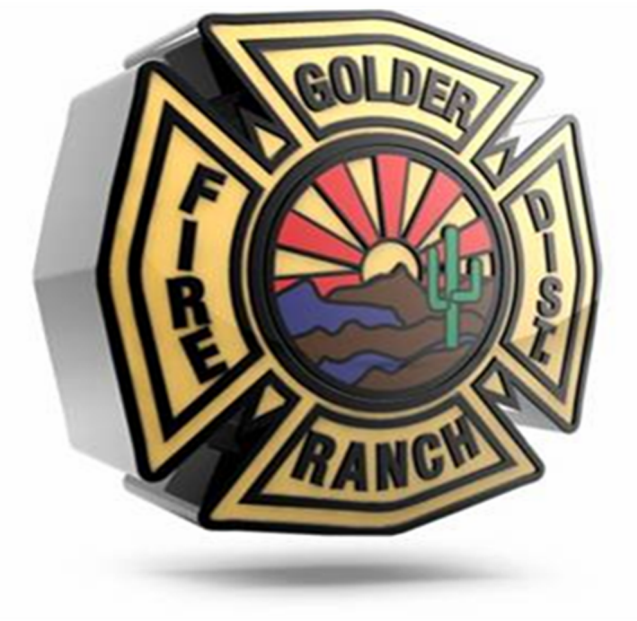


CHAPTER ONE

(Go to www.grfdaz.gov for all other chapters)

Contractor's Job Site & Fire Safety Guide

Contents:

- Job Site Safety
- Responsibilities and Expectations of Contractors
- Plan Submittal Requirements
- Inspection Information

Purpose:

To provide information regarding frequently asked questions pertaining to the requirements of contractors responsible for the construction, alteration or demolition of buildings.

1175 W. Magee Rd. | Tucson, AZ 85704
(520) 818-1017 | www.grfdaz.gov

JOB SITE AND FIRE SAFETY GUIDE

Welcome to the Golder Ranch Fire District

Inspection Hours:

Monday – Thursday: 8am – 5pm

Friday – Sunday: Closed

After Hours Inspections Available for Special Circumstances

INTRODUCTION

This guide is provided by the Golder Ranch Fire District (GRFD) Fire & Life Safety division as a service to the construction and design community to assist you with completing your project.

This guide is not all inclusive. Although a pre-construction meeting is not required, it is highly recommended as it may help to avoid changes or additional requirements pertaining to your project.

SCOPE

The purpose of this publication is to provide information regarding frequently asked questions pertaining to the fire code and issues that are applicable to construction sites. Additionally, this guide provides important inspection and testing information as well as Certificate of Occupancy requirements that will assist you in the successful completion of your project. Some topics included within this guide have additional, more detailed specifications. In these instances, you will be referred to the appropriate chapter and/or page number for additional details.

Our goal is to achieve compliance with the Golder Ranch Fire District's fire code requirements by partnering with you and assisting with the completion of your project within your required deadlines. In order to be successful in this endeavor, communication is critical. Your project will be assigned to a Fire Inspector and through communicating your issues and concerns to the Fire Inspector in a timely manner, a solution can generally be found that will satisfy everyone.

Ideally, you should interact with the same inspector throughout the life of the project, however, there may be occasions when your assigned inspector may not be available. In that case, another qualified inspector will be assigned to conduct inspections to avoid delays in the completion of your project.

Your cooperation in observing these regulations and making other responsible parties aware of the safety requirements outlined in this document is greatly appreciated.

If you have any questions, please contact your assigned fire inspector or call the Fire & Life Safety division at 520-818-1017.

TABLE OF CONTENTS

1. GENERAL INFORMATION

Fire safety during the construction, alteration, or demolition of a building is critical for the safety of job site employees, fire prevention personnel, firefighters and the general public. The following is a general outline of preconstruction requirements and specific information pertaining to each requirement. This guide also covers the minimum fire code requirements for a final fire inspection required for a full Certificate of Occupancy from a Building Inspector.

A pre-construction meeting is highly recommended for the General Contractor, all fire protection contractors and the Fire Inspector to discuss general and/or specific requirements, concerns and issues or to aid in obtaining permits that may be required during the course of the project.

GENERAL CONTRACTOR RESPONSIBILITIES

The General Contractor is responsible for the fire safety of all property under their control; therefore, the General Contractor will ultimately be held responsible for any fire code violations that may occur on the job site. The General Contractor is also responsible for maintaining copies of all approved, stamped plans on site as well as copies of all permits and inspection reports. **Inspections will not be performed without approved plans on site and may result in additional fees being assessed.**

FIRE PROTECTION CONTRACTOR RESPONSIBILITIES

Fire Detection and Fire Suppression System Contractors are each separately responsible for providing and maintaining their respective approved, stamped set of plans on site. See **Chapter 1-4: Plan Submittal Requirements** for additional details. Inspections will not be performed without approved plans on site and may result in additional fees being assessed.

Fire Detection and Fire Suppression System Contractors are also responsible for verifying their systems are ready (pre-tested) for inspection, which includes verifying that the project is installed according to approved plan(s) prior to calling for any inspection.

Whenever possible, Fire Detection and Fire Suppression System Contractors shall coordinate with each other and the General Contractor/Superintendent to schedule inspections to be performed at the same time.

2. PLAN SUBMITTAL REQUIREMENTS

The Golder Ranch Fire District reviews building, and fire protection system plans for all types of commercial and residential construction and remodeling.

The contractor is responsible for ensuring that the system(s) being installed or modified comply with all locally adopted codes including but not limited to the current adopted edition of the International Fire Code, referenced NFPA Standards, and local amendments.

Please review ALL submittal requirements prior to turning in your plans; incomplete submittals will be returned to the applicant and resubmittals will incur additional plan review fees. All signed checklists must accompany plans at time of submittal.

Plans approved by the Golder Ranch Fire District give authorization for construction. Final approvals are subject to field verification. Any approval issued by the District does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances relating to the construction project.

All installations must reflect the approved plans. Any deviation from the approved plans requires a re-submittal to the District prior to inspection. All plan review and inspection process steps must be followed. Deviation from the requirements may result in delays.

ADOPTED FIRE CODE AND AMENDMENTS

The Golder Ranch Fire District has adopted the International Fire Code (IFC) with local amendments. Please visit our website at: https://grfdaz.gov/fire-life-safety/ for information on the current edition of the adopted codes and amendments or contact the Fire & Life Safety Division at 520-818-1017.

WHERE TO SUBMIT PLANS

Town of Oro Valley: For projects located within the Town of Oro Valley, plans must be submitted through the Community and Economic Development Department located at 11000 North La Canada Drive, Oro Valley, AZ, 85737.

Town of Marana: For projects located within the Town of Marana, plans must be submitted through the Development Services Department located at 11555 West Civic Center Drive, Marana, AZ, 85653.

Pima County: For projects located within Pima County, plans are required and all plans must be submitted directly to the Golder Ranch Fire District Fire & Life Safety division digitally through the website, www.grfdaz.gov.

Pinal County: For projects located within Pinal County, plans are required and all plans must be submitted directly to the Golder Ranch Fire District Fire & Life Safety division digitally through the website, www.grfdaz.gov.

REVIEW TIMELINES

Plans are reviewed on a first come, first served basis and are queued by the date received. Date received time stamps begin when full submittals are received including all required checklists, forms, and technical data sheets. We will make every effort to review your project within a window of ten (10) business days, however dependent upon volume, time frames may be greater. In times of high volume, plan reviews may be conducted by a third party. When a third-party review is conducted, you will be assessed the third-party rate in addition to the plan review fees for this service.

EXPEDITED PLAN REVIEW

You may request an expedited review of your project. Expedited plan review services are subject to staff availability and current work volumes, and/or they may be conducted by a third party. When a third-party review is conducted, you will be assessed the third-party rate for expedited service in addition to the plan review fees for this service.

FIRE SPRINKLER PLANS

All plans and specifications for commercial fire sprinkler systems submitted for review shall be sealed by an Arizona design professional qualified in fire sprinkler system design or NICET/CSA level III or higher.

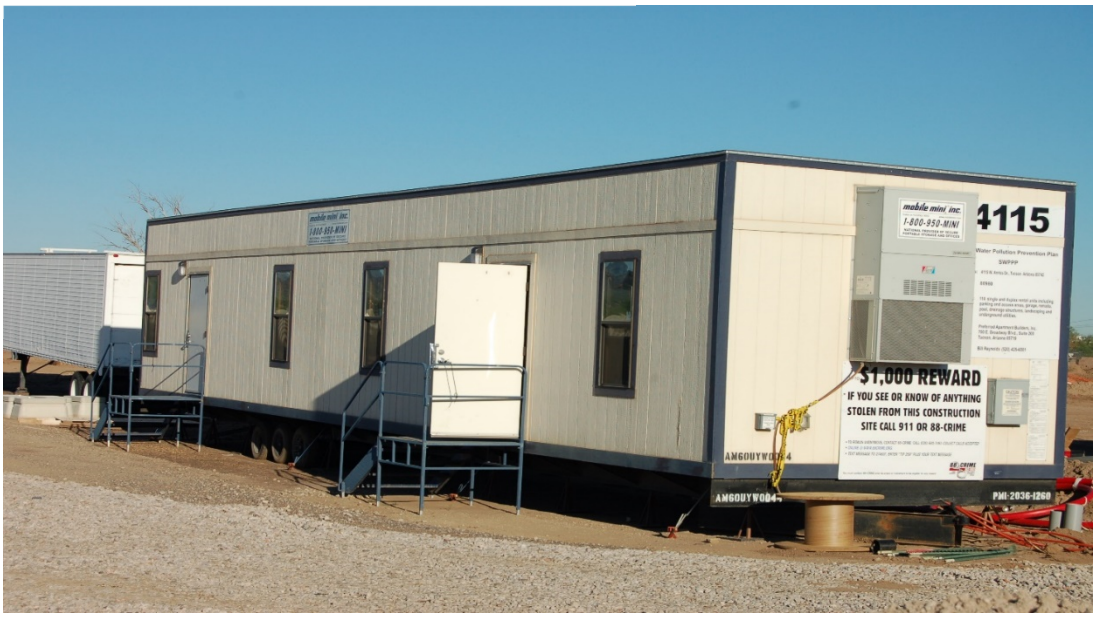
Fire sprinkler system installation information shall be provided on the appropriate drawings. This includes any modifications to existing systems. Plans shall be reviewed, approved, and on site prior to work beginning.

FIRE ALARM PLANS

All plans and specifications for fire alarm systems submitted for review shall be sealed by an Arizona design professional qualified in fire alarm system design or NICET/CSA level III or higher.

Fire alarm system installation information shall be provided on the appropriate drawings. This includes any modifications to existing systems. Plans shall be reviewed, approved, and on site prior to work beginning.

3. CONSTRUCTION/SALES TRAILER



FIRE PERMITS may be required for a temporary construction/sales trailer prior to the start of construction. Depending on the jurisdiction of your project, a building permit may also be required for a temporary construction/sales trailer.

A fire sprinkler or fire alarm system is not required for temporary construction/sales trailers. However, when construction/sales trailers are equipped with fire suppression and/or fire detection systems, permits and acceptance tests are required for the installation of the systems. Fire protection systems must be maintained while the trailer is on site.

When the trailer utilizes a generator using flammable or combustible liquids, a fire permit may be required. See **Chapter 1-17: Generators Utilizing Flammable or Combustible Liquids** for specific details on fire permit applications prior to placing the generator in service.

4. FIRE APPARATUS ACCESS ROADS GENERAL REQUIREMENTS

Fire apparatus access roads are required at all phases of a project and shall be maintained throughout construction to allow emergency response vehicles onto the construction site for fire, emergency medical services, and technical rescue situations.

Fire apparatus access roads shall be in place prior to combustible construction materials being brought onto the site or prior to start of vertical construction, whichever comes first. In some cases, depending on the circumstances, access roads may be required at an earlier stage of the project.

- Each site should have a minimum of two access points into the site. The access points shall be a minimum of 20 feet wide with 13 feet 6 inches of vertical clearance and shall be maintained accessible at all times.
- For buildings 30 feet or more in height, two fire access roads a minimum of 26 feet wide are required.
- Temporary or permanent access roads shall be capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.
- All fire apparatus access roads shall be provided with a drive-through access or an approved turn-around. An approved turn-around is required when the road length exceeds 150 feet.
- Fire apparatus access roads shall extend to within 150 feet of all portions of the building to include all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building.
- The edges of the access road shall be obvious or clearly marked. In cases where markings are not practical, not possible or markings are not visible, curbing shall be installed.
- Open trenches cut across any fire apparatus access roads shall be plated at all times with steel plates capable of maintaining the integrity of the fire apparatus access road design and must be filled in and resurfaced by the end of the working day.
- Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles.

ACCESS REQUIREMENTS FOR NEW CONSTRUCTION SITES

1. Signage shall read FIRE DEPARTMENT ACCESS and shall include site address, or range of addresses, for all commercial sites and residential model homes.
    a. **Size.** The two-sided sign plate shall be a minimum of 4x4 feet with a thickness of ¾ inch graded plywood.
    b. **Color.** The sign shall be two-sided and have a red background with white letters.
    c. **Location.** Signs shall be installed at each point ofentry.
2. One temporary FD access road shall be provided prior to vertical construction of structures.
    a. The access road shall be a minimum of 20 feet wide with a vertical clearance of 13 feet 6 inches.
    b. Turning radii shall be 42 feet 8 inches minimum outside radius, 20 feet 3 inches

minimum inside radius (WB-40).

c. Fire department access roads shall be designed and maintained by the contractor/builder at all times during construction. Access roads shall be within 200 feet of all portions of the facility or all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

d. If the building is more than one story, the access road must be within 200 feet of the center of the furthest room on the second floor (or level). Travel shall be measured along normal pedestrian routes. One flight of stairs (a minimum of 44 inches wide) shall count as 30 feet. Dead end fire access roads that exceed 150 feet in length require an approved turn-around.

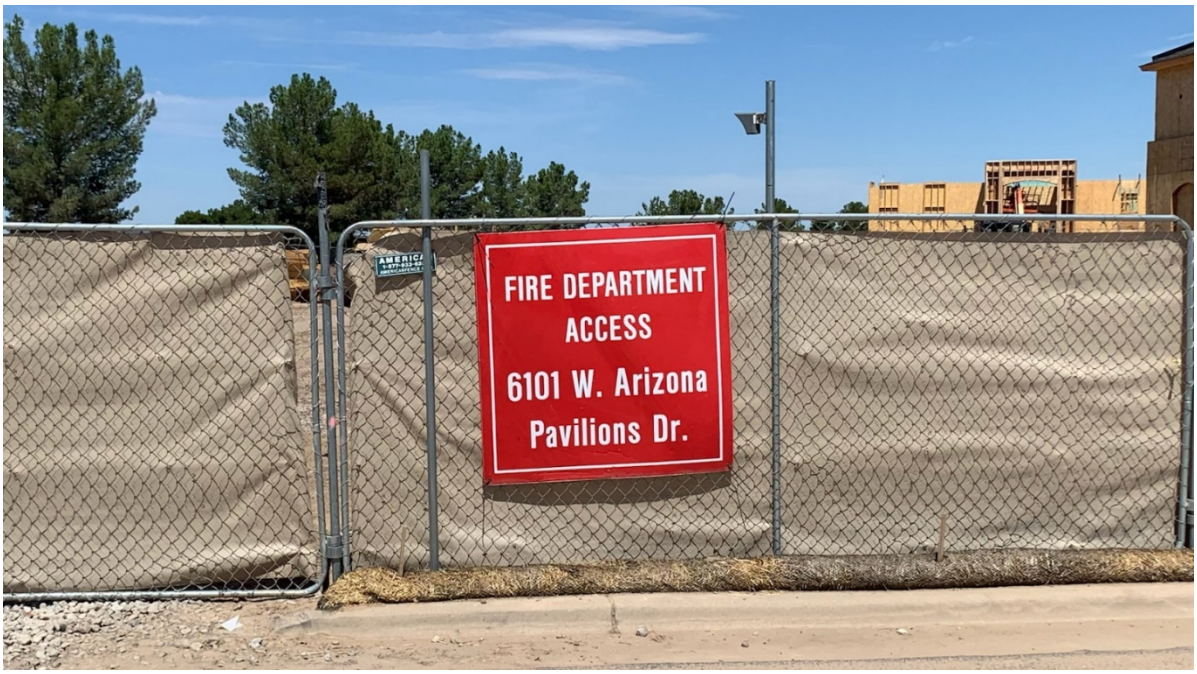
e. A road surface made up of ABC or other approved materials compacted to 90% and capable of supporting fire apparatus vehicles 83,000 pound gross vehicle weight (GVW) under any weather condition. The temporary all-weather surface shall be maintained by the builder for intended use by the fire department during the construction process.

3. One hydrant must be operational and accessible prior to combustibles being delivered on site.

   a. Hydrants shall be located so that they are not more than 400 feet away from combustible construction to account for hose lay length. Distance is measured as the fire truck travels, not line of sight.

TEMPORARY FIRE DEPARTMENT ACCESS SIGNAGE

All fire apparatus access roads shall be clearly marked at the entrance with an approved sign approximately 4 feet by 4 feet in size. The lettering shall be white on a red background that states, “FIRE DEPARTMENT ACCESS”. If appropriate, the use of arrows may be approved by your Fire Inspector. Also, additional access road markings may be required throughout the project.



TEMPORARY ACCESS ROAD SPECIFICATIONS DURING CONSTRUCTION

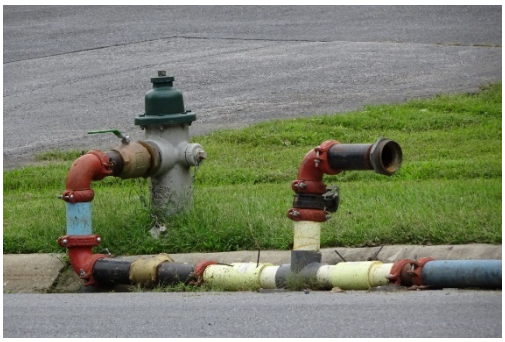
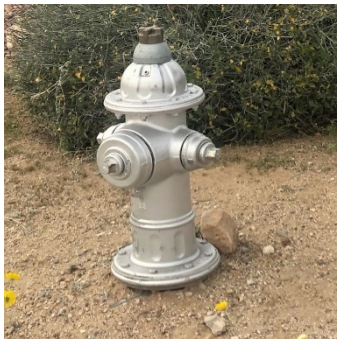
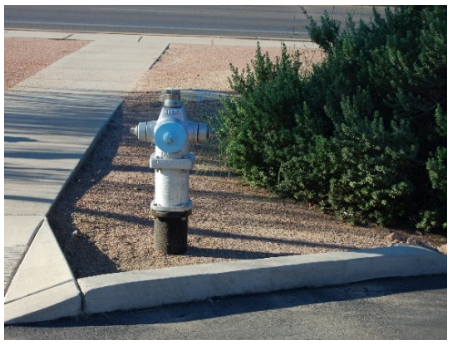
During construction, temporary access roads may be approved when in compliance with the following minimum requirements:

- The fire apparatus access road shall be an all-weather driving surface, graded to drain standing water and engineered to bear the imposed loads of fire apparatus when the roads are wet. The minimum surface shall be 6 inches of ABC compacted to 90 percent over an approved base and shall support the minimum weight of 83,000 pounds. Compaction test results shall be provided to the Fire Inspector prior to approval. Alternate methods may be approved when designed and sealed by a professional engineer (PE) registered by the State of Arizona and approved by the Fire District.

- The contractor or person in charge of any commercial building construction site whose structures total more than 4,000 square feet shall provide and maintain fire lanes as shown on approved site plans. Fire lanes shall be constructed of asphalt, concrete or other alternative material pre-approved by the Fire Marshal or Fire Code Official. Fire lanes shall be sufficient to support fire apparatus:

  - **Concrete:** 41-ton weight limit required (83,000 lbs)
  - **Asphalt:** 41-ton weight limit required (83,000 lbs)
  - **Gravel:** 41-ton weight limit required (83,000 lbs)
    - Minimum one (1) inch rock, six (6) inches deep with underlay approved by the Fire Marshal or Fire Code Official on a compacted sub-grade. OR
    - Minimum six (6) inches of Aggregate Base Course (ABC) compacted to 90 percent over an approved base and graded so that ponding does not occur after rainfall.

5. FIRE HYDRANTS

Fire hydrants shall be in place and operational prior to combustible construction materials being brought onto the site. Operational is defined as being fully tested, chlorinated, and approved by the water department and GRFD. A hydrant shall be located within 400 feet of stored combustible construction materials. Additional hydrants shall be installed in accordance with the Town of Oro Valley/Marana or Pima/Pinal County requirements.

The use of temporary piping and hydrant systems, while discouraged, is acceptable provided the hydrant can operate at the required flow rate. **Plans for such a system must be submitted and approved by GRFD prior to installation.**

There are a number of common errors possible with respect to the installation of new fire hydrants. Most have to do with variations between preliminary grading designs and final grading. Others involve specific uses of areas near where hydrants are installed. If these issues are not monitored, hydrants can end up being situated in such a manner that they, at best, look strange and, at worst, are difficult or impossible to operate.

Hydrant installation details need to be coordinated among all parties involved at the construction site. If hydrants are being installed in areas to be landscaped or if final grading elevations are not clear, the specified hydrant design should easily accommodate placement of riser extensions of various lengths so that the final hydrant installation is compatible with the final grade elevation.

As a general rule, no equipment or facilities shall be located within three feet of the hydrant body, or placed in front of any hydrant outlet, or be placed between the hydrant and the roadway. Persons responsible for installing landscaping near hydrants should be apprised of these conditions as walls, plants and other landscape materials must be kept outside the hydrant's clearance space.

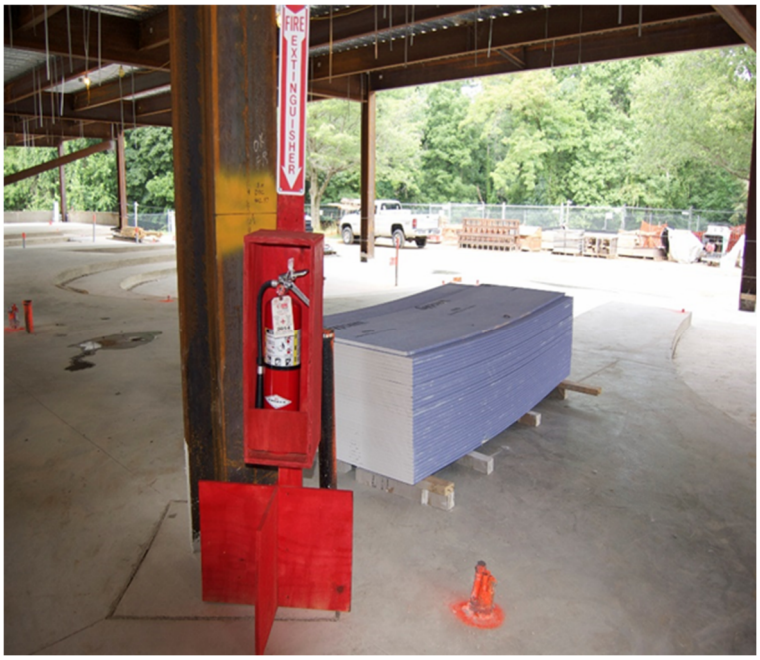
The center of a hose outlet shall be not less than 18 inches above final grade.

Hydrants shall be protected if subject to mechanical damage. Protection shall be arranged in a manner that will not interfere with the connection to, or operation of, hydrants. Hydrants shall be provided and spaced in accordance with the requirements of the Authority Having Jurisdiction (AHJ).

6. FIRE EXTINGUISHERS

Fire extinguishers sized for not less than ordinary hazard (2 A:10-B:C) are required in buildings under construction, alteration or demolition **at each stairway on all floor levels** where combustible materials have accumulated, as well as **in every storage and construction shed.**

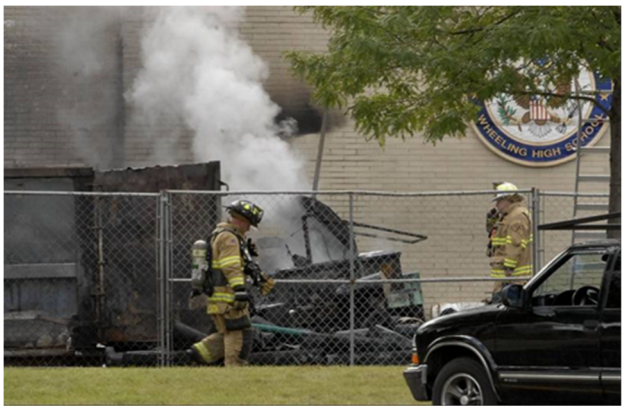
Extinguishers shall be installed in plain view in an accessible location, and away from hazardous areas. Additional extinguishers shall be provided where special hazards exist.



7. COMBUSTIBLE WASTE

Combustible waste shall not be allowed to accumulate on any site except in approved containers. Waste material **shall be removed from the building on a daily basis.** Combustible debris, waste material, or trash shall not be burned on the construction site.

8. ASPHALT KETTLES



A FIRE PERMIT for Temporary Hot Work Operations may be required for hot kettles, welding soldering, and brazing at construction sites.

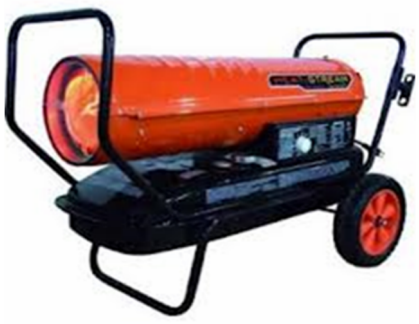
Asphalt (tar) kettles and pots shall not be used inside or on the roof of a building or structure. Kettles **shall not** be located within 20 feet of any combustible material, combustible building surface, or any building opening, and within a controlled area identified by the use of traffic cones, barriers or other approved means.

Roofing kettles and operating asphalt (tar) kettles shall not block emergency escape routes, gates, roadways or entrances. There must be an attendant within 100 feet of an operating kettle who is knowledgeable of these types of operations and hazards. The attendant shall have the kettle within sight during operation. Ladders or similar obstacles **shall not** form a part of the route between the attendant and the kettle.

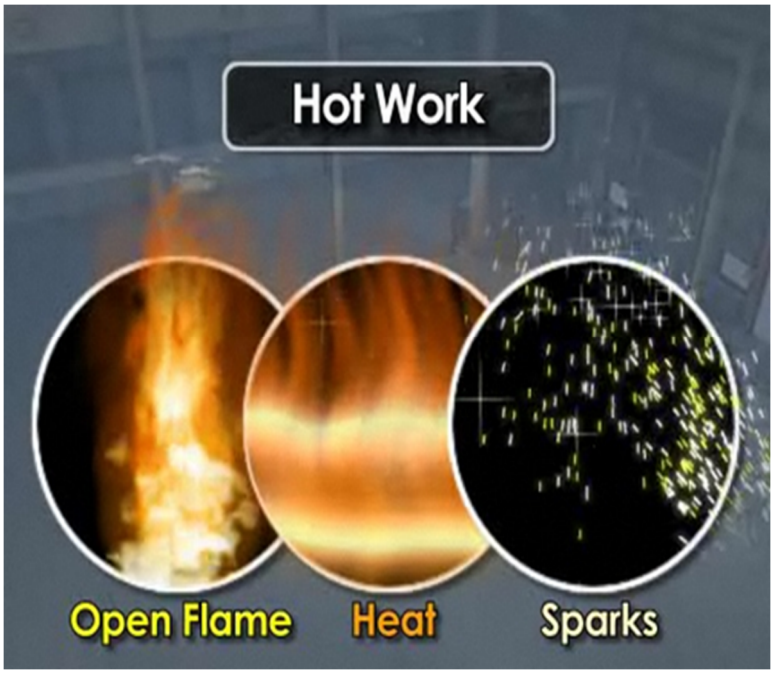
A portable fire extinguisher with a minimum **40-B:C** rating shall be located within 25 feet of each kettle being utilized and an additional minimum **3A:40-B:C** rated fire extinguisher shall be located on the roof being covered.

9. HEATERS

All heaters used in structures must be designed and approved for indoor use. Heaters shall not be used in areas where they will create a hazard. Adequate ventilation must be provided for fuel burning heaters. Heaters must be turned off, moved a safe distance from any structure, and allowed to cool before fueling.



10. HOT WORK

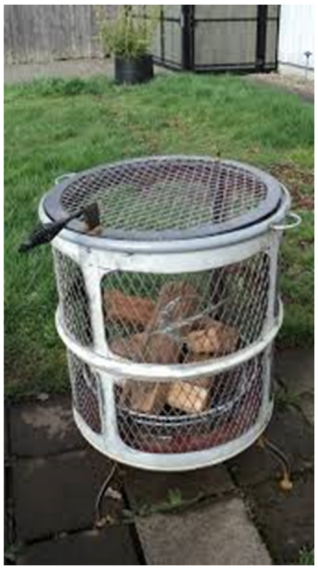


A FIRE PERMIT for Temporary Hot Work Operations may be required for hot kettles, welding soldering, and brazing at construction sites.

Any person using a torch or other flame-producing device for removing paint, sweating pipe joints, applying roofing materials, or any other process requiring an open flame device in any building or structure **shall provide one approved fire extinguisher (minimum size 2A:20-B:C) within 30 feet.** Hot work areas shall not contain combustibles or shall be provided with appropriate shielding to prevent sparks, slag or heat from igniting exposed combustibles.

In all cases, a fire watch shall be maintained in the vicinity of the operation for no less than 30 minutes after the torch or flame-producing device has been used. The individuals responsible for performing the hot work as well as the individuals responsible for providing the fire watch shall be trained in the use of portable fire extinguishers.

11. WARMING FIRES



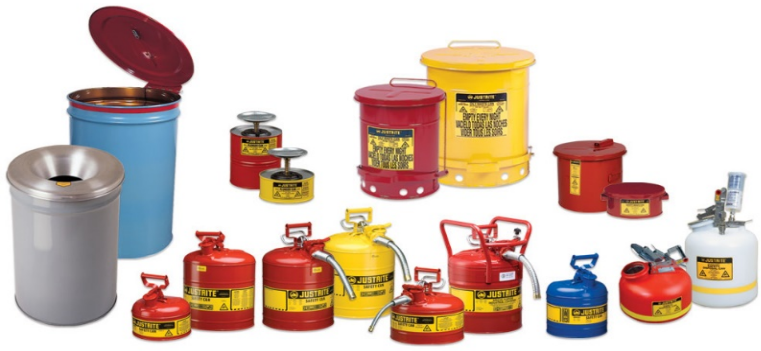
Warming fires at construction sites shall comply with the following:

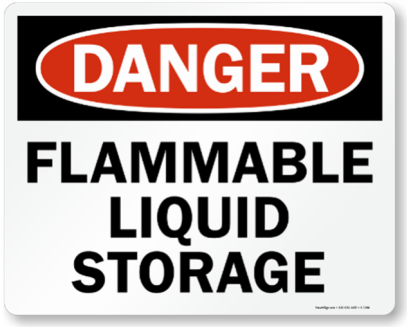
- No warming fires shall be ignited or maintained unless the fire is contained in an APPROVED waste burner located at least 25 feet from any structure.
- An approved waste burner is an intact 30 or 55-gallon metal drum with a spark arrester constructed of iron or heavy wire mesh with openings no larger than ½-inch.
- The fire must be attended AT ALL TIMES by a competent person who shall have a garden hose (minimum 5/8-inch diameter) pre-connected to a reliable water supply OR a 2-A:10-B:C (or larger) fire extinguisher. This means somebody must be specifically assigned to attend the fire. It is NOT permissible to leave the fire unattended and the fire must be completely extinguished before it can be left unattended.
- The warming fire shall be extinguished when the burning of material causes or creates dense smoke or odor.
- All burning shall meet the requirements of the Pima Department of Environmental Quality (PDEQ) or ADEQ for Pinal County. You must check daily to see if it is permissible to burn.

The Fire Marshal may prohibit any and all fires when deemed hazardous.

12. HAZARDOUS MATERIALS STORAGE AND USE

STORAGE AND USE OF FLAMMABLE LIQUIDS





A FIRE PERMIT may be required for the storage or use of more than 5 gallons of flammable liquids or 25 gallons of combustible liquids. Flammable and combustible liquids shall be stored in an area approved for flammable/combustible liquid storage. Consult with your Fire Inspector.

The storage of all flammable liquids must be in safety containers designed for their use. **Flammable liquids shall not be stored in buildings under construction.**

All containers must be labeled identifying the liquid they contain and the words:

FLAMMABLE – KEEP FIRE AND FLAME AWAY - KEEP 50 FEET FROM BUILDINGS.

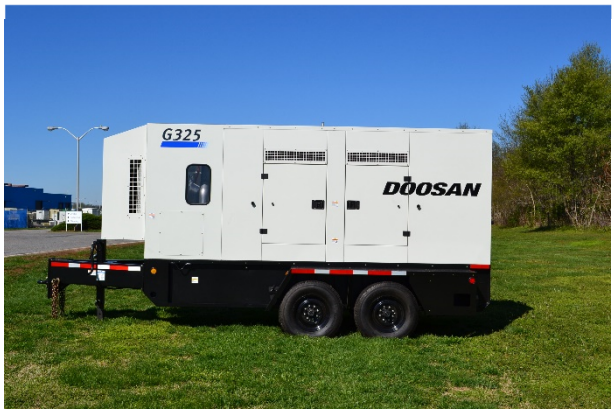
STORAGE AND USE OF COMPRESSED OR LIQUEFIED GASES

Cylinders, valves, regulators, hoses as well as other apparatus and fittings for oxygen shall be kept free from oil and grease. Oxygen cylinders, apparatus, and fittings shall not be handled with oily hands, oily gloves, greasy tools or equipment.

Acetylene gas shall not be piped unless using approved cylinder manifolds and connections. Cylinders shall be located away from the hot work area to prevent them from being heated radiantly or ignited due to sparks, slag, or misdirection of the torch flame. All cylinders shall be secured to prevent dislodgement and access by unauthorized persons.

See **Chapter 1-14: Hot Work** for additional details.

GENERATORS UTILIZING FLAMMABLE OR COMBUSTIBLE LIQUIDS



A FIRE PERMIT may be required by the Golder Ranch Fire District when installing a temporary/permanent generator having a fuel tank using flammable liquids in excess of 10 gallons or combustible liquids in excess of 60 gallons.

A site plan showing distance from buildings, property lines, public right-of-way and grounding specifications along with a permit application and fee shall be submitted to the Golder Ranch Fire District prior to installation.

An inspection and approval of the installation of the generator will be required before operation of the generator.

Annual generator inspection reports will be required and will need to be produced upon request by GRFD.

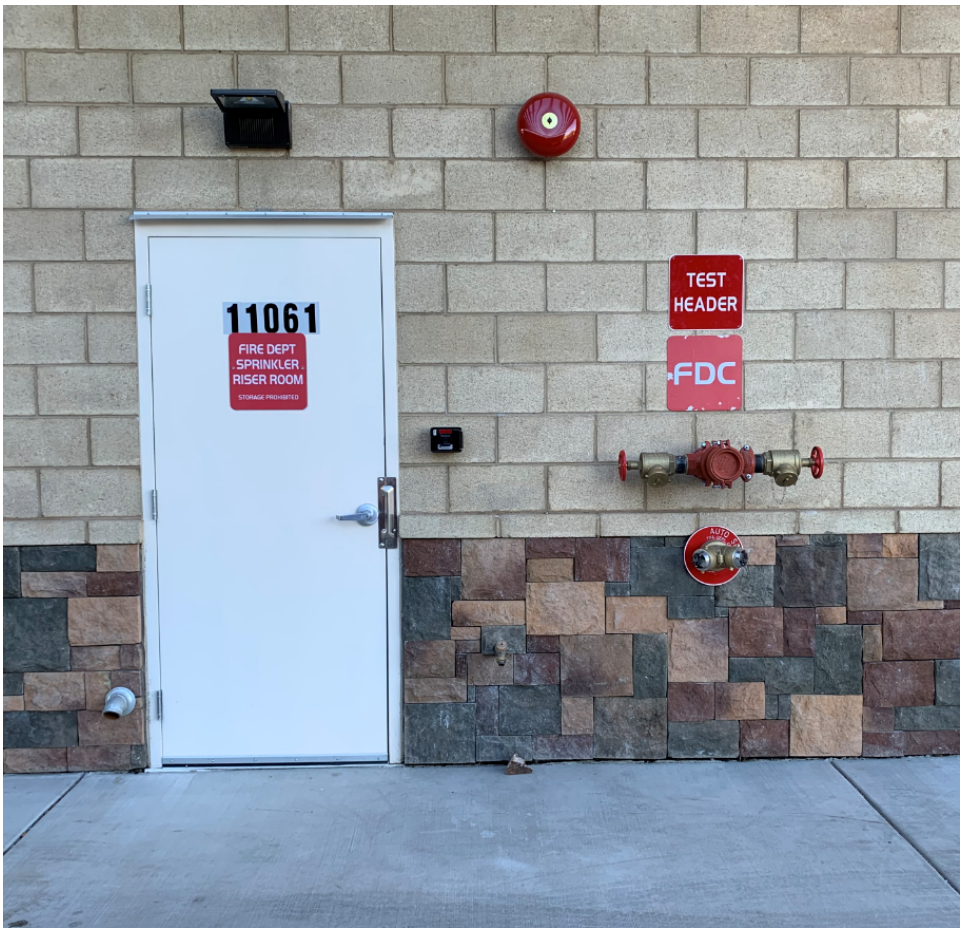
13. FIRE PUMP ROOMS AND FIRE RISER ROOM REQUIREMENTS

Fire pump and automatic fire sprinkler system riser rooms shall be located in a dedicated room and have a door directly accessible from the exterior of the building.

The room shall be designed with adequate space for all equipment necessary for the installation (as defined by the manufacturer), with sufficient working space around the stationary equipment.

Fire pump and automatic fire sprinkler system riser rooms shall be provided with door(s) and an unobstructed passageway large enough to allow removal of the largest piece of equipment.

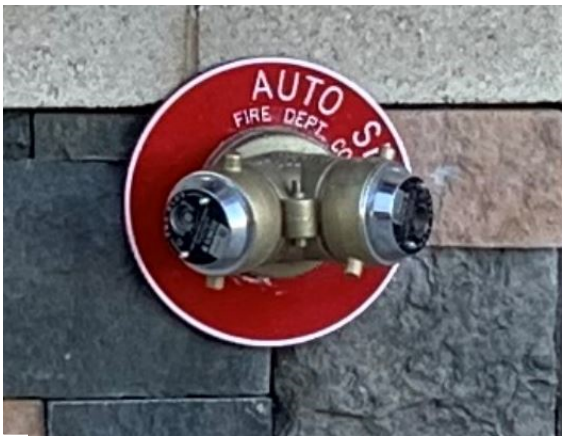
SIGNS: Each fire pump and fire sprinkler riser room door shall be identified by a permanent weather resistant sign in compliance with GRFD specifications. See **Chapter 3: Fire Department Signage** for details and specifications.

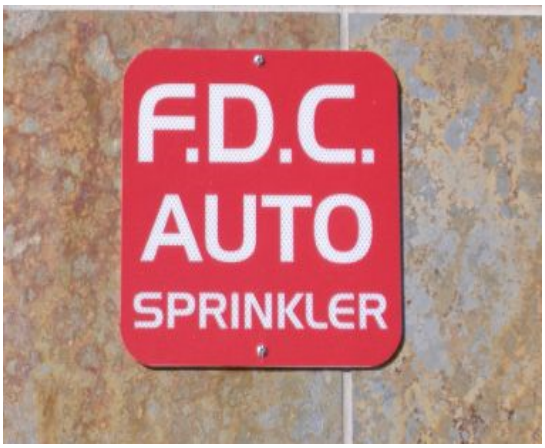


14. FIRE DEPARTMENT CONNECTION REQUIREMENTS

- All Fire Department Connections (FDCs), fire department hose connections and standpipe hose connections for fire department use shall be 2½" national standard threads.
- FDCs shall be protected with Knox 2½" locking FDC Plugs. Knox FDC caps are available to order online at:

  https://www.knoxbox.com or www.grfdaz.gov
- FDCs shall be located a maximum of 200 feet from the nearest fire hydrant. Fire hydrants and FDCs shall be on the same side of the drive entrance to prevent access obstruction.
- The location of fire department connections shall be approved by the Fire Code Official.
- NFPA 13 fire sprinkler systems shall be installed with 2½" female swivels with national standard threads.
- NFPA 13R sprinkler systems shall be installed with a single female swivel with 2½" national standard threads.





FDC SIGNS

Each Fire Department Connection (FDC) shall be identified by a permanent weather resistant sign in compliance with GRFD specifications. See **Chapter 3: Fire Department Signage** for details and specifications. When the system supplied by the FDC does not supply the entire building or supplies multiple buildings, signs shall identify the areas of the building supplied by the FDC. The fire department connection sign shall identify the building address or area, where necessary, and type of system the FDC supplies. Consult with your Fire Inspector prior to ordering signage.

TEST HEADER SIGNS

Each forward flow test header shall be identified by a permanent weather resistant sign stating TEST HEADER.

15. ADDITIONAL BUILDING REQUIREMENTS

KNOX BOXES, KEY SWITCHES, ETC.

A Knox Box, padlock, key switch, elevator key box or other Knox devices may be required. Please refer to **Chapter 4: Knox Boxes, Switches, Etc.** for device requirements, model numbers, locations and ordering information.

- Required Knox box or Knox device locations should be noted on the approved plans. If not, please coordinate with your Fire Inspector regarding location, number and type of devices required. Once approved, Knox boxes and other Knox products are available to order online at:

  https://www.knoxbox.com or www.grfdaz.gov

- For security purposes, it is highly recommended that wall-mounted boxes be recess mounted. Early attention to this requirement will allow appropriate construction decisions to be made to facilitate the installation.

- Following installation, keys are locked into the Knox box by the Fire Inspector.

GATES

For all information and requirements pertaining to the installation of automatic gates, please see **Chapter 6: Automatic Gates** for details.

For all information and requirements pertaining to the installation of manual and pedestrian gates, please see **Chapter 7: Manual & Pedestrian Gates** for details.

ADDRESS DISPLAY REQUIREMENTS

Approved address numbers shall be visible from the street, mounted on the building or on a roadway monument. The building and suite numbers must be posted at time of Certificate of Occupancy. Refer to Town of Oro Valley/Marana or Pima/Pinal County Addressing Codes as appropriate for details.

16. STOP WORK ORDERS

Stop Works Orders are issued to immediately halt construction work, cease business operations or prohibit use or occupancy of a property in order to gain compliance with state and local codes, ordinances and regulations. Stop Work Orders also provide a course of action to be taken when a condition exists that presents a distinct hazard or causes a threat to life or property.

The purpose of Stop Work Orders are to protect workers, tenants, the general public, buildings and properties from unsafe conditions. Stop Work Orders do not necessarily stop all work on a site and certain work may still be allowed to continue as determined by the Fire Code Official.

The most common use of a Stop Work Order occurs at construction sites that have combustible materials onsite without the approved required access and/or firefighting water supply in place. Other occasions when a Stop Work Order may be issued include, but are not limited to:

- Performing improvements, modifications or construction without proper permits;
- Preventing additional work (usually at a construction site) from taking place until specific code or other life safety requirements are met;
- Evacuation or closure of a facility is necessary to abate a situation where the building has been deemed hazardous to life and property.

When an authorized representative of a building, site or operation has been issued a Stop Work Order, the only permissible work is that which is necessary to bring the violations or unsafe conditions into compliance.

Stop Work Order Procedure:

1. The Stop Work Order is prepared, and notification is made to the general contractor, owner or occupant in charge at the site.
2. A Stop Work Order placard will be posted at each entrance to the premises or site. Each placard will be photographed.
3. The Fire Code Official will photograph each violation or hazardous condition.
4. If necessary, the building, premises or site will be evacuated, and all operations shall cease immediately except of those allowed to continue by the Fire Code Official.
5. The general contractor, owner(s) and occupant(s) will be provided with written documentation of all violations to be corrected.
6. If applicable, any scheduled construction inspections will be cancelled, and no additional inspection appointments will be scheduled until further notice.
7. Depending on the jurisdiction, the Fire Code Official will contact the Building Officials for coordination and communication.
8. Activities, work or inspections may resume once items identified on the Stop Work Order have been addressed to the satisfaction of the Fire Marshal or designee.

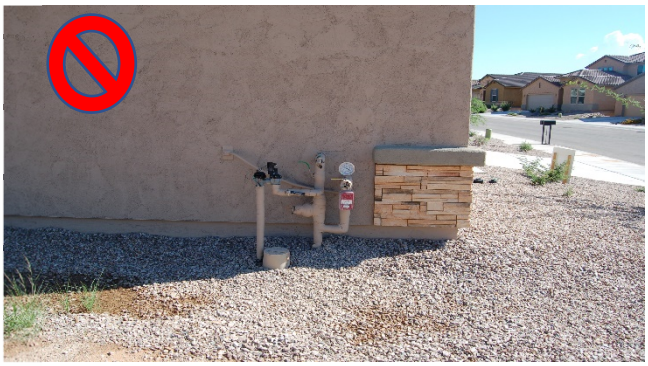
17. GENERAL FIRE SPRINKLER SYSTEM REQUIREMENTS

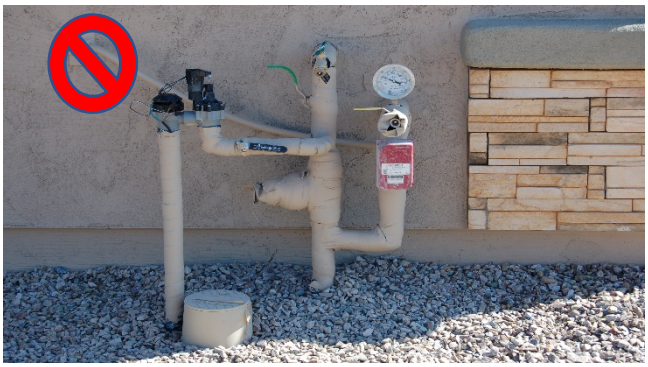
All automatic fire sprinkler systems shall be installed or modified by a contractor licensed to perform such work by the State of Arizona Registrar of Contractors (ROC).

Automatic fire sprinkler systems shall be supervised by an approved central, proprietary or remote signal station service in all occupancies that are NFPA 13 or NFPA 13R compliant.

Automatic sprinkler risers for 13D systems shall be located in the wall cavity with an access panel. Access panels doors can open to the inside or the outside of the residence.

OUTSIDE RISERS ARE NOT APPROVED





**APPROVED **

18. FIRE INSPECTIONS AND TESTING

****APPROVED PLANS MUST BE ON SITE DURING CONSTRUCTION AND TESTING****

1. All requests for inspections and testing shall be made through the Golder Ranch Fire District Fire District website, https://grfdaz.gov/request-a-commercial-inspection/ a minimum of two (2) business days in advance. You will then be contacted by the inspector to schedule/confirm day and time of inspection.
2. Approved plans bearing a **FIRE DISTRICT APPROVAL STAMP** shall be on the job site at all times. **Inspections or tests will not be conducted without them.** Mirror plans, plans depicting multiple options and plans that do not accurately reflect the location of water service, riser locations etc. will not be approved and/or may lead to an inspection failure due to construction not conforming to approved plans.
3. Separate permits are required for each system. Examples of separate plan submittals for fire permits include but are not limited to: Fire Sprinkler Systems, Fire Sprinkler Monitoring, Fire Alarm Systems, and Kitchen Hood Suppression Systems.
4. Fire protection systems shall be **pre-tested** by the contractor and all corrections made prior to calling for an acceptance inspection.
5. **The permit fee is calculated to include primary tests or inspections.**
6. Acceptance test inspections are for the system covered by the permit. This may include the entire building, only a portion of the building, or a piece of equipment. If it is necessary (or if you choose) to test a single system in phases requiring more than the allotted inspections for the permit, additional inspection fees may apply. It is recommended you consult with your Fire Inspector to discuss an inspection strategy.
7. Unless otherwise approved in writing through the alternate means and methods section of the fire code, all systems shall be designed and installed in accordance with the Golder Ranch Fire District Fire adopted code and standards. This is not always the most current edition of the standard or code. It is the contractor's responsibility to use the proper adopted standard. For information on the current edition of the adopted code or amendments, please contact your Fire Inspector.
8. If your project requires your installers to deviate from the approved set of plans, **as-built drawings** must be submitted to Golder Ranch Fire District for review prior to scheduling the appropriate inspection. Failure to do so may result in an inspection failure with additional fees.
9. Fire Inspectors have been instructed to inspect to the approved plans and not approve installations that do not comply with those plans. Inspectors do not have authority to approve field changes that are not reflected on an approved plan.

FIRE SPRINKLER INSPECTIONS

REQUIRED INSPECTIONS

Minimum required inspections prior to approval of new fire sprinkler systems and final fire approval:

- Underground piping visual inspection and Hydrostatic 2-hour pressure test
- Riser Flush
- Overhead fire sprinkler intermediate
- Overhead fire sprinkler final
- Final fire inspection

UNDERGROUND PIPING: TWO HOUR HYDROSTATIC PRESSURE TEST

- Systems shall be tested hydrostatically at 200 psi for 2 hours (pressure test gauge at lowest end of the system being tested).
- All joints must be fully exposed.
- Thrust blocks (kickers) or other approved mechanical restraints must be in place and visible.
- Where ductile iron pipe is used, all pipe and fittings shall be wrapped.
- Where C-900 pipe is used, a tracer wire or metallic warning tape must be added in accordance with manufacturer's installation recommendations.
- The contractor completing the work shall provide the Golder Ranch Fire District with a completed **Contractor's Material and Test Certificate for Underground Piping** (NFPA 13) form signed by the sub-contractor and general contractor upon completion of all underground piping tests and inspections.

A flush will be conducted and **WITNESSED BY A FIRE INSPECTOR** after approval of the underground pressure test. **All check valves must be in a fully open position.**

****** IMPORTANT NOTE ******

It is highly recommended you consult with your Fire Inspector, Building Inspectors, and Water Purveyors to determine who witnesses and conducts chlorination and bacteria tests of underground water lines.

OVERHEAD PIPING: TWO HOUR HYDROSTATIC PRESSURE TEST and INTERMEDIATE INSPECTION

- Systems shall be pre-tested by the contractor.
- The system shall be tested at 200 psi for 2 hours with all system piping visible from floor level.
- **NO** sheet rock or ceiling tile can be installed prior to the testing or inspection of the piping systems without the approval of the Fire Inspector.
- You will be required to remove any obstructions to viewing the complete piping system before an inspection will be conducted.
- The contractor completing the work shall provide the Golder Ranch Fire District with a completed **Contractor's Material and Test Certificate for Aboveground Piping (**NFPA 13) form signed by the sub-contractor and general contractor upon completion of all aboveground piping tests and inspections.

FINAL FIRE INSPECTION

The fire sprinkler system shall be fully operational at the time of final inspection and the following items are required at the time of the inspection:

- **All tests shall be requested by the contractor named on the fire sprinkler permit.**
- All signage shall be installed.
- Completed NFPA 13 **Contractors Material and Test Certificates** for underground and aboveground piping have been provided to the Fire Inspector prior to inspection.
- A hydraulic calculation data plate (NFPA 13) must be installed on all calculated systems. Stamped or engraved metal or rigid plastic plates are required. The use of magic markers, embossed tape labels, or metal impression labels is NOT allowed.
- Sprinkler head box(es) shall be properly installed, stocked with sprinkler heads, wrench, and a NFPA 25 booklet. The number of heads and boxes shall be in accordance with NFPA 13.

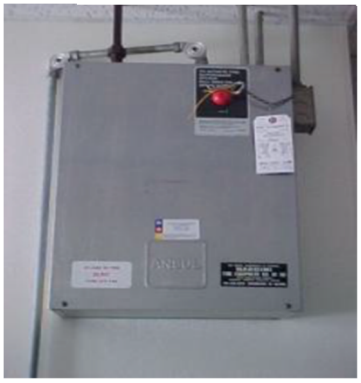
Final acceptance testing includes the following:

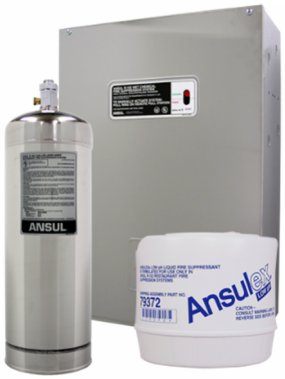
- Testing of third party monitoring with the installation of over 20 sprinkler heads. This shall be coordinated with the alarm contractor. A separate fire permit is required for the monitoring of the sprinkler system. The permit must be obtained prior to testing.
- Supervision of all valves.
- Main drain test witnessed by the Fire Inspector.
- Inspector's Test and timed water flow alarm test witnessed by the Fire Inspector.
- Pressure drop test across the backflow device, if installed.
- Other tests or inspections that may be required.

FIRE ALARM INSPECTIONS

- **All tests shall be requested by the contractor named on the fire alarm permit.**
- **The entire system shall be fully installed and pre-tested** prior to scheduling the final acceptance testing of the system.
- A **Certificate of Completion** and an **Inspection and Testing Form** required by NFPA 72 shall be completed and provided to the Fire Inspector prior to acceptance testing.
- Tests performed after normal duty hours will be charged the current scheduled rate for a minimum of two (2) hours.
- All control panels, initiating and signaling devices, power supplies and auxiliary devices shall be tested in the presence of the Fire Inspector.
- All devices shall be tested in accordance with manufacturers' recommendations. It shall be the responsibility of the installing contractor to provide the equipment and supplies necessary to perform the acceptance tests including: heat guns, approved canned smoke, ladders and other necessary devices required for testing of the entire system.
- A copy of the approved plans shall be permanently maintained at the fire alarm panel.
- A Zone Map shall be provided and posted near the annunciator panel when required by the Fire Inspector. The Zone Map consists of an approved simplified floor plan of the areas served by the alarm panel. Zone descriptions and /or devices shall correspond with the floor plan. Consult with the Fire Inspector for details and posting requirements.
- The location of the Fire Alarm Control Panel (FACP) shall be identified with an approved sign. See **Chapter 3: Fire Department Signage** for details and sign specifications. Consult with your Fire Inspector on signage locations.

KITCHEN HOOD EXTINGUISHING SYSTEM INSPECTIONS





Kitchen hood extinguishing systems shall be installed in accordance with the International Fire Code (IFC), the International Mechanical Code (IMC), applicable National Fire Protection Association (NFPA) standards and the manufacturer's recommendations. The installing contractor shall perform all tests.

The testing shall include:

- All components, including remote manual pull stations, mechanical or electric devices, detectors, actuators, and interlocks shall be tested for proper operation during the inspection in accordance with the manufacturers' listed procedures.
- Gas cooking appliances shall be connected to gas lines prior to testing.
- Upon activation, the system shall shut down fuel and electricity to the appliances under the hood. The fuel and electrical supply shall not reset unless the hood suppression system is reset.
- Electric power required for acceptance testing of systems shall be provided by grid power only, not generator power. Temporary power supplied from the grid through a meter is acceptable.
- Upon activation of the system, the makeup air supply to a hood shall shut down and hood exhaust fans shall continue to run unless shutdown is required by the extinguishing system manufacturer or another component of the system requires shutdown (NFPA 96).
- Where a building fire alarm system is installed, the kitchen hood extinguishing system shall be monitored by the building fire alarm system in accordance with NFPA 72. **A separate fire alarm permit is required.**
- A Class K fire extinguisher shall be required for UL 300 compliant kitchen hood systems.

ALWAYS PRE-TEST THE SYSTEM PRIOR TO SCHEDULING A FINAL INSPECTION

19. FINAL FIRE INSPECTION CHECKLIST

In order to obtain Fire District approval on the Final Fire Inspection, the following minimum conditions must be met:

- All automatic fire protection and life safety systems and equipment including sprinklers, fire alarms, smoke control, kitchen hood systems, etc. must be installed, fully operational, tested, and approved. All GRFD permits shall be signed off. If third party monitoring is required, it shall be operational and verified.
- All paving must be completed, and fire lanes are properly identified with compliant signage. See **Chapter 2: Fire Lanes and Fire Access** for additional details and requirements.
- Addresses must be posted. If required, a graphic directory must be installed. See **Chapter 5: Property Address Complex Directories** for details and requirements and consult with your Fire Inspector.
- All required signage **in compliance with GRFD specifications** must be installed. See **Chapter 3: Fire Department Signage** for specifications and details. Signage includes, but is not limited to:
    - FDC
    - Sprinkler Riser Room
    - FACP
    - Electrical Room, Mechanical Room, Boiler Room, etc.
    - F.D. Access
- Blue, reflective pavement markers must be installed for the FDC and fire hydrants. See **Chapter 2: Fire Lanes and Fire Access** for details.
- Knox boxes and locking FDC plugs must be installed. See **Chapter 4: Knox Boxes, Key Switches, etc.** for details. Provide current keys at the final inspection.
- All gates have been installed, inspected, tested and approved including key switches and pre-emption devices. See **Chapter 6: Automatic Gates** and **Chapter 7: Manual Gates** for all gate requirements.
- Proper fire extinguishers (type and quantity) must be present, mounted and tagged. Consult with your Fire Inspector.
- When installed, special locking arrangements have been inspected, tested and approved. Consult with your Fire Inspector.
- Exit signs and emergency egress lighting must be installed. Your Fire Inspector may perform a power drop during your final inspection to verify operation.
- All ceiling tiles must be in place and penetrations to fire rated assemblies must be properly sealed.

20. CERTIFICATE OF OCCUPANCY

After contacting the appropriate building department for Certificate of Occupancy inspections, all requests for **Fire Final Inspections** shall be called in to the Golder Ranch Fire District Fire District website, https://grfdaz.gov/request-a-commercial-inspection/ a minimum of two (2) business days in advance. You will then be contacted by the inspector to schedule/confirm day and time of inspection.

Approved plans bearing the Fire District approval stamp and all permits must be available at the job site at all times from the start of construction through final inspection. The Fire Inspector will provide you an electronic copy of each inspection report conducted at your project. Keep this paperwork on the job site. You may be required to provide documentation that an inspection has been completed and it is expected that you will be able to provide the paperwork at the final inspection.

REMINDERS

1. Approved plans and permits bearing a Fire District approval stamp must remain on the job site during construction and testing.
2. Always pretest your system before scheduling an inspection.
3. If you are unsure of a requirement, contact your Fire Inspector.

To schedule an inspection:

https://grfdaz.gov/request-a-commercial-inspection/

a minimum of two (2) business days in advance.

Inspection Hours:

Monday – Thursday: 8am – 5pm

Friday – Sunday: Closed

After Hours Inspections Available for Special Circumstances