CITY OF NEWPORT BEACH

COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION
100 Civic Center Drive | P.O. Box 1768 | Newport Beach, CA 92658-8915
www.newportbeachca.gov | (949) 644-3200

SOLAR VOLTAIC
BUILDING & FIRE PLAN REVIEW COMMENTS
RESIDENTIAL

Project Description:					
Project Address:				Plan Check No.:	
Permit App. Date:				Plan Check Expires:	
Use:	SFR	Occupancy:	R3/U	Const. Type:	VB
No. Stories:		Permit Valuation:	-	Adjusted Valuation:	-
Owner:					
Applicant/Contact:				Phone:	
Plan Check Engineer:				Phone:	944.644.
Engineer email:	XXX@newportbeachca.gov				

X	1st Review: (date)		2nd Review: (date) *Italic comments*		3rd Review: **By Appointment**

The project plans were reviewed for compliance with the following codes and standards:

2022 CRC; 2022 CBC; 2022 CPC; 2022 CEC; 2022 CMC; 2022 California Energy Code; 2022 California Green Building Standards Code (CALGreen); & Chapter 15 of the Newport Beach Municipal Code (NBMC).

The code section references are from the 2022 CBC, unless otherwise stated.

- *TO EXPEDITE PROJECT APPROVAL:* Please provide a written response indicating how and where each comment was resolved on the plans.
- Resubmit all previously reviewed plans, updated plans and supporting documents with each subsequent review.
- *AFTER 2nd PLAN REVIEW*: Please call the plan check engineer listed above to schedule a plan review appointment, to expedite project approval.
- For clarification of any plan review comment, please call the plan check engineer listed above.
- Plan review status is available online at https://newportbeachca.gov/civic. Project status is also available by speaking with a permit technician at 949-718-1888 during business hours.

GENERAL

1. Obtain approval from the following:
   a. Building Division
   b. Electrical review
   c. Planning Division
   d. Fire Department

2. Indicate on the Title page of the plans the following:
   a. Occupancy group R3/U;
   b. Construction Type and indication if the building is equipped with an automatic sprinkler system in accordance with NFPA 13D;
   c. Number of stories for the structure along with the total square footage of the arrays;
   d. Indicate if the solar panels are on the first-floor roof or the second-floor roof etc.;
   e. Indicate the square footage for each array along with the total number of arrays and the total square footage of all arrays per roof plane, first floor roof, second floor roof etc.;
   f. Indicate the existing roofing material and the roof's slope/pitch on a roof plan;
   g. Indicate total system Kilo-Watts on the title page.

3. Provide the following notes on the plans:
   a. The maximum time to complete construction on a project is limited to three years from the date of the permit for all permits issued after August 21, 2019, as required by NBMC Section 15.02.095.
   b. All work to comply with 2022 California Building Code; 2022 California Residential Code, 2022 California Electrical Code - Article 690, and manufacturer's listing and installation instructions.
   c. Inspection required for roof connection mounting assemblies prior to installing solar module where the racking system is not parallel to the roof slope.
   d. Photovoltaic system's fire classification must be Class A roofing material per Sections R902.3 or R904.4 and per amended Table 1505.1 NBMC.
   e. Testing, listing and identification of mounting systems comply with UL 2703 as required per Section R902.4.
   f. Testing, listing, and identification of photovoltaic panels and modules comply with UL 1703 or with both UL 61730-1 and UL 61730-2 as required per Section R324.3.1.
   g. Photovoltaic system's installation shall be per the manufacturer's installation instructions.

4. All sheets must be signed by the State of California licensed contractor who prepared them with a classification of "A", "B", "C-46" or "C-10." Provide the individual's printed name **with** signature and license class and number on each sheet. This correction shall be revisited at time of each submittal.

5. Provide the following notes on title sheet of the plans: "Construction hours: Monday - Friday 7:00 AM to 6:30 PM and Saturdays 8:00 AM to 6:00 PM where permitted. No work on Sundays and Federal Holidays. Saturday construction is [PERMITTED OR NOT PERMITTED] (NBMC 10.28.040)."

6. Ongoing projects, new single family dwelling or addition, with an open Building Permit and an Engineer of Record (EOR), will require that EOR's review stamp of approval on this solar plan sheet which indicates the location of the panels, due to the additional weight onto the EOR's initial design for the structure. This correction shall be revisited at the time of each submittal. Engineer is encouraged to call the plan checker to discuss comments prior to re-submittals.

7. This building is new construction submitted and approved after the adoption of 2022 California Energy Code. Energy compliance forms (CF-1R) submitted with the approved building construction documents under plan check _____-202_ indicate that a minimum Solar PV system of _____ kW DC is required for full compliance. Update system to meet the minimum per the approved new building plans or revise the building CF-1R to match this system.

BUILDING

8. The plans must clearly indicate the spacing of the array's supports and their connectors along with the size, direction with span length and spacing of the supporting roof framing members. If spacing of the array's supports are greater than 4 feet on center, calculations for the existing roof framing members is required.

9. Engineer must address in their calculations if ponding is a problem for roofs with less than 2:12 pitch to 1/4 inch per foot of slope. Calculations must indicate the dead loads for all of the roofing assembly components and the live loads used.

10. Provide detail of array's anchorage to roof within the plans. Wind uplift load shall be determined per ASCE 7, Section 29.4.3 for low slope roofs (<7 degrees) or Section 29.4.4 for all other slopes.

11. Projects with less than 10 kW: Provide plans that illustrate compliance with the City of Newport Beach Guidebook, based on State mandate. Plans and documents may be obtained at: http://www.newportbeachca.gov/government/departments/community-development-/building-division/solar-photovoltaic. Only use City standard forms for accelerated plan check.

12. For projects over 10kW: Provide lateral calculations by a licensed professional engineer. Structural calculations must include a lateral analysis as required per Title 24, Part 10. "Existing Building Code," Section 403.4. Or demonstrate the installation of the solar array does not exceed the demand capacity ratio threshold included in the exception for any existing lateral force resisting element.

    a. **Exception:** Weight of the photovoltaic system does not exceed 1 lb times the entire area of roof, provided the house has not been previously reroofed with roofing material heavier than the original roofing material's weight.

        i. Applicant must research permit records on file at the City. Provide supporting information within the plans to justify findings regarding original roofing material and reroofing history.

        ii. **Add the following note within the plans and fill–in the lb/ft^2:** "The contractor has researched the permits and plans for this property on file at City Hall. The original roofing material's weight was _____ lb/ft^2 and has not increased since the original construction."

BALLASTED SYSTEM

13. Demonstrate compliance with Seismic Design Requirements for Nonstructural Components of the ASCE 7, Chapter 13 on the plans by either method a or b below:

    a. Plans, details and specifications that illustrate compliance with ASCE 7, section 13.1.4 (6),
        i. Components are positively attached to the structure; (mechanical anchorage only);
        ii. Flexible connectors are provided between the component and conduit;
        iii. Either the component weighs equal to or less than:
            1. 400 lb with a center of mass located 4 ft or less above the roof sheathing; or
            2. 20 lb or, in the case of distributed system, 5 lb/ft.

    b. Provide calculations, details and specifications to justify ballasted system in accordance with section ASCE 7, Section 13.6.12, exception. Note that compliance with all of the required provisions included in the exception must be demonstrated on the submitted drawings.

    Include total system weight, including ballast, on the drawings. Verify that the seismic load to any lateral force resisting element does not increase by more than 10% [CA Existing Building Code, 50205].

STANDING SEAM ROOF

14. Solar PV installations attached with deck clips to standing seam metal roofs must include the following minimum information:

    a. Specify the specific clip manufacturer and model to be installed (i.e. S-5-U, Snapnrack standard base seam clamp) along with the minimum required installation torque required by the manufacturer's installation instructions.

    b. Specify the standing seam metal roof manufacturer and model number, and material thickness.

    c. Note on the plans, "Seam clamps to be installed in accordance with the manufacturer's written installation instructions, listing, and approved profile list where applicable."

    d. Provide detail on plans of metal roof deck attachment to the roof framing. Roof framing attachment must be bent plate or angle type screwed to roof framing (i.e. Berridge Manufacturing Company Cee-Lock or Zee-Lock).

e. Provide attachment detail on the drawings and specify that the deck clip is to be located at the standing seam metal roof bent plate attachment locations.

f. Attachment details and specification drawings must be stamped and signed by an engineer licensed in the state of California.

FIRE / BUILDING

15. Access pathways for roofs with slopes exceeding 2 units vertical in 12 units horizontal: (R324.6.1)

    a. Not less than two minimum 36-inch wide pathways on separate roof planes, from lowest roof edge to ridge.

    b. At least one pathway shall be provided on the street or driveway side of the roof.

    c. For each roof plane with a photovoltaic array, a minimum 36-inch wide pathway from the lowest roof edge to the ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane, or straddling the same and adjacent roof planes.

    d. Pathways shall be over areas capable of supporting fire fighters accessing the roof.

    e. Pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment.

    Exception: BIPV systems listed in accordance with Section 690.12(B)(2) of the California Electrical Code, where the removal or cutting away of portions of the BIPV system during fire-fighting operations has been determined to not expose a fire fighter to electrical shock hazards. (R324.6)

16. Smoke ventilation and setback at ridge for roofs with slopes exceeding 2 units vertical in 12 units horizontal: (R324.6.2)

    a. In buildings not equipped with an automatic sprinkler system in accordance with NFPA 13D:

        i. Provide a calculation of the (area of the photovoltaic array) / (total roof area) on the plans.

        ii. For photovoltaic arrays occupying not more than 33-percent of the plan view total roof area, provide not less than an 18-inch clear setback on both sides of the horizontal ridge.

        iii. For photovoltaic arrays occupying more than 33-percent of the plan view total roof area, provide not less than a 36-inch clear setback on both sides of the horizontal ridge.

    b. In buildings equipped with an automatic sprinkler system in accordance with NFPA 13D (R324.6.2.1):

        i. Provide a calculation of the (area of the photovoltaic array) / (total roof area) on the plans.

        ii. For photovoltaic arrays occupying not more than 66-percent of the plan view total roof area, provide not less than an 18-inch clear setback on both sides of the horizontal ridge.

        iii. For photovoltaic arrays occupying more than 66-percent of the plan view total roof area, provide not less than a 36-inch clear setback on both sides of the horizontal ridge.

    c. **Exception:** BIPV systems listed in accordance with Section 690.12(B)(2) of the California Electrical Code, where the removal or cutting away of portions of the BIPV system during fire-fighting operations has been determined to not expose a fire fighter to electrical shock hazards. (R324.6)

17. Photovoltaic panels and modules shall not be placed on the portion of a roof that is below an existing emergency escape and rescue opening. A 36-inch wide pathway shall be provided to the emergency escape and rescue opening. (R324.6.3)

    Exception: BIPV systems listed in accordance with Section 690.12(B)(2) of the California Electrical Code, where the removal or cutting away of portions of the BIPV system during fire-fighting operations has been determined to not expose a fire fighter to electrical shock hazards. (R324.6.3)