REQUIRED FORM
Residential Solar Electric System

Before approval and issuance of permit(s) for Solar Panel/Photovoltaic systems, applicant shall submit a residential building permit and the following minimum information. Required drawings shall be scaled and dimensioned, readable, and legible. Additional information may be requested.

1. Fully completed application for a building permit. _____Yes _____ No

2. Installation company information:

   Name:_____

   Address:_____

   Phone:_____Email:_____

3. What is the system KW rating (DC)? _____

4. Type of system: _____ Inter-tie _____ Stand alone

5. Does the system include battery backup or an uninterrupted power supply (UPS)?
   _____No _____ Yes

   a. If yes, give the number, size and location of the batteries below:

   _____

   _____

6. If rooftop mounted, identify the following:
   a. Roof type _____Flat roof _____ Sloped
   b. If sloped roof, identify pitch _____
   c. The type of existing roofing (shingles, tile, metal, ballasted, membrane, etc).

   _____

   d. The number of roofing layers that will be under the panels: _____
   No more than 2 layers of roof shingles are allowed.

   e. Describe the condition of the roofing material and approximate age below:

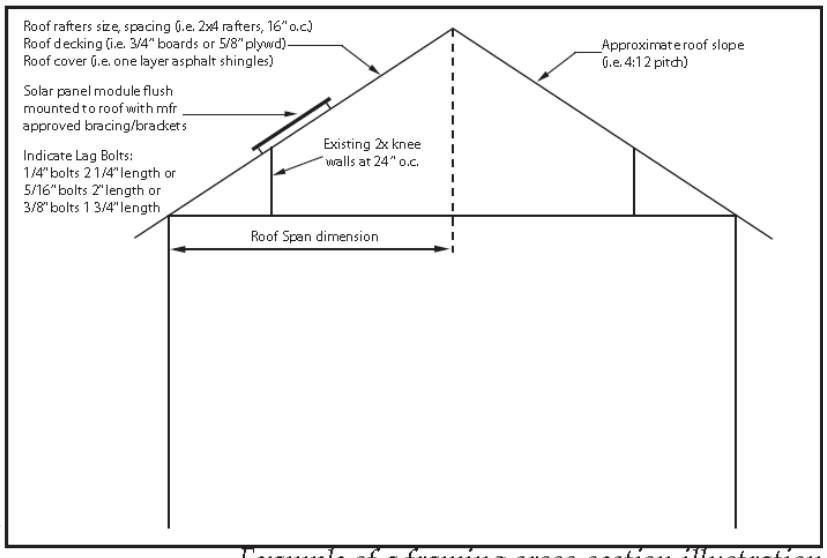
   _____

   _____

Required Drawings and Plans

7. Provide construction drawings that include a building section detail and complete notation of method of fastening equipment to the roof of the subject property, including the following details:

a. Cross section that identifies rafter size, spacing and span dimension and approximate roof slope (see example to the right).



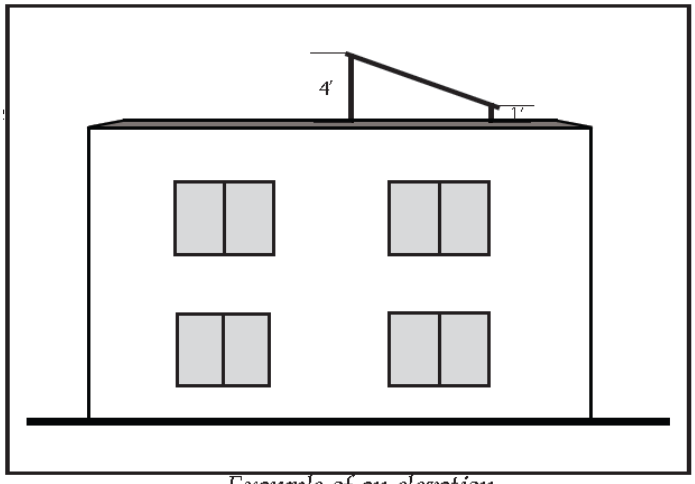
Example of a framing cross-section illustration

b. Identify style, diameter, length of embedment of bolts (i.e., 5/16" lags with minimum 3" embedment into framing, blocking, or bracing).

c. Construction drawings included? _____Yes _____No

8. Provide an elevation of the structure indicating the appearance of the pro- posed solar installation. Note the finished height of the system above the roof or, if ground - mounted, above the ground.

Elevation included? _____Yes ____No



Example of an elevation

9. Provide a site plan indicating the buildings and features of the property. The site plan shall show property line locations, approximate location of all structures, the location(s) of the panel installations, setback from property lines, the main service location, and, if applicable, the solar easement across adjoining properties. For roof-mounted systems identify the setback dimension from the peak and from all edges of the roof.

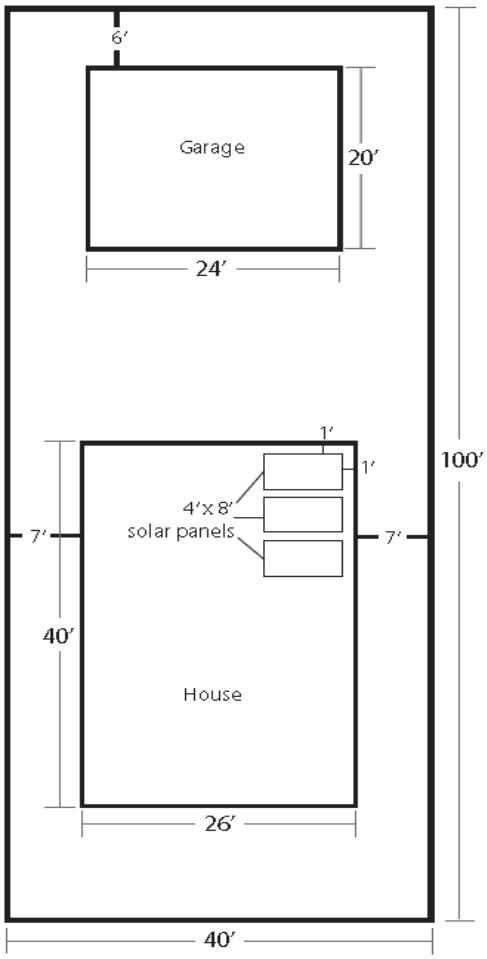
Site Plan included? _____Yes _____No

10. Is the equipment to be flush mounted to the roof (mounted such that the collector surface is parallel to the roof)?

_____Yes _____No

11. The minimum structural threshold for installing a flush- mounted PV system is a roof structure with at least 2 x 4 rafters no more than 24" on-center spacing. Does the roof structure use 2x4 or larger rafters, spaced no wider than 24 inches on center?

_____Yes _____No



Example of a site plan

12. For roof installations, roof decking and structural supports should all be in good condition without visible roof sag/deflection. Is the roof structure in good condition, having no visible sag, cracking or splintering of rafters, or other potential structural defect? If roof structure is accessible, please provide a photo showing the condition of the roof. If roof structure is not accessible, please provide an exterior photo, side view, of the roof.

_____Yes _____No

13. If the answer is no to any of questions 10 - 12, please provide the following additional documentation.
    a. If not a flush mount system, provide a side elevation identifying the pitch and height of the collector and mounting system relative to the roof.
    b. Provide a study or statement regarding the proposed solar installation and all proposed structural modifications stamped by a Minnesota licensed/certified structural engineer. Approval can come in the following forms:
        i. Construction plans denoting the roof structure and any modifications to the structure if required, as well as the method of installation of solar collector on the subject property.
        ii. Letter from engineer accomplishing the same as above if the engineer feels that letter format will provide the necessary information.