the house. Staff understands that the panels would be clamped to the structure of the metal roof and can be removed if necessary in the future without damage to existing architectural features or materials. Staff notes however, that the applicant has provided little information on the solar panels proposed and therefore a more thorough description and analysis of the product cannot be provided in this report.

In the revised Statement of Justification (SOJ) the applicant proposes to paint the exposed portion of the green metal roof (the area not covered by the panels) a darker color to match the proposed panels. Staff notes that this idea was informally proposed by an HDRC member, but not agreed upon by the entire Committee, at the May 17 meeting as a possible method of masking the panels. It appears from the materials submitted that the panels themselves are tinted dark gray or black, though this should be confirmed at the meeting. Staff notes that the roof of both the larger main block of the house (where the panels would be located) and the subordinate east wing are

sheathed in green standing seam metal. It is not clear in the revised SOJ if the roof on the eastern wing of the house will also be painted to match the main block.

### Chronology

*A chronology of events regarding this application is detailed below since this application has not followed the normal process or timeline for CAPP review and because the applicant has submitted a complaint regarding the review process to the Board of Supervisors (included in the HDRC packet materials).*

The applicant desired hearing of this application at the May 10, 2010 regular meeting of the HDRC. However, the applicant had missed the April 9 submission deadline by three weeks at the time of this request and the meeting agenda for May 10, 2010 had been set and the meeting packet sent. Staff advised the applicant that she could attend the May 10 meeting and request to be placed on the evening's agenda as an information item and if, granted, the applicant could discuss the particulars of the solar panel application with the HDRC informally and in preparation for a formal CAPP application submission.

At the May 10, 2010 HDRC meeting, the applicant was granted the request to be heard as an information item. The applicant discussed the specific issues and time constraints associated with the proposed panel installation and the County's application process. Specifically, the applicant stated that she was unaware that such an alteration to a structure in a County administered historic district required review and approval by the HDRC and stated that the CAPP application process conflicted with the installation timeline allowable under a state rebate program, resulting in the probable loss of a significant rebate and contract deposit. Further, the solar panels proposed had already been ordered, delivered and partially paid for according to the applicant.

Taking into consideration these factors, the HDRC unanimously voted to hold a special meeting on May 17, 2010 (the following Monday) to consider a formal application. Staff advised the HDRC that the meeting could be legally posted within that timeframe, but that no staff analysis or meeting packet could be generated for the application within the timeframe. The applicant was advised to bring 9 copies of the required application materials to the May 17 special meeting. Committee members stated that they would conduct individual site visits to the property in the interim, to evaluate the potential visibility of the solar panels on the rear of the roof of the main block of the home.

On May 12, 2010, staff conducted a site visit to the property, met with the applicant and took several photographs of the rear elevation from several vantage points and distances. Staff used a zoom lens in some cases to show the area of the roof proposed to be covered with the panels in relation to the visibility of the same roof area from various vantage points looking north from Lincoln Road. Since the central issue with the application, per the Guidelines, is the visibility of the solar panels from the public right of way, these images were provided to the HDRC at the May 17, 2010 meeting to facilitate the Committee's discussion of the application. Photos taken with a zoom lens were labeled accordingly.

At the May 17, 2010 meeting, the HDRC moved to defer Certificate of Appropriateness 2010-0011 for the installation of solar panels on the roof of the residence in the Goose Creek Historic and Cultural Conservation District finding that the installation, as proposed, was not in keeping with the Guidelines for Roof Elements in Chapter 4 of the Goose Creek Guidelines and to give the applicant an opportunity to return to the Committee with a revised proposal.

At this time, the applicant was verbally instructed that in order to be placed on the agenda for the next regularly scheduled HDRC meeting (June 14, 2010), revised application materials must be submitted to the County by close of business on Friday, May 21. Although this provided the applicant only four days to submit revisions, the May 21 deadline represented a one week extension of the published May 14, 2010 application deadline and was a result of the applicant's initial desire to have an application considered outside of the normal HDRC review timeline. On Tuesday, May 18, a formal letter was sent to the applicant reiterating the HDRC's motion to defer and the May 21 deadline for a revised proposal.

No application materials were received by the May 21 deadline. However, following additional telephone conversations with both the applicant and a representative from the applicant's contracting company, Mr. Geoff Mirkin of Solar Energy World on May 2, staff was directed to extend the revised submission deadline for the June 14 meeting a second time, allowing the applicant to submit revised materials by June 1. These materials, in addition to the application materials submitted to the Committee at the May 17 meeting, constitute the complete set of application materials provided by the applicant.

### **Analysis**

The application is evaluated against Chapter 4 of the Loudoun County Historic District Guidelines for the Goose Creek District (Goose Creek Guidelines), Section J, Roof Features.

The Guidelines contain a section on Green building in Chapter 1 entitled "What Does it Mean to Be Green?" (*Goose Creek Guidelines, Chapter 1, Section D, pages 16-22*) This section promotes the idea of using "Green" building techniques in new construction and offers guidance on energy conservation in older and historic buildings. Reference to solar panels in this section however, is specific to the use of "solar shingles" in the design of new construction (*page 21*).

The Guidelines encourage the use of features that bring light and air into a building as part of the design of new construction, noting that these features can reduce energy consumption (*Guideline 4, page 67*).

**The subject building was constructed circa 1790 - 1820 and, as stated previously, the building is considered to be a contributing structure to the National Register and County designated Goose Creek Historic District.**

The Guidelines consider solar panels as modern mechanical features and group them with other impermanent and removable features such as satellite dishes and mechanical equipment. Further, the Guideline specific to the location of solar panels on a building is the same as the locations specified for these other modern, roof mounted features. Guideline 5 for Roof Features states: "Locate skylights, solar panels, satellite dishes and various types of mechanical equipment on the rear or side of the roof where least visible from the public roads, walkways, and neighboring properties (*page 67*). Regarding solar panel design, the Guidelines state: "Use solar panels that are the same size and dimension as shingle roofing materials or that fit within standing seam metal panels" (*Guideline 5 a., page 67*).

**The applicant proposes to install solar panels on the rear (south) elevation of the building. Given that the house is sited perpendicular to the public road, the rear of the house is equally visible from the public road as the front (north elevation). Solar panels cannot effectively be located in areas devoid of direct sunlight and, from a functional perspective, the southern elevation is the most effective location. The rear elevation of the house is most visible in the winter months since the surrounding tree canopy is predominantly deciduous. A large Magnolia tree is located at the rear, west side of the house and may offer some screening of the panels.**

**The submission materials include correspondence from the contractor stating that solar panels that would fit within the seams of the metal roof on the subject property are unavailable. No further detail has been provided.**

The Guidelines anticipate situations where modern mechanical equipment, which would include solar panels, cannot be placed outside the public view, the Guidelines suggest screening the feature to mitigate, or minimize, the visibility of these modern appurtenances (*Guideline 6, page 67*).

**As stated previously, the Guidelines categorize solar panels with other modern mechanical equipment. With the exception of skylights, these features are typically associated with modern technologies that are discrete, removable elements which can be installed without intrusion into the structural or material fabric of a building. In the case of solar panels and satellite dishes, these features cannot be completely hidden or masked since it would undermine the purpose and effectiveness of the technology.**

**The applicant proposes to minimize the visibility of the solar panels (or screen the panels) by matching the color of the metal roof of the eastern portion of the roof which would not be covered with panels, to the color of the panels. Again, it is unclear whether the roof of the subordinate east wing will be painted as well. Both the roof of the main block and the wing are currently painted green and clarification is needed. The proposal to reduce the visibility of the panels by**

**blending them into the color of the roof could meet the Guidelines, though additional information about the color of the panels and the area of the roof to be re-painted would be helpful in this evaluation.**

## **Findings**

1. The Guidelines state that solar panels and other modern mechanical roof features should be placed in locations least visible from public view.
2. The roof area on the rear elevation of the house where the solar panels are proposed to be located is partially visible from Lincoln Road looking north toward the village of Lincoln. Visibility would be higher in the winter months when the leaves of the surrounding vegetation have fallen. In the warmer months, the surrounding tree canopy obscures the view of the roof from the road.
3. The solar panels proposed would be affixed to the metal roof and could be removed without damage to the building's structure or materials.
4. The Guidelines promote the installation of solar panels that fit within the seams of a metal roof. The panels proposed do not fit into the seams of the existing roof.
5. The Guidelines anticipate situations where specific modern roof equipment may not be located completely out of the public view. In these cases, the Guidelines suggest the use of screening methods to reduce visibility.
6. Painting the roof to match the color of the solar panels could reduce the visibility of the panels from the public road. Painting the roof of both the main block and the wing would result in a more seamless visual effect.
7. In general, the Guidelines promote the use of Green technologies in the historic districts to reduce overall energy consumption.

## **Recommendation**

Additional information is needed on the revised proposal including an illustrative on the solar panel product proposed, including the color of the panels, the depth and detail on how the panels are affixed to the roof. This information will help in the evaluation of the applicant's proposal to minimize the visibility of the panels from Lincoln Road by painting the metal roof to match the panels. It is staff's understanding that additional information will be provided at the meeting. With these clarifications, staff could recommend that the proposal, with conditions is appropriate and consistent with the Guidelines.

## **Suggested Motions**

1. *I move that the Historic District Review Committee approve Certificate of Appropriateness 2010-0011 for the installation of solar panels on the historic residence at 19060 Lincoln Road in accordance with the Loudoun County Historic District Guidelines for the Goose Creek Historic and Cultural*

*Conservation District based on the findings on page 5 of the June 14, 2010 staff report with the following condition:*

*The roof on the main block of the house and the roof on the subordinate east wing will be painted to match the color of the solar panels to mitigate the visibility of the panels from the public view.*

- 2. I move that the Historic District Review Committee defer Certificate of Appropriateness 2010-0011 for the installation of solar panels on the historic residence at 19060 Lincoln Road in accordance with the Loudoun County Historic District Guidelines for the Goose Creek Historic and Cultural Conservation District based on the findings on page 5 of the June 14, 2010 staff report and upon finding that the information provided in the application and at the June 14, 2010 meeting was not sufficient to determine if the visibility of the panels would be sufficiently mitigated.*
- 3. I move alternate motion...*