

## **FORWARD**

This guide is intended to aid developers, architects, and contractors in complying with the City of San Luis Obispo requirements. It should be used as a schematic reference guide only. The items contained in this guide have been compiled from the current editions of the California Fire and Building Codes as amended, National Fire Protection Association Standards, California Code of Regulations Titles 19, and 24, and City of San Luis Obispo Fire Department Standards.

This guide contains the minimum amount of information that the Fire Department will address during preliminary design review. Final plans must meet all applicable Local, State, and National Fire Code Standards. If you have any questions regarding permits and fees, items contained in this document or any other Fire Department requirements please contact the Fire Marshal at (805) 781-7386.

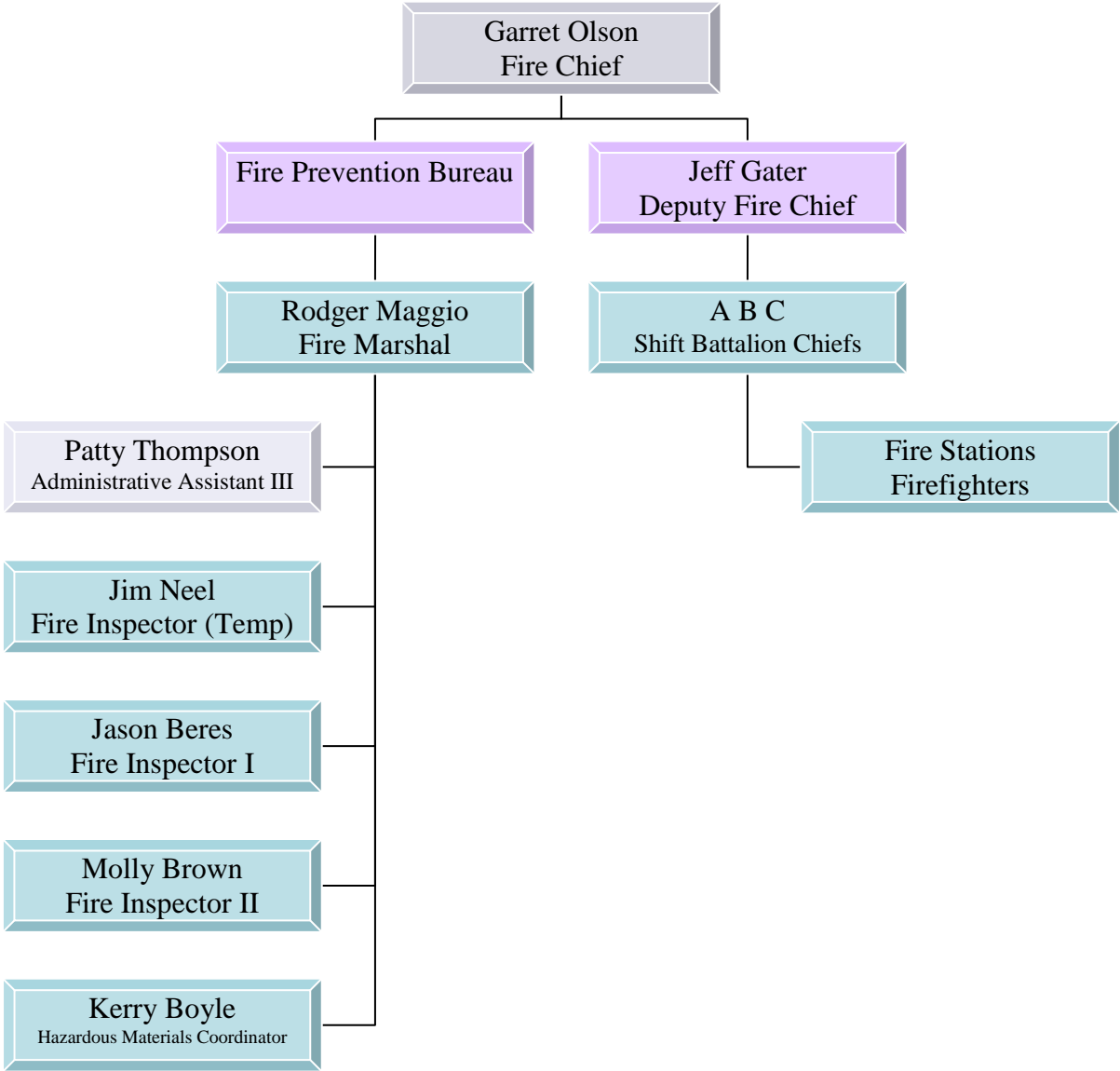
Garret Olson, Fire Chief  
Revised January, 2015

# FIRE PREVENTION BUREAU

## MISSION STATEMENT

The members of the Fire Prevention Bureau are committed to protecting the life, property, and environment of our community through sensible, fair, and efficient management of fire protection, prevention, and educational programs.

## ORGANIZATION CHART



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## Permits

### A. When Required

- 1) Permits are required to maintain, store, use or handle materials, or to conduct processes, which produce conditions hazardous to life or property, or to install equipment used in connection with such activities. An application for a permit may require an accompanying set of plans for review and approval as prescribed by the fire code official.
- 2) Permits required for new occupancies will be determined by an Inspector prior to final certificate of occupancy. Permit information will be sent by the Fire Department to the Finance Department who will mail your permit along with an invoice for the appropriate amount. Permits are required to be renewed annually. You will automatically receive an annual invoice by the City Finance Department unless your permit has been revoked for cause. Permits are required to be kept on the premises and readily available for inspection by the fire department.

### B. Permit Fees

- 1) Permit fees are established by resolution of the City Council and are subject to change periodically. The standard fee for all permits is \$333 with the following exceptions:
  - a. Engine Standby for Explosives or Blasting Agent Permit is \$407.00/hr in addition to the \$333 permit fee.

### C. Obtaining a Permit

- 1) A permit shall be obtained from the Bureau of Fire Prevention prior to engaging in the following activities, operations, practices, or functions.
  - a. Aerosol Products
  - b. Aircraft Refueling Vehicles
  - c. Aircraft Repair Hanger
  - d. Asbestos Removal
  - e. Assembly Occupancies
  - f. Automobile Wrecking Yards
  - g. Battery System
  - h. Bowling Pin or Alley Refinishing
  - i. Candles and Open flame in Assembly Areas
  - j. Carnivals and Fairs
  - k. Cellulose Nitrate Film
  - l. Cellulose Nitrate Storage
  - m. Combustible Fiber Storage
  - n. Combustible Material Storage
  - o. Compressed Gases
  - p. Commercial Rubbish Handling Operations
  - q. Dry Cleaning Plants

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- r. Dust Producing Operations
- s. Explosives or Blasting Agents
- t. Fire Hydrants and Water Control Valves
- u. Fireworks
- v. Flammable or Combustible Liquids
- w. Fruit Ripening
- x. Fumigation or Thermal Insecticide Fogging
- y. Hazardous Materials
- z. High-Piled Combustible Storage
- aa. Hot-Work Operations
- bb. Liquefied Petroleum Gases
- cc. Liquid or Gas Fueled Vehicles or Equipment in Assembly Buildings
- dd. Lumber Yards
- ee. Magnesium Working
- ff. Covered Malls
- gg. Motor Vehicle Fuel Dispensing Stations
- hh. Open Burning
- ii. Organic Coatings
- jj. Ovens, Industrial Baking or Drying
- kk. Parade Floats
- ll. Pyrotechnical Special Effects Material
- mm. Radioactive Materials
- nn. Refrigeration Equipment
- oo. Repair Garages
- pp. Spraying or Dipping
- qq. Temporary Membrane Structures, Tents and Canopies
- rr. Tire Storage
- ss. Wood Products

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## **Plan Submittal**

### **A. General Requirements**

- 1) All plans and specifications shall be submitted in accordance with the most current adoption of the California Fire Code, California Building Code, NFPA, CCR Title 19 and Title 24, the City of San Luis Obispo Municipal Code, and City Fire and Engineering Department Standards. Approval of any plans and specifications shall not permit or constitute an approval of the violation of any provisions of any County/City Ordinance or State Law and shall not preclude the Fire Chief or his duly recognized representative from thereafter requiring the correction of errors or omissions in said plans. Approval of all plans and specifications are subject to field inspection.
- 2) All plans and specifications shall be submitted for review and approval prior to any installation, modification, removal, demolition or storage of material or equipment for any operation, process, or construction requiring approval of the fire code official.
  - a. Systems installed without approved plans or permits will result in the issuance of a Stop Work Order. Any Stop Work Order will remain in effect until such time, as required to conduct an investigation, hold an administrative hearing, and/or assess additional fees.
  - b. All deferred submittal items shall first be submitted to the project architect for review and coordination. Submittal shall include a letter that the review and coordination has been performed and that all plans are found to be acceptable.
- 3) One copy of each plan set shall be submitted in digital (CD or DVD) format.
- 4) Plan sets shall include a separate sheet/s titled F identifying the following fire and life-safety features for the specific project:
  - a. Site or Civil work involving water supply information, underground fire line size and location, fire apparatus access and turn-arounds, location of public/private fire hydrants, fire lanes, location of backflow device, fire department connection, maximum grade and cross slope, and other information pertinent to the site.
  - b. Architectural drawing showing location of fire sprinkler riser, fire alarm control panel, Knox Box, address numbers, suite numbers, exiting plan, exit signs, emergency lights, fire extinguishers, door/hardware schedule, duct detectors, elevator/shaft information, high piled storage areas, trash locations, required signage, location of exterior awnings, or any other pertinent information pertaining to the project.
- 5) Sheet/s titled F shall contain a fire department NOTES section containing requirements for the individual project. Comments or notes which have been cut and pasted from previous projects which do not pertain to, or contain wrong information for, the project being reviewed will be returned for correction and cause a delay in the plan review process.
  - a. An example of a standard note might include (Buildings undergoing construction shall maintain fire safety at all times and shall be in accordance with Chapter 33 of the 2013 California Fire Code).
  - b. Notes should also include any deferred submittal items such as fire protection systems or rack storage.

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- c. Be mindful that all code references shall be to current code editions. The most current edition of all referenced standards adopted by the state of California can be found in Chapter 80 of the 2013 California Fire Code.

**B. Fire Sprinkler Systems**

- 1) Working plans shall be submitted for approval to the authority having jurisdiction before any equipment is installed or remodeled. Systems shall be designed and installed in accordance with the 2013 edition of NFPA 13, 13D or 13R respectively, including all amendments made thereto in the City Municipal Code, as well as City Fire Department Standards.
- 2) Deviation from approved plans shall require permission of the authority having jurisdiction.
- 3) Working plans shall be drawn to an indicated scale, on sheets of uniform size, with a plan of each floor, and shall include those items from chapter 14 of the 2013 edition of NFPA 13 that pertain to the design of the system.
- 4) Plans shall include a standard note indicated design and installation shall be in accordance with the 2013 edition of NFPA 13, 13D, and 13R respectively, as well as City of San Luis Obispo Fire Department Standards.
- 5) Systems may only be designed by a registered professional engineer and installed by a qualified (C-16) fire protection contractor. Contractors possessing a valid C-16 fire protection contractor's license may only design a system if they themselves are the installing contractor. For additional information see California Business and Professions Code Section 6737.3.
- 6) Plans shall be submitted to the City Building Department for appropriate routing, payment of fees, and permit issuance.

**C. Installation of Underground Fire Lines**

- 1) Working plans shall be submitted for approval to the authority having jurisdiction before any equipment is installed or remodeled. Systems shall be designed and installed in accordance with the 2013 edition of NFPA 24, including all amendments made thereto in the City Municipal Code, as well as City Fire Department and Engineering Standards.
- 2) Deviation from approved plans shall require permission of the authority having jurisdiction.
- 3) Working plans shall be drawn to an indicated scale, on sheets of uniform size, and shall include the following items that pertain to the design of the system:
  - a. Size and location of all water supplies
  - b. Size and location of fire line
  - c. Length of fire line
  - d. Material of fire line
  - e. Point of connection to the city main
  - f. Sizes, types, and locations of valves, valve indicators, regulators, meters, and valve pits
  - g. Depth at which the top of the pipe is laid below grade
  - h. Size and location of fire hydrants
  - i. Size, location and piping arrangement of fire department connections
  - j. Size and location of backflow prevention device

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- 4) Plans shall include a standard note indicated design and installation shall be in accordance with the 2013 edition of NFPA 24, as well as City of San Luis Obispo Fire and Engineering Standards.
- 5) Systems may only be designed by a Registered Professional Engineer. Systems may be designed, fabricated, and installed by fully experienced and responsible persons possessing a valid contractor's license for (A) General Engineering, (C-16) Fire Protection, (C-34) Pipeline, or (C-36) Plumbing. Contractors possessing any of the above licenses may only design a system if they themselves are the installing contractor. For additional information see California Business and Professions Code Section 6737.3.
- 6) Plans shall be submitted to the City Building Department for appropriate routing, payment of fees, and permit issuance.

**D. Fire Alarm and Detection Systems**

- 1) Working plans shall be submitted for approval to the authority having jurisdiction before any equipment is installed or remodeled. Systems shall be designed and installed in accordance with the 2013 edition of the California fire Code including all amendments made thereto in the City Municipal Code, NFPA 72, as well as City Fire Department Standards.
- 2) Plans shall include a standard note indicated design and installation shall be in accordance with the 2013 edition of NFPA 70, NFPA 72, as well as City of San Luis Obispo Fire Department Standards.
- 3) Working plans shall be drawn to an indicated scale, on sheets of uniform size, and shall include the following items that pertain to the design of the system:
  - a. Address of protected premises.
  - b. Owner of protected premises.
  - c. Authority having jurisdiction.
  - d. Applicable codes, standards, and other design criteria to which the system is required to comply.
  - e. Type of fire alarm system to be provided.
  - f. Type of building construction and occupancy, including details of ceiling height and construction.
  - g. A floor plan which indicates the use of all rooms and intended areas of coverage.
  - h. Type and location of alarm initiating devices, supervisory alarm initiating devices, and evacuation notification and appliances to be provided.
  - i. Location and type of annunciation.
  - j. Complete list of detection, evacuation signaling, and annunciator zones.
  - k. Complete sequence of operations detailing all inputs and outputs.
  - l. Power connection.
  - m. Battery calculations.
  - n. Conductor type and sizes.
  - o. Voltage drop calculations,

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- p. Manufacturers, model numbers, and listing information for equipment, devices, and materials.
  - q. The interface of fire safety control functions.
  - r. Plans shall be submitted to the City Building Department for appropriate routing, payment of fees, and permit issuance.
- 4) Systems may only be designed and installed by a Registered Professional Electrical Engineer or a C-10 licensed contractor. Contractors possessing a C-10 license may only design a system if they themselves are the installing contractor. For additional information see California Business and Professions Code Section 6737.3.
  - 5) Plans shall be submitted to the City Building Department for appropriate routing, payment of fees, and permit issuance.

**E. High Piled Storage**

- 1) Working plans shall be submitted for approval to the authority having jurisdiction prior to storing any combustibles on the premises. Storage areas shall be designed and maintained in accordance with the 2013 California Fire and Building Code including all amendments made thereto in the City Municipal Code, as well as City Fire Department Standards.
- 2) Plans shall be submitted at the time of building permit application for new structures designed to accommodate high piled storage. For existing occupancies, plans shall be submitted at the time of application for a storage permit.
- 3) Plans shall include the following information:
  - a. Floor plan of the building showing locations and dimensions of high piled storage areas.
  - b. Usable storage height for each storage area.
  - c. Number of tiers within each rack, if applicable.
  - d. Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
  - e. Aisle dimensions between each storage array.
  - f. Maximum pile volume for each storage array.
  - g. Location and classification of commodities in accordance with Section 3203 of the California fire code.
  - h. Location of commodities which are banded or encapsulated.
  - i. Location of required fire department access doors.
  - j. Type of fire suppression and fire detection systems.
  - k. Location of valves controlling the water supply of ceiling and in-rack sprinklers.
  - l. Type, location, and specifications of smoke removal and curtain board systems.
  - m. Dimensions and location of transverse and longitudinal flue spaces.
  - n. Additional information regarding required design features, commodities, storage arrangement, and fire protection features within the high piled storage area shall be provided at the time of permit, when required by the fire code official.
- 4) Plans shall be submitted to the City Building Department for appropriate routing, and payment of fees.

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**F. Smoke Control Systems**

- 1) Working plans shall be submitted for approval to the authority having jurisdiction. Smoke control systems shall be designed and maintained in accordance with the 2013 California Fire and Building Code including all amendments made thereto in the City Municipal Code, as well as City Fire Department Standards and the generally accepted and well established principles of engineering relevant to the design.
- 2) Plans shall include sufficient information and detail to describe adequately the elements of the design necessary for the proper implementation of the smoke control systems.
- 3) Plans shall be accompanied with sufficient information and analysis to demonstrate compliance with Section 909 of the California Fire Code.
- 4) The design information shall include detailed procedures and methods to be used and items subject to the special inspection and test requirements of Section 909.
- 5) A rational analysis supporting the types of smoke control systems to be employed, the methods of their operations, the systems supporting them, and the methods of construction to be utilized shall accompany the plan submittal and include, but not be limited to, the follow:
  - a. Stack effect
  - b. Temperature effect of fire
  - c. Wind effect
  - d. HVAC systems
  - e. Climate
  - f. Duration of operation
  - g. Smoke barrier construction
  - h. Leakage area
  - i. Opening protection
  - j. Ducts and air transfer openings
- 6) Plans shall be submitted to the City Building Department for appropriate routing, payment of fees, and permit issuance.

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**G. Hazardous Materials**

- 1) All applications for a permit related to storage, dispensing, use, and handling of all hazardous materials in excess of the specified amounts listed in the 2013 California Fire Code shall be accompanied by a legible plan, drawn to scale, which indicates the location, nature, and extent of the work proposed. The plan shall show in detail that it conforms to the provisions of all applicable laws, ordinances, rules, and regulations as determined by the fire code official. If amounts listed in the fire code exceed 55 gallons, 500 pounds, or 200 cubic feet, said plan shall be submitted in the form of a Hazardous Materials Business Plan.
- 2) Hazardous Material Business Plan reporting requirements and instructions can be obtained from the Hazardous Materials Coordinator by calling (805) 781-7383.
- 3) Working plans shall be submitted for approval to the authority having jurisdiction before any equipment, tanks, storage vessels, containers, or associated materials are stored, installed, removed, or remodeled.
- 4) Plans shall include the following information:
  - a. Storage and use areas
  - b. Maximum amount of each material stored or used in each area
  - c. Range of container sizes
  - d. Locations of emergency isolation and mitigation valves and devices
  - e. Product conveying piping containing liquids or gases, other than utility owned fuel gas lines and low pressure fuel gas lines
  - f. On and off positions of valves for valves that are of the self-indicating type
  - g. Storage plan showing the intended storage arrangement, including the location and dimensions of aisles
  - h. The location and type of emergency equipment
- 5) Plans shall be legible and drawn to scale.

**H. Wildland Urban Interface**

**I. Kitchen Hood and Duct Protection**

**J. Tents, Canopies, and Other Membrane Structures**

**K. Flammable Finishes/Spraying Operations**

**L. Alternative Fire Extinguishing Systems**

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## **Fire Department Access**

### **A. Access Roadways for Fire Apparatus**

- 1) All buildings, facilities, and developments shall be accessible to Fire Department Apparatus by way of access roadways meeting the following requirements:
  - a. Access roads shall be required for every building hereafter constructed when any portion of an exterior wall of the first story is located more than 150' from fire-apparatus access as measured by an approved route.
  - b. Access roads for buildings 3 stories or higher shall comply with Fire Code Appendix D for ladder truck access, requiring 2 access roads of at least 26 feet in width with the main access road parallel to one entire side of the building, a minimum of 15 feet and maximum of 30 feet from the building.
  - c. Access roads shall be designed and maintained to support the imposed loads of fire apparatus weighing 60,000 lbs., have a maximum 15% grade, and shall be provided with an all-weather driving surface. All-weather surface shall consist of base material and first lift of asphalt.
  - d. Access roads shall have an unobstructed width of not less than 20'.
  - e. Access roads shall have a minimum of 13'-6" of vertical clearance; including trees and wires.
  - f. Access roads shall be installed prior to bringing combustible materials on site and maintained during combustible construction.
  - g. Dead-end access roads in excess of 150' in length shall be provided with an approved turnaround (see Appendix A). Cul-de-sac turn-around widths may be reduced to 70 feet diameter where parking is prohibited.
  - h. Parking is prohibited on both sides of access roads which have less than 28' in clear width and shall have all curbs painted red or provide appropriate red striping at least 6" wide with **"Fire Lane - No Parking"** stenciled every 20' to maintain the 20' minimum unobstructed width (see Appendix B). Where the access road is between 28 and 36 feet in width fire lane marking will required on one side only.
  - i. Access roads shall be posted with permanent all-weather signs with minimum lettering of 2" x 1/4" stroke (see Appendix E).
  - j. Where a bridge is required for access, it shall be constructed in accordance with the American Association of State Highway and Transportation Officials *Standard Specifications for Highway Bridges*.
- 2) More than one fire-apparatus road shall be provided when it is determined by the Fire Chief that access by a single road might be impaired by vehicle congestion, condition of terrain, climatic conditions and other factors that could limit access, evacuation, or cause delays in response times.
- 3) When access roadways cannot be installed due to topography, waterways, nonnegotiable grades or other similar conditions, the chief is authorized to require additional fire protection as specified by the municipal code.

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**B. Access to Fire Protection Equipment and Utilities**

- 1) All fire protection equipment and building utilities including gas shut-off valves and electrical service disconnect shall be located in a single area to allow use by the fire department without having to transit through a structure. In new construction, equipment shall be located within an interior room having an exterior access door or in an exterior enclosure attached to the building, specifically, for the purpose of, housing such equipment. Exterior enclosures shall meet the aesthetic requirements of the Planning Department.
- 2) Rooms or areas containing controls for air-conditioning systems, automatic fire extinguishing systems, or other detection, suppression or control elements shall be identified for use by the fire department. Signage shall be permanent, of contrasting color, and a minimum of 1” letters.
- 3) Fire Protection Equipment/Utility Rooms shall be provided with a Knox Box (see Security Gates and Openings below).

**C. Security Gates and Openings**

- 1) When gates or doors obstruct access to a development, building, or facility, a key box or approved padlock shall be provided at the point of obstruction. The key box shall be a type approved by the Chief and shall contain the necessary keys to gain access. Approved key switches shall be used for electrically controlled access.
- 2) Typically, a flush-mounted Knox Box (key box), with a hinged door, mounted no higher than 6 feet above the finished floor containing appropriate keys for emergency fire department access is sufficient. Obtaining the key box must be coordinated through the fire department and installed with appropriate keys prior to building occupancy. It takes approximately 2 weeks for delivery. For more information call the Fire Prevention Bureau at (805) 781-7380.

**D. Building and Address Identification**

- 1) Approved address numbers shall be placed on all new buildings in such a position as to be plainly visible and legible from the street or road fronting the property. Said numbers shall clearly contrast with their background. The characters shall be a minimum of 5” high with a ½” stroke.
- 2) Rear outside doors to tenant spaces shall include the installation of address numbers corresponding to the address located on the front of the building.

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## **Water Supply and Fire Hydrants**

### **A. Water Supply**

- 1) An approved water supply connected to the city system and capable of supplying the required fire-flow for fire protection shall be provided to all premises. Water supply may consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems connected to the municipal water system and capable of providing the required fire-flow. In setting the requirements for fire-flow, the Chief may be guided by the most current edition of the California Fire Code.
- 2) When any portion of the facility or building is in excess of 150' from a water supply (fire main) on a public street, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains capable of supplying the required fire flow shall be provided.
  - a. **EXCEPTION:** Where the building is protected by an approved fire sprinkler system throughout, the distance may be increased to 300 feet.

### **B. Fire Flow**

- 1) For one- and two-family dwellings having a fire area that does not exceed 3,600 square feet, the minimum fire-flow shall be 1,000 gallons per minute. Fire-flow and flow-duration for dwellings having a fire area in excess of 3,600 shall be as required in Appendix B of the California Fire Code.
  - a. **EXCEPTION:** A reduction in required fire-flow, as approved by the Chief, is allowed when the building is provided with an approved automatic fire sprinkler system.
- 2) The minimum fire-flow and flow duration for buildings other than one- and two-family dwellings shall be as specified in Appendix B of the California Fire Code.
  - a. **EXCEPTION:** A reduction in required fire-flow, as approved by the Chief, is allowed when the building is provided with an approved automatic fire sprinkler system. The resulting fire-flow shall not be less than 1,500 gpm.
- 3) To determine water-storage requirements for firefighting, the GPM (based on square feet of fire area and construction type) shall be multiplied by the duration to establish the amount of water needed. Minimum Flow (gpm) x Duration (hrs) = Storage (gals)
- 4) Fire-Flow Analysis shall be provided prior to issuance of a building permit.

### **C. Fire Hydrants**

- 1) The location, number, and type of fire hydrants, connected to the city system, shall be provided on the public street, or on the site of the premises to be protected as required by the California Fire Code and approved City Engineering Standards. All hydrants shall be accessible to Fire Department apparatus by approved roadways. Where practical, all fire hydrants shall be placed within 10' of street intersections. If the distance to the intersection exceeds the allowed distance to a hydrant, a hydrant will be placed at the closest intersection and mid-block.
- 2) When new water mains are extended along streets where hydrants are not needed for the protection of structures or similar fire problems, fire hydrants shall be provided at spacing not to exceed 1,000 feet to provide for transportation hazards.

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- 3) Fire hydrants shall be provided along both sides of primary emergency response routes when medians are installed. Hydrant spacing shall average 500 feet on each side of the street and be arranged on an alternating basis. The developer shall be responsible for the hydrants along their side. The following streets, roadways, or highways have been designated as “primary emergency response routes”:
- a. Broad Street between Higuera and southerly City limits
  - b. Chorro Street from U.S. Highway 1 to Broad Street
  - c. California Boulevard (all)
  - d. Edna Road to southerly City limits
  - e. Foothill Boulevard between California Boulevard to westerly City limits
  - f. Grand Avenue (all)
  - g. Higuera Street between Johnson Avenue and Elks Lane
  - h. Johnson Avenue between Monterey Street and northerly City limits
  - i. Laurel Lane between Johnson Avenue and Orcutt Road
  - j. Los Osos Valley Road (all)
  - k. Madonna Road (all)
  - l. Marsh Street between California Boulevard and Higuera Street
  - m. Monterey Street between Chorro Street and northerly City limits
  - n. Orcutt Road (all)
  - o. Santa Rosa Street between Marsh Street and Foothill Boulevard
  - p. South Street (all)
  - q. South Higuera Street between Elks Lane and southerly City limits
  - r. State Highway 1 (all)
  - s. Tank Farm Road (all)
  - t. U.S. Highway 101 (all)
  - u. All of Perimeter Road (Cal Poly)
  - v. San Luis Drive from Johnson Avenue to California Boulevard
  - w. Prado Road (all)
  - x. Bishop Street from Johnson Avenue to South Street
  - y. Osos Street (all)
  - z. Santa Barbara Street (all)
- 4) Hydrants shall be of an approved type and installed per City Standards. See the City Engineering Division Standard drawings for type and installation requirements.

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**D. Fire Hydrants (Private)**

- 1) When any portion of a structure is more than 150’ from a public street, on-site hydrants and mains capable of supplying the required fire-flow will be required.
- 2) Fire hydrants on private property shall have designated area “No Parking” zones identified by a red painted curb, berm or stripe, at least 6” wide and 15’ in each direction from the hydrant.
- 3) Private underground piping systems shall be a minimum of 6 inches and sized to supply both the fire-sprinkler system and the fire-flow required for the structure.
- 4) All fire hydrants must be installed and in operable condition prior to combustible construction materials being brought on site.
- 5) Impact protection shall be installed as necessary to protect hydrants from damage.
- 6) Maintenance of private hydrants is the responsibility of the property owner.
- 7) The contractor shall be responsible for painting of hydrants and placement of blue dots prior to building final.

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## **Fire Protection Equipment**

### **A. Fire Extinguishers**

- 1) Fire extinguishers shall be installed and maintained in accordance with the California Fire Code.
- 2) The **minimum** fire-extinguisher requirement for light hazard occupancies shall be one portable unit, mounted adjacent to exits wherever practical and in such locations so that maximum floor-travel distance does not exceed 75' to the nearest extinguisher from any portion of the building with a maximum of 3,000 square feet of floor area surveyed. Additional extinguishers will be required for ordinary and high hazard occupancies.
- 3) All fire extinguishers shall be mounted in a conspicuous and readily accessible location either on a bracket or within an approved storage cabinet. Fire extinguishers shall be mounted so the bottom of the extinguisher is no lower than 3 feet and the nozzle is no higher than 5 feet from finished floor. If the extinguisher is not readily visible, a sign shall be located directly above the extinguisher. The sign shall be legible and contrasting with its background.
- 4) New plan submittals shall include the proposed location of extinguishers on the plans. Final location shall be approved by the fire department.

### **B. Fire Alarm Systems**

#### 1) Automatic and Manual Fire-Alarm Systems

- a. An approved fire-alarm system shall be designed and installed as specified in the California Fire Code, California Building Code, NFPA 72, and the National Electrical Code as amended by the State of California and local ordinances.
- b. All fire alarm systems shall be zoned as required by the Fire Department. Multi-story buildings shall be zoned per floor as a minimum. Multi-zone fire alarm systems shall be provided with an approved addressable annunciator with a graphic plan of the facility posted at the keypad. The graphic plan must be legible, in a durable frame, and mounted securely to the wall above the fire alarm control panel.
- c. Fire Alarm Systems shall be supervised by a Central Station listed by U.L. for receiving of fire alarms.
- d. Two phone lines or equivalent are required for the alarm system dialer.
- e. A lockout breaker must be provided for power supplying the fire alarm system.
- f. If a Double Check Assembly is required for the fire sprinkler system, provide conduit from the Fire Alarm control Panel to the OS&Y's per City Standard #6420.
- g. An Alarm Users Permit will be required to be obtained prior to final of the building. Contact the San Luis Obispo Police Department for additional information.
- h. Prior to final occupancy, the owner shall provide documentation that the fire alarm system is being maintained. Evidence shall be in the form of a maintenance agreement between the central station and the owner of the building.

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2) Smoke Detectors and Alarms

- a. Dwelling units, congregate residences and hotel or lodging-house guestrooms that are used for sleeping purposes shall be provided with smoke alarms.
- b. Installation of smoke alarms shall be in accordance with State Fire Marshal Standards, the California Fire Code, the California Building Code, and the approved manufacturer instructions.
- c. A single smoke detector shall be installed above all Fire Alarm Control Panels to protect the fire alarm unit from failing to send its signal to the monitoring agency due to a localized fire within the area where the FACP is located.
- d. Smoke detection for HVAC systems shall be required as set forth in the Mechanical Code. Areas served by a single or multiple units exceeding 2000 cfm shall have detectors installed and supervised by the buildings fire alarm, or fire sprinkler monitoring, system. If no such system exists

3) Carbon Monoxide Detectors

- a. Dwelling units, congregate residences and hotel or lodging-house guestrooms that are used for sleeping purposes and have gas-fired appliances or attached garages shall be provided with carbon monoxide detectors.
- b. Installation of carbon monoxide detectors shall be in accordance with State Fire Marshal Standards, the California Fire Code, the California Building Code, and the approved manufacturer instructions with at least one on each level of the dwelling unit.

**C. Automatic Fire Extinguishing Systems**

1) Installation Standard

- a. All fire-sprinkler systems shall be designed, installed, and maintained in accordance with the California Fire Code and NFPA Standard 13, 13-D or 13-R as amended by the City of San Luis Obispo. Additionally, all sprinkler-system hydraulic calculations shall include a minimum 10% reduction in the available water supply.
- b. Fire Sprinkler Systems, Fire Alarm Systems, and Fire Protection Systems for Commercial Cooking Appliances may be included as deferred submittal items.
- c. The deferred submittal items shall not be installed until their design and submittal documents have been approved.

2) Where Required

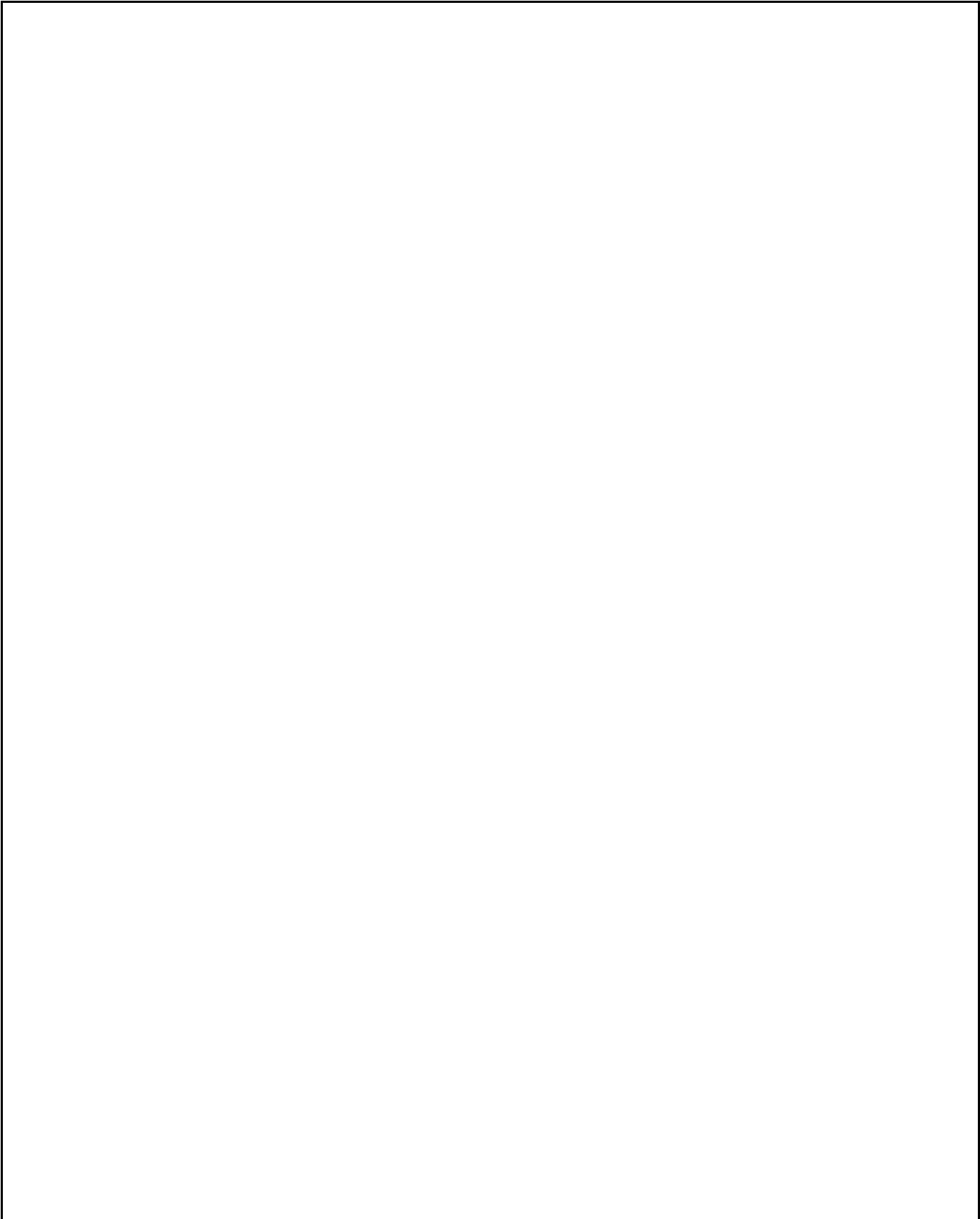
- a. An Automatic Fire Extinguishing System shall be installed in the following locations:
  - 1. Throughout all new buildings.

**(a) EXCEPTION 1: Buildings containing Groups, A, B, E, F, H-4, M, S, and U occupancies where floor area is not more than 1000 square feet, unless located in the commercial fire zone.**

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2. Throughout existing buildings located in the Commercial Fire Zone.

(a) Existing buildings located in the commercial fire zone, that are served by a water lateral dedicated for sprinkler service as of April 28, 1998, shall have an approved automatic fire-sprinkler system installed and operational throughout by January 1, 2002. For all other existing buildings located in the commercial fire zone that are provided with an underground fire sprinkler lateral, an automatic fire sprinkler system shall be installed and operational within 24 months of the lateral installation.

(b) **EXCEPTION:** Buildings of unreinforced masonry construction shall have an automatic sprinkler system installed and operational by the deadline set forth in the Building Code for compliance with seismic retrofit standards.

(i) **Note:** Deadlines established for the installation of sprinklers under item b) will vary depending on the scheduling of lateral installations within the scope of the downtown infrastructure plan. For more information regarding the Commercial Fire Zone and sprinkler requirements contact the Fire Prevention Bureau at (805) 781-7380.

3. Alterations: Throughout an existing building, whenever alterations or additions result in an increase of more than 1,000 square feet of floor area, including mezzanines or additional stories; or whenever the cost of alterations to an existing building having a floor area of more than 1,000 square feet exceeds 50 percent of the replacement cost of the building as determined by the Building Official. The cost of alteration and increase in floor area shall include all corresponding data from permits issued to the building for the previous five years.

(a) **EXCEPTION:** Group R, Division 3 and Group U occupancies.

4. Throughout an existing building where there is an occupancy classification change for floor area exceeding 1000 square feet. The exception to Section 3405 shall not eliminate the requirement for an automatic fire-sprinkler system.

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(a) EXCEPTION 1: A Group U occupancy changed to a Group R, Division 3 occupancy, provided the building was constructed before July 7, 1990, and there is no increase in floor area.

(b) EXCEPTION 2: Occupancy classification changes to Groups F, M, S, and U from an equivalent category as defined in previous editions of this code.

5. In additions to existing buildings equipped with an automatic fire-sprinkler system.

3) Unknown Building Use

a. For speculative or general storage buildings, the sprinkler density shall be designed to a minimum of Ordinary Hazard Group 2.

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4) Required Flow Alarms

- a. All automatic sprinkler systems shall be electrically supervised by an approved central-station service listed by Underwriters Laboratories for receiving fire alarms. This includes all floor and system-control valves. All multi-floor structures or complex single-story buildings (where the activated sprinkler's location would be difficult to determine) shall be provided with a flow switch per floor or be zoned as determined by the fire department. An exterior bell shall be provided at the sprinkler riser.
  - 1. **Exception:** Buildings provided with an approved addressable fire alarm system.
  - 2. **Exception:** Residential sprinkler systems for single-family dwellings or duplexes.

5) Required Shut-Off Valves

- a. All R1, E, A and I occupancies two or more stories in height shall have floor isolation valves for the purpose of maintaining system integrity for life safety and evacuation.
  - 1. **Note:** For the purpose of, requiring the automatic fire-sprinkler systems, the floor area within the surrounding exterior walls shall be considered as one building area.

6) Location of Equipment

- a. All sprinkler risers and operational equipment shall be located in accordance with the Fire Department Access section of this document.
- b. The Fire Department Connection shall be located as approved by the fire department. Fire Department Connections shall not encroach into the public right of way.
- c. Fire Sprinkler Mains shall be a minimum of 4 inches per City Standard #6530 and #6590.
- d. Roof Overhangs in excess of 48" shall be fire sprinkled.
- e. Commercial dumpsters or containers with an individual capacity of 1.5 cubic yards or greater, located within 5' of combustible walls, openings or combustible roof eave lines, shall have overhead fire sprinklers.

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- 7) NFPA 13-D (Residential One and Two Family Dwellings) Fire Sprinkler Systems
  - a. 13-D Systems may be installed in 1-and 2-family dwellings only.
  - b. Buildings with sloped or beamed ceilings shall use a single-head flow calculation for a total of 3 sprinkler heads as recommended in Appendix A of NFPA 13-D. Exception: Where sprinkler heads listed for vaulted ceilings are used.
  - c. 13-D Systems must be installed with a water-flow alarm that is clearly audible in all bedrooms over background noise.
  - d. 13-D Systems shall be hydrostatically tested to 200 psi for 2 hours.
  - e. All attached garages and all detached garages larger than 1,000 square feet must be protected by the 13-D System.
  - f. The water-service supply from the street and the water meter shall be sized to provide adequate flow and pressure to the 13-D System.
  - g. At least one “pilot head” is required in the attic.
- 8) NFPA 13-R (Residential Occupancies up to and including four stories in height)
  - a. An enhanced NFPA 13-R system may be used in the City of San Luis Obispo with fire department approval. An enhanced system includes but is not limited to the addition of sprinkler heads in maid’s quarters, storage rooms, enclosed exit balconies, attics, and areas designated by the fire department as hazardous to life or property.

**D. Standpipes**

- 1) Standpipe systems shall be provided as set forth in the California Fire Code and California Building Code.
- 2) The pipe size for horizontal standpipe-systems shall be a minimum of 4 inches. The street end shall have a check-valve and a single 2-1/2” female Fire Department connection. The structure end shall have a single 2-1/2” male connection with an approved shut-off valve. Horizontal standpipe systems shall be placed in service before combustible construction begins.
- 3) Vertical standpipe systems shall be placed in service when the highest point of construction exceeds 30’ in height. The standpipe shall extend to within one floor of the highest point of construction and provide a minimum of one 2-1/2” Fire Department hose connection on each floor.

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**E. Kitchen Hood and Duct Protection**

1) Where Required

- a. A Class-I hood and approved fire-suppression system shall be provided for the protection of commercial cooking appliances and domestic cooking appliances used for commercial purposes (other than a single dwelling unit) that produce grease vapors.

2) Extent of Protection

- a. The extinguishing system used for protection of cooking equipment shall be installed so that the entire cooking surface, including deep-fat fryers, griddles, upright broilers, char broilers, range tops, and grills is protected. Protection shall also be provided for the enclosed plenum space within the hood above filters and exhaust ducts serving the hood.

3) Type of System: The system used for protection of cooking equipment shall be either a system listed for application with such equipment or an automatic fixed-pipe system that is specifically designed for such application.

All systems shall comply with the requirements of the California Mechanical Code, California Fire Code, U.L. 300 listing, and appropriate NFPA standards. Systems shall be installed in accordance with their listing and the manufacturer’s instructions.

- a. Any new system or existing system in which new appliances have been added or existing appliances relocated shall be protected with a U.L. 300 System.
- b. All installations must be provided with a compatible Class K Fire Extinguisher.

4) All automatic fire-extinguishing systems shall be interconnected to the fuel or electrical current supply so that the fuel or current is automatically shut off to all equipment under the hood when the system is activated.

5) In buildings protected by an approved fire alarm system, activation of the hood-suppression system shall initiate an alarm to the U.L. listed central station fire-alarm company in accordance with NFPA-96.

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**F. Installation, Approval, Testing and Certification**

- 1) Approval and Testing. All fire-alarm systems, fire-hydrants, fire-sprinkler systems, wet and dry standpipes, basement inlet pipes, and other fire-protections systems and appurtenances thereto shall meet the approval of the Fire Department as to installation and location and shall be subject to such periodic tests as required by the Chief. Plans and specifications shall be submitted and approved prior to installation of any equipment or materials. Failure to comply with this requirement may result in the issuance of a stop work order and fines in accordance with the California Fire and Building Codes.
- 2) The Chief may require that all fire-alarm systems, fire-extinguishing system (including automatic sprinklers) and appurtenances thereto, including engineering calculations for such systems, be approved by a State of California registered Fire-Protection Engineer prior to submitting to the Fire Department.
- 3) Requests for field inspection shall be made a minimum of 48 hours in advance by calling the Fire Inspection Hotline at (805) 783-7775, Monday through Friday 8:00 a.m. to 5:00 p.m.
  - a. Construction or work for which fire department approval is required shall be subject to inspection and such construction work shall remain accessible and exposed for inspection purposes until approved. Accessible and exposed shall mean components are visible and accessible without the excessive effort of climbing or crawling by the inspector.

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## **Fire-Resistive Construction**

### **A. Prohibition on Use of Wood Shake or Shingle Roofs**

The entire City has been designated a high-fire hazard because of exposure to climatic, topographical, geographical and seismic conditions. Due to this, wood-shake or wood-shingle roof coverings shall not be installed on any building.

- 1) **EXCEPTION:** Roof covering for an addition to an existing building where the new roof area is less than 50 percent of the existing roof area may be an approved Class B pressure-treated wood-shake or shingle system. Determination of the 50 percent area limitation shall be cumulative with each addition to the building.

### **B. Flame-Resistance of Exterior Awnings**

All exterior awnings connected or adjacent to buildings shall be made from fabric, which has been flame resistant treated with an approved exterior chemical process by an approved application concern, or from inherently flame-resistant fabric approved and listed by the State Fire Marshal for exterior use. Certificates of flame-resistance or other documentation acceptable to the Fire Chief shall be available on the premises to affirm the flame-resistance of all fabrics and materials used as part of exterior awnings.

- 1) **EXCEPTION:** Single-family and duplex dwellings not exceeding three stories in height.

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## **Wildland-Urban Interface Areas**

### **A. Wildfire Risk Analysis**

The City of San Luis Obispo is considered a “Community at Risk” due to the threat of wildfire impacting the urban community. The City shall continue to enhance the fire safety and construction codes for new buildings in order to reduce the risk of urban fires that may result from wildfires. Citywide building code enhancements shall include: Ignition resistant exterior wall coverings; Class ‘A’ roof assemblies; Sprinkler protection in attic areas; and Ember resistant vent systems for attics and under floor areas and other provisions identified in the California Building Code Chapter 7A and Residential Code Chapter R327, with the exception of glazing.

New construction in areas identified and mapped as Local Very High Fire Severity Zones shall comply with all provisions of Chapter 7A or R327. In addition all new landscape plants shall be from approved fire resistive plant lists and a vegetation management plan shall be submitted to the Fire Marshal prior to construction for buildings adjacent to open space wildland areas.

## **Disclosure of Hazardous Materials**

### **A. CUPA Requirements**

- 1) Local agency oversight is required for various state mandated programs, including underground fuel tanks, aboveground fuel tanks, chemical inventory disclosure reporting, repair garages, welding/cutting operations, etc.

### **B. Hazardous Materials Business Plan Requirements**

- 1) Any occupancy that will be conducting operations or storing materials that are hazardous, will acquire the appropriate permits from the San Luis Obispo Fire Department prior to commencing business operations. For additional information regarding permit fees and appropriate forms, please contact the Fire Prevention Bureau, Hazardous Materials Coordinator at 781-7383.

### **C. Environmental Assessment**

- 1) A site-specific environmental assessment may be required on sites with questionable past use, or sites where hazardous materials have been stored and/or used. Please note that it is the property owner’s responsibility to adequately identify and assess these areas.

### **D. Placards**

- 1) Visible hazard identification signs as specified in the California Fire Code shall be placed at entrances to locations where hazardous materials are stored, dispensed, used, or handled in quantities requiring a permit.

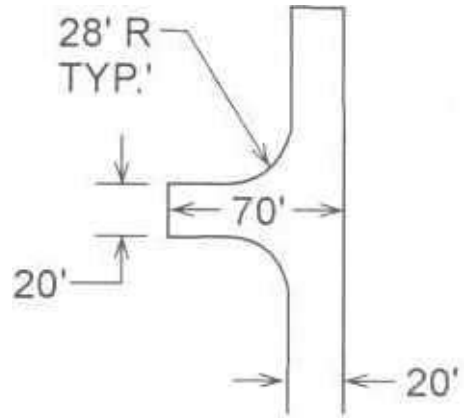
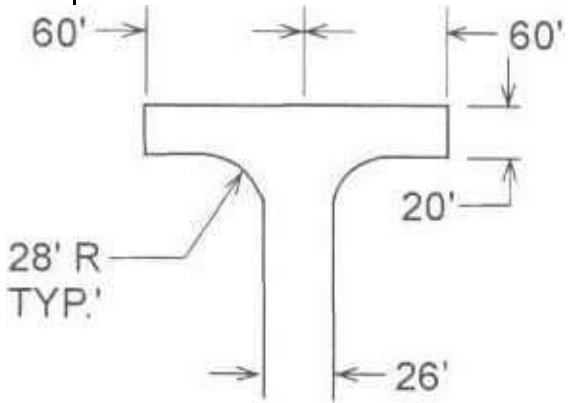
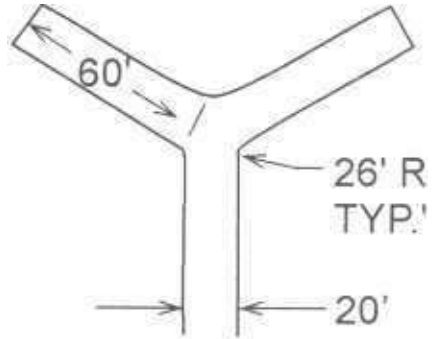
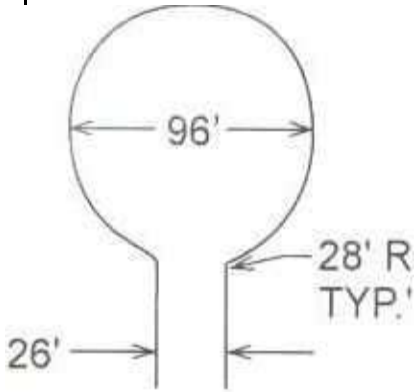
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# APPENDIX

## A. Approved Turn-Arounds



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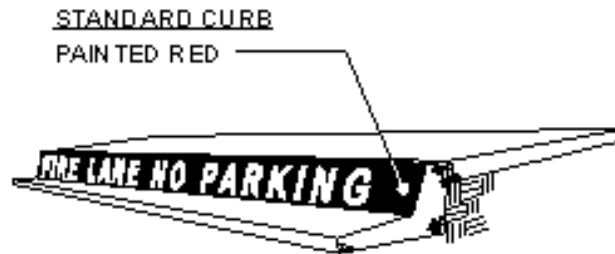
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## B. Fire Lane Striping

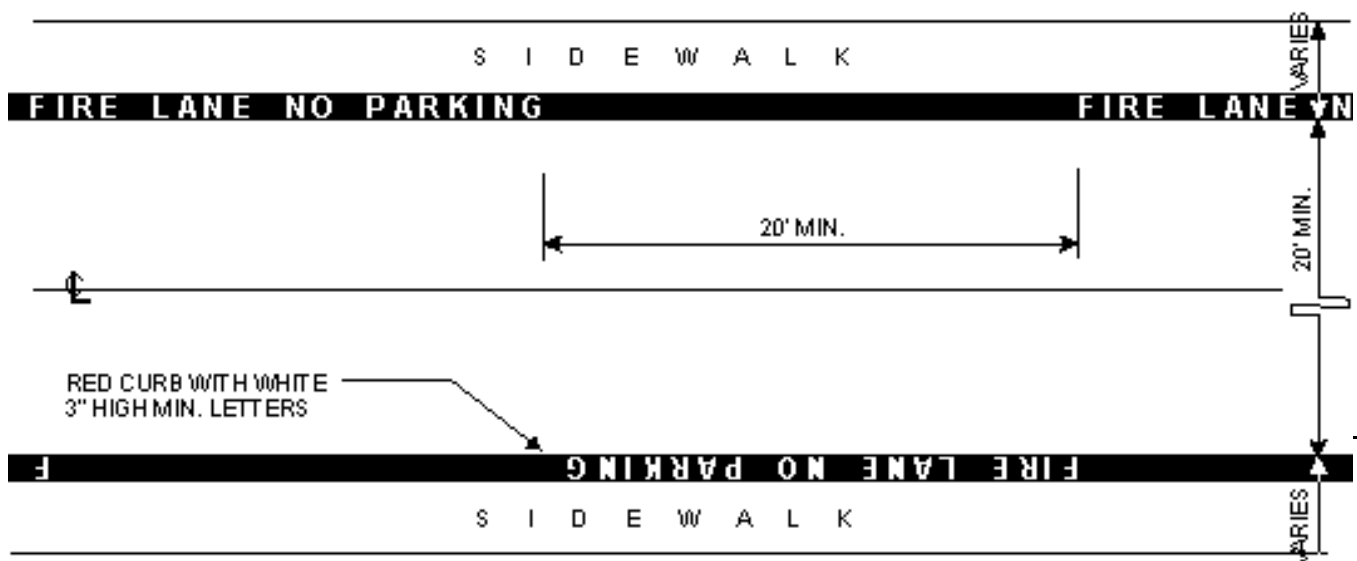
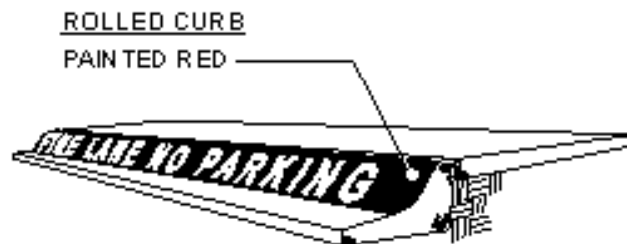
### FIRE LANE STRIPING

- All fire lanes where curbs are absent shall be striped. See below.
- Striping is continuous, 6" in width, and red in color.



#### RED CURB

Required on all curbs adjacent to fire lanes, access roads, or other posted "Fire Lanes" when entrance sign is used.



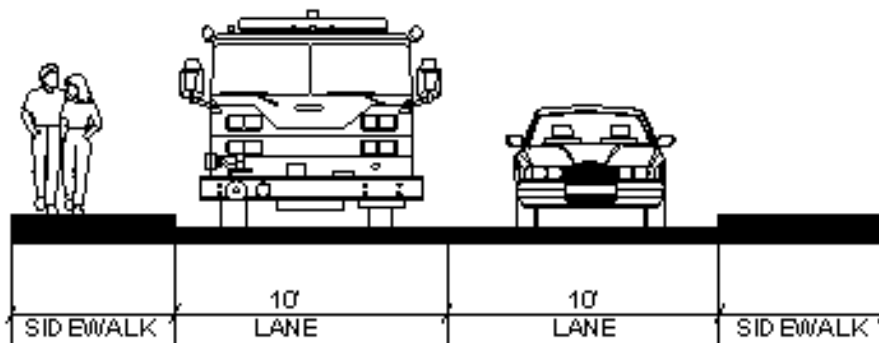
### C. Road Widths

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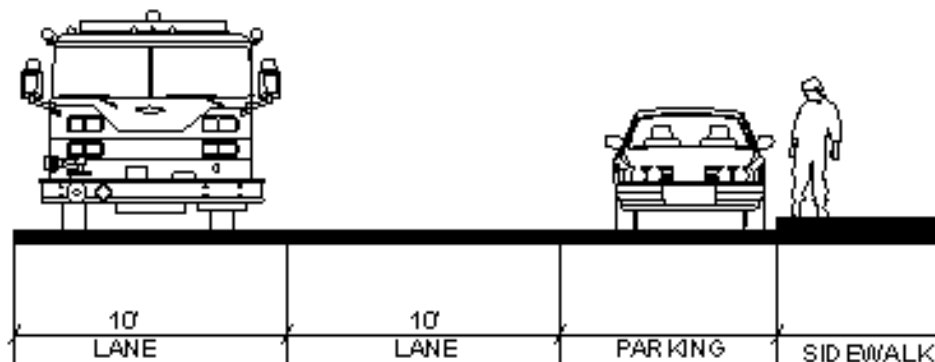
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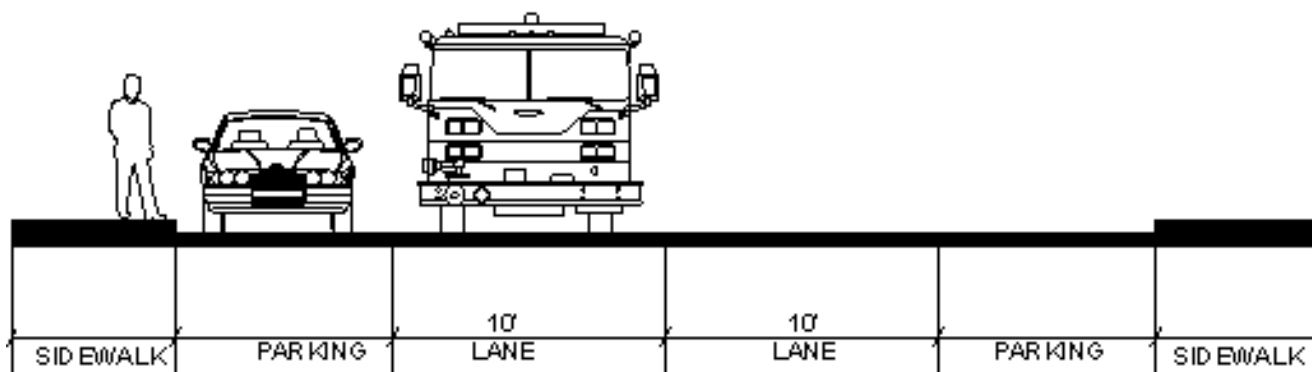
# ROAD WIDTH CROSS SECTIONS



## 20' MINIMUM FIRE LANE



## 28' PARKING ONE SIDE ONLY



## 36' PARKING BOTH SIDES



## D. Marking of Fire Lanes and Access Roads

### MARKING OF FIRE LANES AND ACCESS ROADS

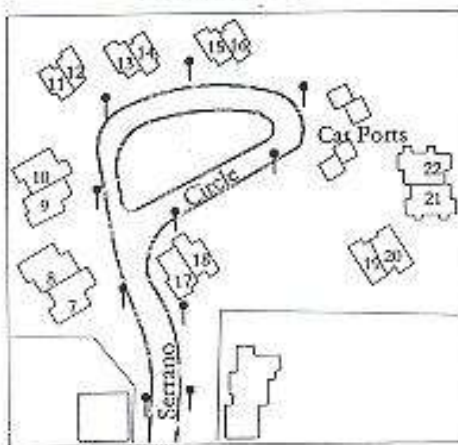
#### OPTION #1 - "No Parking" Signs

##### SIGN "A" LOCATIONS:

- Signs marking fire lanes are to be spaced so they can be easily read from one sign to the other, but at no time more than 175' apart.
- Signs are to face on-coming vehicular traffic.
- All curbs and signs to be maintained by property owner.
- All areas posted under Option #1 are to use sign "A", Appendix E.

↑ = Post with sign "A".

EXAMPLE 1



#### OPTION #2 - Entrance Signs

##### SIGN "B" LOCATIONS:

- One (1) sign is required at all points of entry to properties. See below.
- Signs are to face on-coming vehicular traffic.
- All curbs adjoining fire lanes or posted areas are required to be painted red and stenciled "FIRE LANE NO PARKING".
- All curbs and signs to be maintained by property owner.
- Entrance signs used under Option #2 are to use sign "B" Appendix E.

↑ = Post with sign "B".

EXAMPLE 2



**E. Sign Standard**

**FIRE LANE AND ACCESS ROAD SIGNS**



**Figure 1**  
**Fire Lane Sign - "A"**  
 12" x 18"  
 Red on White  
 Commercial Grade  
 Reflective  
 .063 Gauge



**Figure 2**  
**Fire Lane Sign - "B"**  
 18" x 24"  
 Red on White  
 Commercial Grade  
 Reflective  
 .080 Gauge

**Note:** All information on signs must appear as shown.

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# F. Commercial Fire Zone



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