FIRE CONSTRUCTION PERMIT SUBMITTAL CHECKLIST

SERVING THE CITIES OF LAKE STEVENS, MONROE AND SULTAN

SOLAR PHOTOVOLTAIC POWER SYSTEMS

PROJECT INFORMATION	
Site address:	**Associated Permits:**
Project Name / Tenant:	**Property Owner:**

Electronic file standards

File naming standard: Electronic plans and documents shall be named as specified in bold type under "permitting requirements". For example, the seating plan must be named "Seating Plan".

Acceptable file types: Plans, calculations, specifications and supporting documents shall be uploaded as a PDF file.

Document Orientation: All plans must be uploaded in "Landscape" format in the horizontal position. All other documents can be in "Portrait" format.

CODE EDITIONS

□ 2021 Washington State Fire and Building Code, and as applicable - Lake Stevens Municipal Code 14.84, Monroe Municipal code 15.04.110 and Sultan Municipal Code 15.05.

PERMITTING REQUIREMENTS

A Fire Construction Permit is required to install or modify a ***Solar photovoltaic power systems*** required by Section 105.6.20 of the 2021 Washington State Fire Code and local code amendments. **The following information is required at time of application for the Fire Construction Permit.**

Main office: 360-805-0338, Inspection request 360-805-0338 option 1,
Email: FireMarshal@SRFR.org , Headquarters: 163 Village Court, Monroe, WA 98272

- □ Completed Fire Construction permit submittal application
- □ Completed "Solar Photovoltaic Power Systems – submittal checklist"
- □ Plans
- □ Specification sheets of the array panels showing compliance with UL 1703, 2703
  NOTE - Photos of the completed panel installation are required to be provided prior to requesting a final inspection. Email photos to firemarshal@srfr.org

PLANS

The following is a list of information required on all plan submittals for review of an "Automatic Fire Suppression System" permit application. The plan shall be drawn to 1/8"=1'-0" minimum scale. The applicant is required to submit all of this information so an accurate and timely review may be done:

- □ Select the occupancy classification of the building/structure that the solar photovoltaic system is being installed on.
  - Buildings built under the International Residential Code
  - R-3 (defined meeting the following)
    - Boarding houses (non-transient) with 16 or fewer occupants
    - Boarding houses (transient) with 10 or fewer occupants
    - Buildings that do not contain more than two dwelling units
    - Care facilities that provide accommodations for five or fewer persons receiving care
    - Congregate living facilities (non-transient) with 16 or fewer occupants
    - Congregate living facilities (transient) with 10 or fewer occupants
    - Lodging houses with five or fewer guest rooms
  - Commercial Structures or other than R3 occupancies.
- □ Indicate if the building has an approved automatic fire sprinkler system installed
- □ Provide roof details – pitch, roof covering makeup, show hips and ridges, show roof penetrations, gas piping, HVAC units, ventilation hatches, roof access hatches, vents, make up air units, show required pathways on rooftop
- □ Roof access points must be located at strong points of building construction, in areas that do not require ground ladders to be over windows or doors, or under overhead obstructions like trees, wires, or signs.
- □ Provide site details indicating location of trees, HVAC units that are located on the exterior of structure or on roof, walkways, driveways, lot lines, overhead wires, fire apparatus access roadways,

ROOF ACCESS AND PATHWAYS

GENERAL REQUIREMENTS

- □ Pathways shall be located over areas capable of supporting firefighters accessing the roof.
- □ Pathways shall have minimal obstructions, such as vent pipes, conduit or mechanical equipment

IRC or GROUP R-3 BUILDING REQUIREMENTS

- □ Pathways to ridge – Provide at least two 36” pathways on separate roof planes, from eave to ridge, one being on the street or driveway side of the roof. For each roof plane with a photovoltaic array, there shall be one 36” pathway from the lowest eave to the ridge on the same plane as the array, or on an adjacent roof plane or straddling the same and adjacent roof planes.

- □ Setbacks at ridge – dwellings without automatic fire sprinkler systems
  - Arrays <33% of roof area are required to be provided with a ridge setback of 18” on both sides of ridge
  - Arrays >33% of roof area are required to be provided with a ridge setback of 36” on both sides of ridge
- □ Setbacks at ridge – dwellings with automatic fire sprinkler systems
  - Arrays <66% of roof area are required to be provided with a ridge setback of 18” on both sides of ridge
  - Arrays >66% of roof area are required to be provided with a ridge setback of 36” on both sides of ridge
- □ Emergency escape and rescue openings - Group R-3 only
  - No panels shall be installed on portions of the roof that are located below an emergency escape and rescue opening. A pathway 36” wide shall be provided to the emergency escape and rescue opening.

COMMERCIAL BUILDING OR OTHER THAN R-3 BUILDINGS REQUIREMENTS

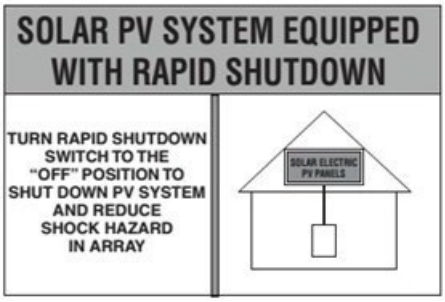
- □ Perimeter pathways – a minimum of a 6 foot wide clear perimeter around the edges of the roof shall be provided. If either axis of the building is 250 feet or less, the clear perimeter can be reduced to 4 feet wide.
- □ Interior pathways between array sections
  - Pathways shall be located at intervals not greater than 150 feet throughout the length and width of the array
  - Pathways 4 feet wide minimum shall be provided to roof standpipes, ventilation hatches
  - Roof access hatches shall have pathways a minimum 4 feet wide around the perimeter of the hatch, and a 4 foot pathway to the roof/parapet edge shall be provided
- □ Smoke ventilation requirements
  - Where non gravity-operated smoke and heat vents occur, a pathway not less than 4 feet wide shall be provided bordering all sides.
  - Where gravity-operated dropout smoke and heat vents occur, a pathway of 4 feet shall be provided on one side
  - Smoke ventilation between array sections shall be one of the following:
    - A pathway not less than 8 feet wide
    - A pathway of not less than 4 feet wide bordering 4-foot by 8-foot venting cutouts every 20 feet on alternating sides of the pathway

SOLAR ARRAY SIZE LIMITATIONS – WASHINGTON STATE FIRE CODE

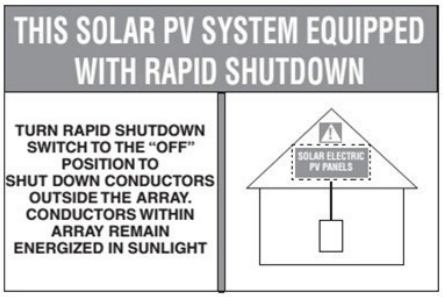
- □ Each array is limited to 150 feet x 150 feet, separated by a 3 foot access pathway

BUILDINGS WITH RAPID SHUTDOWNS

- Buildings shall be provided permanent labels indicating the type of rapid shutdown installed
  - Systems that shut down the array and the conductors leaving the array shall be provided with a label meeting the following:

Letter requirements	(sign wording below)	
3/8 INCH BLACK ON YELLOW	SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN.	
3/16 INCH BLACK ON WHITE	TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY.	

  - Systems that only shut down the conductors leaving the array shall have a label meeting the following:

Letter requirements	(sign wording below)	
3/8 INCH BLACK ON RED	SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN.	
3/16 INCH BLACK ON WHITE	TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN CONDUCTORS OUTSIDE THE ARRAY. CONDUCTORS WITHIN ARRAY REMAIN ENERGIZED IN SUNLIGHT.	

- NOTE – IF A SYSTEM USES BOTH OF THE RAPID SHUTDOWN TYPES, THEN A DETAILED PLAN VIEW DIAGRAM OF THE ROOF SHOWING EACH SYSTEM AND A DOTTED LINE AROUND THE AREAS THAT REMAIN ENERGIZED IS REQUIRED.