



CITY OF BEAVERTON

Community Development Department

Building Division

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FIRE SPRINKLER AND FIRE ALARM DESIGN REQUIREMENTS

Effective April 1, 2009, all design submittals for fire protection systems (fire sprinkler and fire alarms) to the City of Beaverton must meet the rules as clarified by the Oregon State Board of Engineering Examiners and Land Surveyors (OSBEELS) and the Oregon Building Codes Division. These rules are found in ORS 672 and in OAR 918-261-0015.

Except as noted below, fire protection systems are required to be designed by an architect or engineer registered in Oregon and qualified in the area of practice (see exceptions below). Drawings submitted for projects required to be designed by an architect or engineer must have the design professional's stamp. The requirement applies to all fire protection systems including but not limited to fire alarm systems, sprinkler systems, private fire hydrants systems, and hazardous material piping.

Exceptions to requirement for design by registered professional:

1. New, additions, or alterations to systems in buildings of 4,000 square feet or less and not more than 20 feet in height (Exempt Buildings).
2. New, additions, or alterations to systems in single family dwellings and farm buildings.
3. Alterations of existing systems when the alteration is done within the scope and design parameters of the original specification.
4. Listed pre-engineered fixed fire suppression systems when specified by a design professional and installed in accordance with the listing.
5. Listed clean agent systems when specified by a design professional and installed in accordance with the listing.
6. Fire alarm system design done by a general supervising electrician, general journeyman electrician, or class "A" limited energy technician licensee acting both within the scope of the licensee's license and as a signing supervisor and in accordance with OAR 918-261-0015, Exemption from Engineering Requirements for Design of Fire Protection Systems.

Alternatively, in lieu of a design professional stamp on the layout drawing, a technician may submit drawings if prepared under the supervision and control of the design professional. When a technician performs the layout, the stamped specifications prepared by the design professional must be submitted along with the layout drawings containing a review stamp indicating approval by the design professional. A Fire Sprinkler Design Basis\Specification and a review stamp are attached to this notice as examples of required documentation on layout submittals from technicians.

When a fire alarm design is done by an electrical contractor, the layout must be signed by the signing supervisor and the individual's license number placed under the signature.

Fire Sprinkler Design Basis

The sample design summary (see below) is required on new systems and existing systems with a change in design basis or change in occupancy.

(Under the supervision and direction of the design professional, a technician may perform system layout, prepare shop drawings and material submittals, and perform supplemental calculations and other functions based on the design information provided by the design professional. The following example shows a design summary which could be used by the technician to perform system layout. The design professional shall stamp and sign the design summary/specification when it is to be used to direct a technician's layout work. All submittal documents prepared by the technician must be reviewed and approved by the design professional. Documents submitted to Building and Fire Officials for permits may be shop drawings and other documents prepared by a technician when a "Review stamp" is attached by the design professional. The work of the technician must follow the design strategy as outlined and directed by the design professional. As noted above, the documents outlining the design strategy must be stamped by the registered Engineer/Architect and the shop drawings and other supporting documents must bear a SUBMITTAL REVIEW stamp indicating review and approval from the originating design professional.)

SAMPLE DESIGN SUMMARY DOCUMENT

1. Project: (*address; scope*)
2. Reason for Installation: Required by Building\Fire Code
Required by Performance Based design\approved appeal or approved alternate method or material.
Required by Risk Manager\Insurance Carrier
Voluntary
3. Building Detail: (*occupancy classifications, square footage, separated or non-separated mixed occupancy, stories; height; Heated\Unheated, Seismic zone*)
4. Uses and their location in building:
5. Occupancy Hazard Classification per NFPA 13 or other standard:
6. Other Commodity information for storage areas: (*storage data, combustible\flammable liquids data, criteria from IFC Chapter 23, etc.*)
7. Industrial Processes and/or Manufacturing Locations and Information:
8. Other Hazard\Risk Analysis:
9. Available Water Supply:

- 10. Design Specifications: Density or # heads in design area(s)
 Area(s) of application
 RTI (range or designation)
 System type(s) (*wet, dry, preaction...*)
- 11. Sprinkler Characteristics: (*Type, orifice, temp, special coatings, etc.*)
- 12. Conceptual Layout (*diagram or text sufficient to establish structural loading information*) -
 Minimum details: (*size and location of Riser, bulk mains, pump(s) if necessary, standpipe
 and outlets if necessary, fire department connection, backflow device.*)
- 13. Seismic design loads: (*quantify and identify who is providing structural design.*)
- 14. Commissioning and/or Acceptance criteria:

SAMPLE SUBMITTAL REVIEW STAMP

SUBMITTAL REVIEW

- A. NO EXCEPTIONS TAKEN
 No further review of submittal is required
- B. MAKE CORRECTIONS AS NOTED
 Incorporate corrections in work: re-submittal is required. If Contractor cannot
 comply with corrections as noted, revise to respond to exceptions and resubmit.
 Record Drawings shall reflect corrections.
- C. REVISE AND RESUBMIT
 Revise as noted and resubmit for further review
- D. NOT REVIEWED: STATE REASON _____

This submittal has been reviewed only for the limited purpose of checking for general conformance with the fire design concept as expressed in the Contract Documents subject to the requirements of the Contract Documents. Nothing in this review is intended to authorize any aspect of work that is not in accordance with state and local code requirements.

[NAME OF DESIGN PROFESSIONAL'S COMPANY]

By: _____ Date: _____

Project No. _____