



COALINGA FIRE DEPARTMENT

GREG DUPUIS, FIRE CHIEF

300 W. Elm Ave • Coalinga, CA 93210 • Phone (559) 935-1652 • Fax (559) 935-1638

| CITY OF COALINGA FIRE DEPARTMENT | | |
|----------------------------------|---|---------------------------|
| FIRE PREVENTION STANDARD | | |
| STANDARD TITLE: | 401.011 FIRE SPRINKLER SYSTEM PLAN SPECIFICATIONS | |
| STANDARD NUMBER: 401.011 | EFFECTIVE DATE: 1 OCT 2022 | REVISION DATE: 1 OCT 2022 |

PURPOSE

This policy has been established to clarify the requirements for the preparation and submission of all non-electronic fire sprinkler (and similar) plans

APPLICATION

This policy applies to all applicants submitting non-electronic fire sprinkler (and similar) plans to the Coalinga Fire Department (CFD or Department) for review and approval within the City of Coalinga and contract service areas.

OPERATIONAL POLICY

Based upon the need for uniformity in application across the Department's diverse service delivery area, and after careful deliberation, the Department has determined the following:

1. Automatic fire sprinkler (and similar) system plans shall be drawn with care by a trained person meeting the requirements found within the applicable law, code, ordinance, or standard.
2. Plans shall be drawn on a minimum of twenty-four inch by thirty-six-inch (24" X 36") paper and shall be drawn to an indicated scale of not less than one-eighth (1/8") inch = one (1') foot. Buildings over fifty thousand (50,000) square feet (sq. ft.) shall have an overview plan showing the entire building, including all fire protection features.
3. An area no less than four (4") inch x six (6") inch, located in the bottom right-hand corner of each plan sheet, shall be left free of any text, mark, etc., to facilitate the marking of plans by Department staff.
4. Drawings shall be organized based upon the *United States Department of Energy, Fundamentals Handbook for Engineering Symbolology, Prints, and Drawings* (Vols. 1 & 2) (1993 edition). Available for download at: <http://edtech2.boisestate.edu/jasonclemens/512/files/DOE-v1.pdf>
5. Drawing line weights, match lines (where used) and legibility (including printed pages) shall be in accordance with either the *United States Department of Energy, Fundamentals Handbook for Engineering Symbolology, Prints, and Drawings* (Vols. 1 & 2) (1993 edition), or the latest *American Institute of Architects* design guidelines.



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6. All fire sprinkler symbols shall be in accordance with *National Fire Protection Association (NFPA) 170, Standard for Fire Safety and Emergency Symbols* (2018 ed.), Chapter 7, where a symbol is provided. For each type of sprinkler to be installed a different symbol shall be used.

7. In addition to all of the information that is required in this document, plans shall also include all of the information noted in *NFPA 13, Automatic Sprinkler Systems* (2016 ed.) §23.1.3 et. al. As noted in the referenced standard, this information constitutes the minimum amount of information required to be submitted to the authority having jurisdiction.

8. Each of the following items shall be included on either a single page of an automatic fire sprinkler system plan or submittal booklet. These items will be verified at the counter and plans will be rejected when not present:
 - a. A detailed scope of work for the project including a description sufficient to clearly indicate the location, nature and extent of the work. A scope of work indicating “installation of a fire sprinkler system”, or similar non-descript scoping is inadequate, and plans will be rejected without review.
 - b. Name of owner, occupant, or contracted construction firm.
 - c. Location of the project, including the City of Coalinga (City) officially assigned address and the City building permit number.
 - d. Name of water purveyor.
 - e. Name of the installing contractor, address, phone number, type of license and license number, with wet stamp and signature on each plan sheet.
 - f. A site plan of the location on the drawing. A site plan shall show the layout of the building relative to public streets and private drives. A location pin from mapping software does not meet the requirements of a site plan.



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- g. The *California Building Code (CBC)* and *NFPA* construction type (i.e., obstructed, unobstructed, etc.) and *CBC* occupancy group of the proposed building.
9. Standard notes required to be on plans:
- a. Apply the applicable storage note:
 - I. Storage limited to twelve (12') feet with minimum eighteen (18") inches from pendant sprinkler deflector to top of the storage.
 - II. Storage limited to twelve (12') feet with minimum thirty-six (36") inches from sprinkler deflector to top of the storage.
 - III. No high piled storage permitted.
 - b. It is the contractor's responsibility to make work available for inspection.
 - c. A copy of the approved plan set shall be on site during any fire department inspection.
 - d. A copy of the permanent and durable general information sign to be displayed per *NFPA 13*, Section 25.6, or a note as follows: "A permanent and durable general information sign per *NFPA 13*, Section 25.6 shall be installed in addition to the hydraulic design information sign".
 - e. All *CBC* or *CFC* substitutions shall be noted. It is the designer/contractor's responsibility to provide adequate and necessary documentation when using these kinds of exceptions per *CFC*, Section 105.
 - f. Mechanical tees shall have coupon hung within six (6") inches of tee.
 - g. All applicable code references shall be provided (i.e., *NFPA 13*, 2016 Edition w/California Amendments, etc.).
 - h. Piping plan showing underground lead in with hydraulic nodes.
 - i. Full height cross-sections which show sprinkler system piping, sprinkler head



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locations, and all full height walls.



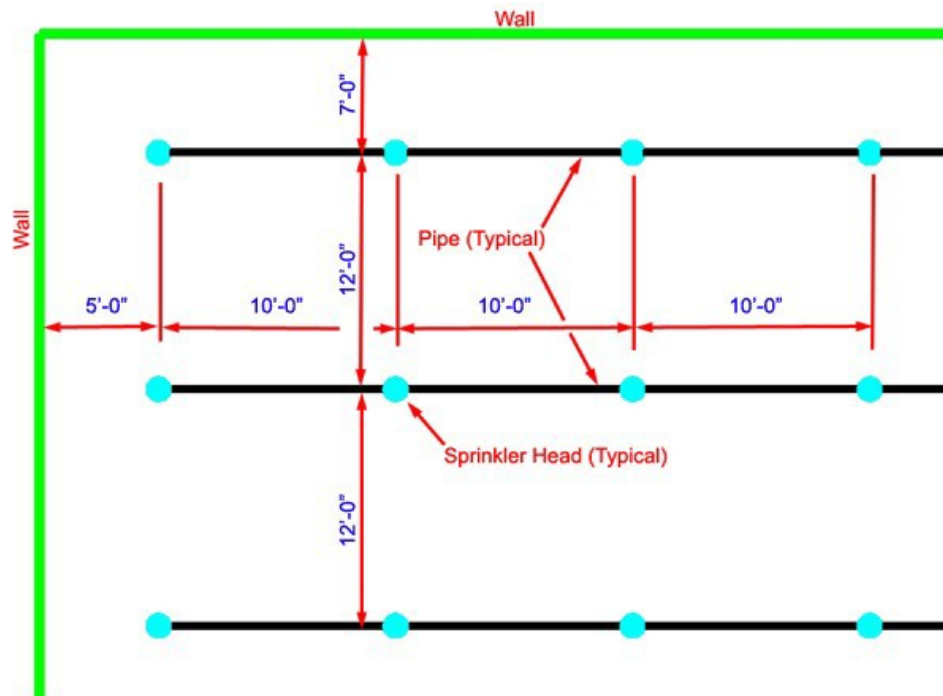
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- j. Each room or fire area shall have at least four (4) dimension lines indicating the fire sprinkler head spacing from two different walls as noted in figure A below:



(Figure A)

Pipe section dimensions shall not be used in lieu of required dimension lines and pipe sizes, hangers, etc., shall be shown.

- k. Riser detail showing supply pressure gauge, check valve, system pressure gauge, main control valve, pressure relief valve, main drain including size, water flow switch, and fire department connection(s) including size. All system pipe sizes, and calculation nodes shall be shown.
- l. Pipe stand detail as applicable. Pipe stands shall be in accordance with *NFPA 13*, Section 9.2.6 and Section 9.3.8. Pipe stands will not be approved without the requisite documentation from a registered professional engineer where required.



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- m. The following table(s) shall be shown on the plans:
- I. Sprinkler head spacing and coverage area per sprinkler.
 - II. Location of design area(s).
 - III. Discharge density over design area(s).
 - IV. Occupancy classification, commodity classification, and maximum storage height and configuration. When using *NFPA* Section 12.1.2.4., the designer shall provide a section figure in accordance with 12.1.2.4 showing the applicable protection points. These points shall also be shown on the plan view of the applicable drawing.
 - V. Hose stream allowance in addition to sprinkler demand.
 - VI. Where riser nipples are used, each typical length shall be identified and calculated where necessary per *NFPA 13*, Section 9.3.5.9.6.1.
- n. Sprinkler head legend which indicates the manufacturer, style, model, orifice size and “K” factor of each sprinkler used. “Generic”, “Equivalent” or “Equal” etc., is not permitted.
- o. The type and size of each pipe. Where included, existing piping shall be shown as a dashed line.
- p. Each hanger and seismic sway bracing detail. This detail shall include the proposed fastener. Use of standard details shall show the manufacturer of the fastener, hanger, etc., and the manufacturer’s information sheet shall be included with the submittal. Plans showing details which specify a specific manufacturer that do not include the manufacturer’s information sheet or have a different manufacturer’s information sheets submitted will be rejected.
- q. Fire sprinkler system bell. The bell shall be facing the main public entrance or the street that the building is addressed to (See: *Fire Prevention Manual*, Policy



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#405.029, Fire Sprinkler System Bells).

- r. Fire department connection. The fire department connection shall be located, sized and installed in accordance with *Fire Prevention Manual*, Policy #405.025, Fire Sprinkler Connection Requirements.
- s. A piped inspector's test valve (ITV). ITV's shall be piped from the most remote branch line down to grade (See: *Fire Prevention Manual*, Policy #405.013, Inspector's Test Valves & Air Vents). Test and drains are not a substitute for ITV's.
- t. An air vent in accordance with *NFPA 13*, §8.16.6. An inspector's test valve may be used for this purpose subject to the requirements of *Fire Prevention Manual*, Policy #405.013, Inspector's Test Valves & Air Vents.
- u. Spare head kit location. Spare head kits shall be installed on the building's interior in an approved location subject to the requirements of *Fire Prevention Manual*, Policy #405.039, Fire Sprinkler Spare Head Boxes.
- v. Location of the dedicated function fire alarm control unit (DFFACU) for fire sprinkler monitoring. DFFACU installation shall be installed in the building's interior and in accordance with the currently adopted edition of *NFPA 72*.
- w. The Department does not permit handwritten notes, correction fluid or tape, or adhesive stickers on any submittal documents.
- x. When using the *NFPA 13* "small room rule" to exceed normal sprinkler spacing, designers must indicate this using the following symbol:



Within the rooms boundaries or directly adjacent to the room. It is the designer's obligation to provide this symbol in each area where this rule is used.

- y. Where a building overhead, shell, or attic system and tenant improvement, drop



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or floor system is also to be shown on a single set of plans, a reflected ceiling plan is required to be submitted.

- z. The shell or attic system, as well as the drops on the separate reflected ceiling plan, must show the associated dimension lines as noted in j. above.
- aa. Resubmittals, revisions, or changes shall be called out with a cloud or delta. Each re-submittal shall have a new numbered delta, and previous clouds or deltas shall be removed. Submittals, addendums, revisions, etc., without proper clouding, an associated delta, or other substantial clarifying notes regarding the scope of work will be rejected without review. Changes made on plans between versions, etc., that are not identified with a cloud or delta are not approved. Addendum plans shall be in accordance with *Fire Prevention Manual*, Section 401.016, Fire Related Construction Addenda.

10. Submittal documents accompanying plans:

- a. Contractors must also provide complete, comprehensive booklets that include hydraulic calculations, seismic calculations, and manufacturers data sheets for all equipment that is to be installed with the system.
- b. Submittal applications shall contain a maximum of three submittal booklets, and any application that contains loose sheets will cause the application to be returned to be updated to conform to this policy without CFD review.
- c. CFD will not accept loose copies of hydraulic calculations, seismic calculations or manufacturers data sheets.

OPERATIONAL GUIDELINE

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PROCESS

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INFORMATION

As noted in the *California Fire Code (CFC)*, Section 104, General Authority and Responsibilities, the fire code official has the authority to formulate policies they deem necessary based upon local conditions related to plan submittals for all systems and applications.

The requirements in this policy apply to both required and voluntary systems.

DEFINITIONS

This section intentionally left blank.

CROSS REFERENCES

California Fire Code

Section 104, General Authority and Responsibilities

Fire Prevention Manual

Section 401.016, Fire Related Construction Addenda

Section 405.013, Inspector's Test Valves & Air Vents

Section 405.025, Fire Department Connection Requirements

Section 405.029, Fire Sprinkler System Bells

National Fire Protection Association (NFPA) 13

Automatic Sprinkler Systems (Currently adopted edition with California amendments)

National Fire Protection Association (NFPA) 72

National Fire Alarm and Signaling Code (Currently adopted edition with California Amendments)

National Fire Protection Association (NFPA) 170

Standard for Fire Safety and Emergency Symbols

CROSS REFERENCES

California Fire Code, current edition