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VILLAGE OF ORLAND PARK

Department Requested Action

File Number: 2015-0150

Agenda Date: 3/24/2015 **Version:** 0 **Status:** IN COMMITTEE /COMMISSION

In Control: Board of Trustees **File Type:** MOTION

Agenda Number:

Title/Name/Summary

Hulse Solar Panels - 13520 Howe Drive - Appearance Review

History

QUICKFACTS

Project
Hulse Solar Panels
2015-0134

Petitioner
Owen Hulse

Purpose
The purpose of this petition is to install and maintain a roof-mounted solar panel system at a single-family residence located at 13520 Howe Drive.

Requested Actions:
Appearance Review

Project Attributes
Address: 13520 Howe Drive

P.I.N.(s):
27-13-402-018-0000

Parcel Size:
0.46 acres (20,000 s.f.)
Building Size
0.06 acres (2,699 s.f.)

Comprehensive Plan Planning District:
Sandburg Planning District

Comprehensive Land Designation:
Single Family Residential

Existing Zoning:
R-2 - Residential District

Existing Land Use:
Single Family Residential

Surrounding Land Use:
North: R-2 Residential District - Single Family Residential
South: R-2 Residential District - Single Family Residential
East: R-2 Residential District - Single Family Residential
West: R-2 Residential District - (across Howe Dr.) Single Family Residential

PLANNING OVERVIEW
Section 6-314.C of the Land Development Code requires that the petitioner seeking a renewable energy or environmental clean technology system first obtain an Environmental Clean Technology (ECT) review from the Plan Commission. Subsequent to such a review, this project will follow the standard development review process. A review will next take place at the Development Services and Planning Committee and then a final review and decision from the Village Board of Trustees.

PROJECT DESCRIPTION & CONTEXT
The petitioner is proposing to install and maintain twenty-four (24) photovoltaic (PV) solar panels as a single array on a south facing gabled rooftop at the rear of a single-family residence located at 13520 Howe Drive. Each Solarworld SW280 solar panel will provide 280 watts of power and will be positioned on a 34 degree pitched gable rooftop. Energy captured by the proposed solar panels will be used for general household purposes, providing an overall general reduction in electricity costs for the homeowner.

The petitioner does not request any variances for this project.

The recommendation motion includes the following conditions:
1. That all building code related items are met;
2. That all building permits are obtained prior to construction;
3. That all utility conduits and systems related to the solar energy system not be visible from the street and from neighboring residential properties.

Overall, the project conforms to the Village's Comprehensive Plan, Land Development Code and policies for this area.

SITE PLAN
The petitioner submitted a plan set ("Hulse Residence 1.0 and 2.0") prepared by Solar Service Inc., dated 02/16/2015 detailing the location, dimensions and materials to be used for the installation of the proposed solar panels. The solar panels (collectively referred to as an array) will be located on a south-facing gable roof at the rear of the house. This roof is part of a building addition constructed in 2014, which added roughly 1,200 square feet of living space to the house.

The proposal is for a 6.72kW, grid-tied photovoltaic (PV) installation, comprised of (24) twenty-four "Solarworld 280W" modules (panels) arranged in three (3) adjoining rows

installed as one roof mounted array. The total area of the array will be approximately twenty-six (26) feet long by seventeen (17) feet wide. The array will be supported by a flush mounted racking system, which is a low-profile system that connects to roof rafters with structural screws.

A "Solaredge SE6000 Inverter" will be located in the attic below the solar panels, which will convert incoming Direct Current (DC) to Alternating Current (AC) before entering the building. Solar DC and AC disconnects will be located at the “Solaredge” inverter, while a separate solar inverter disconnect will be located at ground level next to an existing generator transfer switch and electric meter. These utilities will be screened by an existing fence located on the property to the north, and not-easily visible from the street. As a whole-house generator exists on premises, the PV system will interconnect on the utility side of the transfer switch, allowing the inverter to safely shutdown during a grid outage or anytime the generator is running.

The array will face inwards towards the center of the property, and largely blocked from view of neighboring property to the south by another set of gabled-roofs. The property with the most direct view of the array is to the west; the array would be approximately 100-feet from this property line and approximately 200-feet from the property’s main house.

There is some chance that during some times of the year sunlight may reflect off of the panels. However, solar glare from the arrays is not anticipated to be a serious nuisance considering the reflectivity of solar panels is similar to windows. Additionally, mature trees along the south and west property line should add additional screening for neighboring properties. Ultimately these trees may impact solar access, but are considered an existing condition for the petitioner.

DETAILED PLANNING DISCUSSION

As a component of sustainability and stewardship, one of the goals of the Village’s Comprehensive Plan is to reduce the dependence on non-renewable resources by “support(ing) private and public infrastructure upgrades that meet local energy demand using renewable sources (wind, solar, biomass/fuel, geothermal, fuel cells etc).” The proposed project supports this and other goals of the Comprehensive Plan.

Section 6-314.E.1 of the Land Development Code permits the installation of solar panels on residential rooftops provided that the solar panels:

1. Do not increase the visual height of the building;
2. Do not extend beyond the edge of the parapet or roof; and
3. Are in line with the plane of the roof.

The plan set submitted by the petitioner indicate that all three of the above criteria are met. The array is located on a south facing rooftop to maximize solar reception, inset from roof eaves. The array will be in line with the plane of the roof, which combined with its location at the rear of the house, will not increase the visual height of the building.

Section 6-314.E.1.b also indicates that no more than 75% of the rooftop may be covered by PV collectors or arrays. Rooftop coverage is measured for each rooftop. The proposed array is approximately 440 square feet in area while the rooftop is approximately 680 square feet, equaling 65% rooftop coverage.
Overall, the project conforms to the Village's Comprehensive Plan, Land Development Code and policies for this area.

Land Use / Compatibility
The proposed land use is compatible with the R-2 Residential District and the Comprehensive Plan vision for this property.

Lot Coverage
No change to lot coverage has been proposed.

Mechanicals/Utility Conduits
All utility conduits and systems related to the solar energy system shall not be visible from the street and from neighboring residential properties.

Recommended Action/Motion

I move to accept as findings of fact of this Plan Commission the findings of fact set forth in this staff report, dated March 24, 2015,

And

I move to recommend to the Village Board to approve the appearance (Environmental Clean Technology) review for a roof-mounted solar energy system at 13520 Howe Drive as depicted on the plan set "Hulse Residence 1.0 and 2.0" prepared by Solar Service Inc., dated 02/16/2015, subject to the following conditions:

1. That all building code related items are met;
2. That all building permits are obtained prior to construction;
3. That all utility conduits and systems related to the solar energy system not be visible from the street and from neighboring residential properties.