



# Carson City Building Division

*Kevin Gattis, Chief Building Official*

## **SOLAR THERMAL SYSTEMS PLAN SUBMITTAL REQUIREMENTS**

### **Scope:**

The information in this handout is applicable to all solar installations for space heating and/or cooling, hot water heating and swimming pool heating. These requirements are applicable to both residential and commercial installations.

### **General Information:**

- These permits are issued to a Nevada licensed **Plumbing or Mechanical Contractors** possessing Carson City Business Licenses. The Plumbing or Mechanical Contractor shall possess one of the noted Nevada State Contractors Board (NSCB) licensing types C-1, C-1j, C-21, C-21e or C-21g. **OR** residential installations being issued to an **owner/builder** in compliance with the requirements of Nevada Revised Statute (NRS) 624.031. **OR** issued to a contractor or party approved at the discretion of the Chief Building Official.
- Due to Carson City's snow and wind loads, roof mounted systems shall include design by a Nevada registered Engineer. The design shall take into consideration the dead load from the system components, as well as the potential for accumulated drifting snow and any wind loading placed on the attachments.

NOTE: This requirement is not applicable to ground mounted systems; however, a mounting detail, furnished from the manufacturer will be required as a part of the plan submittal, or a mounting detail from the Mechanical / Plumbing contractor installing the system will be accepted as an alternative.

- All ground mounted systems, and all commercial roof mounted systems shall comply with the requirements of the Carson City Planning Division. For additional information, please contact the Carson City Planning Division at (775) 887-2180.
- Plans shall be on **11" x 17" or larger** paper sizes, and all design sheets within the plan set should be the same size. The plans shall be designed to comply with applicable minimum approved scale. In addition, the plan cover sheet shall allow enough space on the cover sheet to allow staff to insert the necessary approvals, which translate to a blank area roughly 4" x 8 ½".
- Plans **shall be photocopies, or original blue or black ink drawings**. The use of colored ink, other than blue or black, or the use of colored ink beyond that which is used for licensing seals and/or original signatures on plan sets, would constitute grounds for an automatic rejection of the application. Plans with original pencil drawings or notes will be rejected.
- Plans shall be fully dimensioned, and drawn to an **approved architectural scale 1/4"=1'-0" minimum**, with plan **details and elevations prepared using a 1/2"=1'-0" or greater scale**. The scale shall be indicated on each page, and separate detail or elevation. **Site plans** shall be fully dimensioned and drawn to one of the following **approved engineering scales: 1"=10', 1"=20' & 1"=30'**
- **When plans are prepared by an Owner/Builder**, in compliance with Nevada Revised Statute (NRS), the plan set must have the owner's name and address printed under the heading of "Designer" the cover sheet. Below this information shall be an original signature with date of

signing. To avoid confusing this signature with a copy or facsimile, Carson City Building Division staff recommends that this signature be in colored ink. (Some color other than black)

- **Plans prepared by a Nevada licensed Plumbing and/or Mechanical Contractor** shall have the following information on the printed in a on the Cover Sheet of the plan set:
  - Business Name
  - Business Address
  - Bid Limit
  - License Classification Type
  - License Number
  - License Expiration Date
  - Name of Qualified Employee, with an original signature
- **Plans prepared by a Nevada Registered Design Professional** (Architect, Residential Designer, or Mechanical Engineer) shall comply with the applicable Nevada Administrative Code (NAC) for their licensure

## Submittal

- A minimum submittal shall include the following items. Incomplete plan submittals will not be accepted:
  - **Two (02) complete sets of plans for Residential Systems or Three (03) complete sets for Commercial Systems** – Which shall include the following, as applicable:
    - **Cover Sheet** – Indicate the project address, contractor(s) contact information, code(s) used, Seismic Zone, Wind Load, Snow Load, and allow area for Carson City Building Division approval stamps and red-line comments.
    - **Site Plan** – This is applicable to ground mounted systems only. For residential properties on well and/or septic one (01) additional site plan shall be submitted for review by the Carson City Health & Human Services Dept. (HHS)

NOTE: For Site Plan design requirements, please refer to the following Carson City Building Division handouts, as applicable: COMMERCIAL SUBMITTAL REQUIREMENTS: New Construction & Additions or RESIDENTIAL PLAN SUBMITTAL REQUIREMENTS: One & Two Family Dwellings and Accessory Structures

- **Foundation Plan (Ground mounted systems)** – This is a dimensioned plan view of the footing location, with details showing the footing design.
- **Roof Plan** – This is a plan view of the collector and system installation. Typically, this plan sheet include the mounting details, unless prepared separately by a Registered Design Professional (Architect, Residential Designer, or Mechanical Engineer)
- **Building Elevation / Screening Detail (Commercial only)** – A building elevation is used to establish that the roof mounted collectors on commercial buildings are not seen from street level. This typically includes a screening detail, if necessary, to shield the collectors from street level. Please contact the Planning Division for clarification.
- **Floor Plan** – This is a plan view of the tank location(s), mixing valve mounting locations, etc.

- **One-Line System Diagram** – This is a line drawing, which shows the components of the system, and their relationship to each other in the installation. This is not a scaled drawing, but is merely a conceptual representation of the system design used to verify compliance. The one-line diagram shall show the piping routing, the valve locations, the tank(s), collectors, connection to potable water, etc. - as applicable to the design of the system.
- Two (02) copies of the **manufacturer's specifications** for the collectors, storage and/or heat exchanger tanks, etc

NOTE: This information may be 8 ½" x 11" copies, submitted as supplemental supporting documents to the plans, which are 11" x 17" minimum.