

Self-Certification Program 2018 Fire Code

Karen Roberts – Fire Prevention Specialist II



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Fire Code Self Certification Guide

Overview of Fire Code Requirements for Self Certification Professionals

- Fire Site Plan Requirements
- Fire Systems Plans Review Requirements



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<https://www.phoenix.gov/fire/prevention/fire-code>

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Fire Code Self Certification Guide

General Information

Fire Site Plan Review Process

- Pre-Application Site Plan (PAPP)
- Preliminary Site Plan (PRLM)
- Final Site Plan (SCMJ)

NOTE: All new Self Certification building plans will not be accepted without Final Site Plan Approval.



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Fire Code Self Certification Guide

GUIDE TO:
SUCCESSFUL PLAN REVIEW



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Fire Systems Plans Review Process

- 1st Plan Review Submittal
- 2nd Plan Review Submittal
(Denial)

Fire Code Self Certification Guide



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2018 Phoenix Fire Code Chapter 1 Administration

Administration

2018 Phoenix Fire Code

Section 105 Applicant responsibility.

It shall be the responsibility of the applicant to ensure that the *construction documents* include all fire protection requirements, and the shop drawings are complete and in compliance with the applicable codes and standards.



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Administration

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Section 105 Approved Documents.

Construction documents approved by the fire code official are approved with the intent that such construction documents comply in all respects with this code. Review and approval by the fire code official shall not relieve the applicant of the responsibility of compliance with this code.



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Administration

Section 105 Permits

- Access gates, *Automatic and Manual* (F157)
- Access, Emergency (F481)
- Address directories (F482)
- Automatic fire-extinguishing system (F100, F105, F159)
- CO2 Beverage Dispensing System (F238)
- Fire alarm and detection systems and related equipment (F122, F129, F175)
- Fire Pumps and related equipment (F117)
- Private fire hydrants (F112, F115)
- Special extinguishing system (F132, F134, F238)
- Standpipe systems (See Automatic sprinklers)
- Underground fire lines (F112, F115)

NOTE: Over-the-counter permits may also be obtained.



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Self-Certification Projects

- All Fire protection for schools shall be submitted to the Arizona State Fire Marshal.
- Marijuana Extraction Facilities shall separate the extraction portion and submit separately.

Exception: School Emergency Access and Gates shall be submitted to City of Phoenix PDD for permits.



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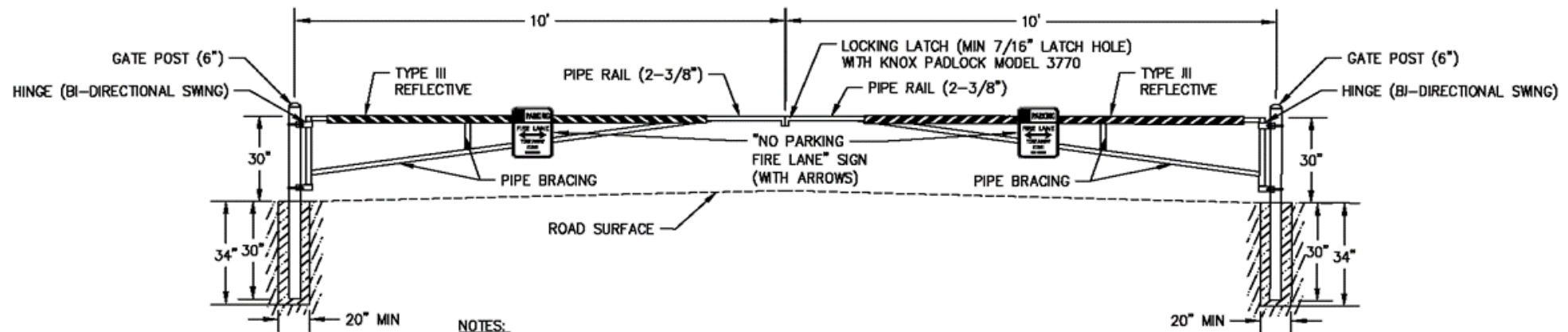
Fire Service Features

2018 Phoenix Fire Code Chapter 5 Fire Service Features



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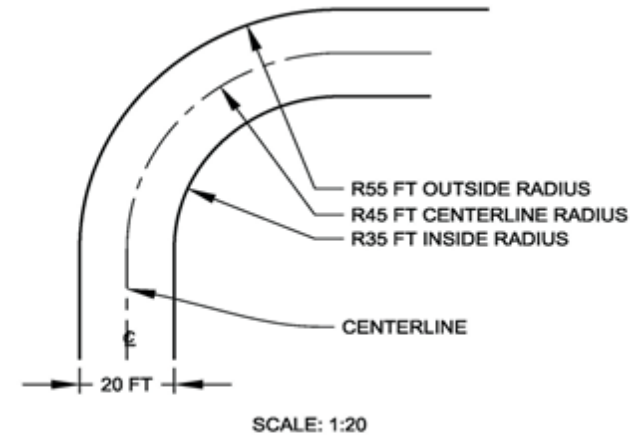
NOTES:

1. ALL MATERIALS SHALL BE SCHEDULE 40, GALVANIZED STEEL PIPE.
2. PROTECTIVE FINISH SHALL BE HOT-DIPPED, GALVANIZED GRAY.
3. CONTRACTOR TO INSTALL NO PARKING, FIRE LANE SIGN ON EACH SIDE OF GATE MEETING THE REQUIREMENTS OF OFC D103.6 AS AMENDED BY CITY OF HILLSBORO HMC 11.28.010.
4. CONTRACTOR TO INSTALL TYPE III REFLECTIVE STRIPING ON BOTH SIDES OF GATE. STRIPING SHALL BE ALTERNATING RED/WHITE STRIPES, 6" WIDE & AT 45° ANGLE.
5. CONCRETE SHALL BE 3,000 PSI.
6. COORDINATE INSTALLATION OF KNOX PADLOCK WITH CITY OF HILLSBORO FIRE DEPARTMENT.

Fire Service Features

Fire Site Plan Requirements

- 503 Fire Apparatus Access Roads (Fire Lanes)
- 507 Fire Protection Water Supplies (Fire Hydrants)



Determination of Setbacks



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Fire Service Features

- **Section 507** Water supplies for manual fire suppression and fire hydrants shall be in accordance with Appendix B.
- **Appendix B** Buildings other than one- and two-family dwellings. The minimum fire-flow and flow duration for buildings other than one- and two-family dwellings shall be specified in Appendix B105.1.
- Exception: A reduction in required fire-flow of up to 50%, as approved, is allowed when the building is provided with an approved NFPA 13 automatic sprinkler system. The resulting fire-flow shall not be less than 1,500 gallons per minute for the prescribed duration as specified in Table 105.1. No reductions are allowed for NFPA 13D or 13R systems other than Group R-3 single family homes.

APPENDIX B

TABLE B105.1
MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS
FIRE-FLOW CALCULATION AREA (square feet)

Type IA and IB ^a	Type IIA and IIA ^a	Type IV and V-4 ^a	Type IB and IB ^a	Type V-8 ^a	FIRE-FLOW (gallons per minute) ^b	FLOW DURATION (hours)
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,900	15,401-18,400	9,401-11,300	2,750	3
70,901-83,700	39,701-47,000	25,901-30,000	18,401-21,800	11,301-13,400	3,000	
83,701-97,700	47,001-54,900	30,001-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,000	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,001-92,400	52,501-59,000	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,800	59,001-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,801-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,300	53,001-58,600	32,601-36,000	5,000	
225,201-247,800	126,701-139,400	81,301-89,200	58,601-65,400	36,001-39,600	5,250	
247,801-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,700	6,000	
---	---	115,801-125,500	83,701-90,600	51,701-55,700	6,250	
---	---	125,501-135,500	90,601-97,000	55,701-60,200	6,500	
---	---	135,501-145,800	97,001-106,800	60,201-64,000	6,750	
---	---	145,801-156,700	106,801-113,200	64,001-69,000	7,000	
---	---	156,701-167,900	113,201-121,300	69,001-74,600	7,250	
---	---	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
---	---	179,401-191,400	129,601-138,500	79,801-85,000	7,750	
---	---	191,401-Greater	138,501-Greater	85,001-Greater	8,000	

FIG. 10: 1 square foot = 0.0929 m²; 1 gallon per minute = 3.785 L/min; 1 pound per square inch = 6.895 kPa.

a. Types of construction are based on the International Building Code.

b. Measured at 20 psi residual pressure.



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Fire Service Features

Permits Required:

- Premises Identification (Address numbers)
 - Emergency Access Permit
 - Address Directory
- Fire Protection Water Supplies
 - Underground Fire lines
 - Offsite/Onsite Combination Plans
 - Onsite Only
 - AFP Plans (Customer will be sent to 438 N. Adams)
- Fire Protection, Equipment Identification (Signage)
 - Automatic Gates
 - Manual Gates



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Automatic Sprinklers

2018 Phoenix Fire Code

Chapter 9 Fire Protection Systems



Automatic Sprinklers

903: Automatic Sprinkler System

903.1 Bret Tarver Sprinkler Ordinance. An approved automatic sprinkler system shall be installed throughout all levels of all new Group A, B, E, F, H, I, M, R-1, R-2, R-4, and S occupancies of more than zero square feet and throughout all Group R-3 occupancies built under the International Residential Code and Group U occupancies of more than 5,000 square feet.

Provide the type of sprinkler systems (NFPA 13D/NFPA 13R/NFPA13)

NFPA 13D: Standard for the installation of sprinkler systems for one and two family dwellings and manufactured homes

NFPA 13R: Standard for the installation of sprinkler systems in low-rise residential occupancies

NFPA 13: Standard for the installation of sprinkler systems



Automatic Sprinklers

903: Sprinkler systems—Partially Sprinklered Buildings

When existing non-sprinklered buildings of mixed occupancy are required to install sprinklers based on a change of occupancy classification, sprinklers shall be installed throughout the fire area that includes the new occupancy. *Fire barriers or horizontal assemblies* separating sprinklered and non-sprinklered *fire areas* shall have a fire-resistance rating of not less than 2 hours. Fire department connection signage shall be in accordance with Section 912.4

Automatic Sprinklers

903.4.1 Monitoring

Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an *approved* supervising station or, when *approved* by the *fire code official*, shall sound an audible signal at a constantly attended location.

Exceptions:

1. Underground key or hub valves in roadway boxes provided by the municipality or public utility are not required to be monitored.
2. Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position.
3. Building occupancies in Group A-2 that do not exceed 5,000 square feet.
4. Group E and H shall be monitored at 0 square feet.
5. All other buildings occupancies, that do not exceed 12,000 square feet.



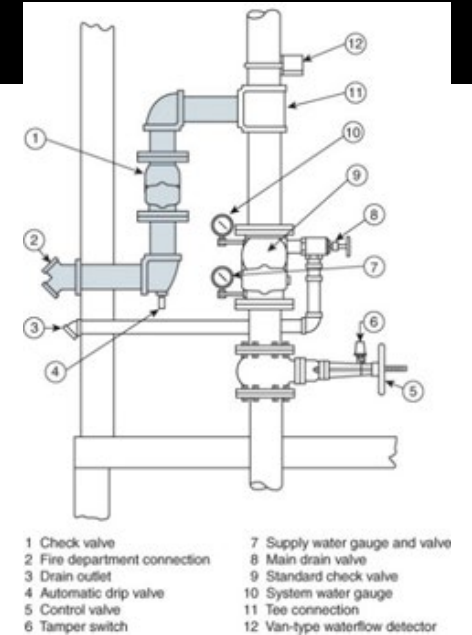
Fire Department Connections

PFC 912: Fire Department Connections

912.2 Location. The location of fire department connection shall be approved by the fire code official.

A site plan detail shall be submitted to the fire code official for approval as part of the construction documents.

912.2.1 Visible location. Fire department connections shall be located on the street side of buildings, fully visible and recognizable from the street or nearest point of fire department vehicle access.



907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be prepared in accordance with NFPA 72 and submitted for review and approval prior to system installation. (See fire code for required items.)



Fire Alarm and Detection Systems

907.2 Where Fire Alarms required – new buildings and structures. An approved fire alarm system shall be installed in accordance with fire code and NFPA 72.

(NOTE: Ensure Occupancy Group and Occupant load are shown on plans.)

907.5.2.1 Audible Alarms:

Audible alarm notification appliances shall be provided and emit a distinctive sound that is not to be used for any purpose other than that of a fire alarm. Group A, B, E, F, H, I, M, R, S and U occupancies shall meet Public Mode Audible Requirements of NFPA 72.



Fire Alarm and Detection Systems

Where required – new buildings and structures. An approved fire alarm system shall be installed in accordance with the provisions of the fire code and NFPA 72.

(NOTE: Also see AHJ Policy for NFPA 72 [City of Phoenix Fire Department - Fire Code](#))

907.5.2.3 Visual Alarm:

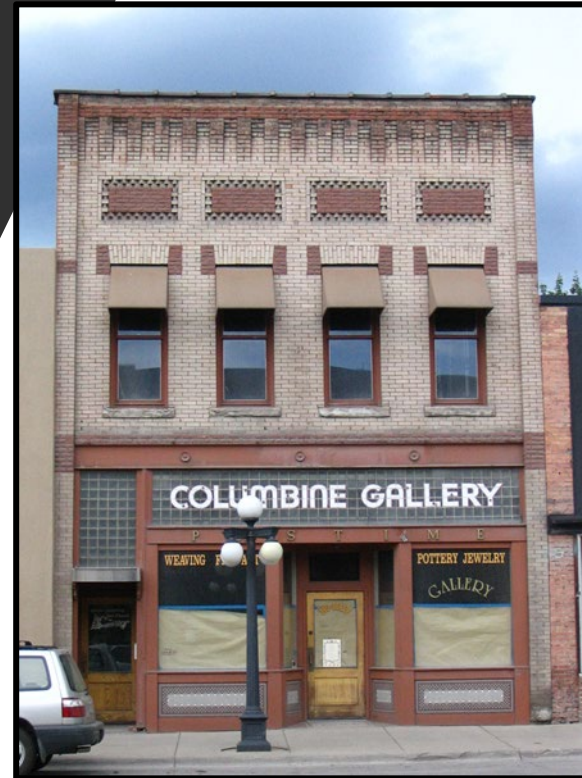
Visual alarm notification appliances shall be provided in accordance with Section 907.
(Coverage shall be provided in all public and common areas.)



Existing Buildings

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Chapter 11 Construction for Existing Buildings



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Existing Buildings

2018 Phoenix Fire Code

Scope. The provisions of this chapter shall apply to existing buildings constructed prior to the adoption of this code.

Intent. The intent of this chapter is to provide a minimum degree of fire and life safety to persons occupying existing buildings by providing minimum construction requirements where such existing buildings do not comply with the minimum requirements of the *International Building Code*.

See Table 1103.1 in 2018 Phoenix Fire Code.



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Existing Buildings

2018 Phoenix Fire Code

1103.5.5 Sprinkler systems.

All retro-active Brett Tarver Ordinance requirements may be found in Chapter 11 as well as Chapter 9.



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Existing Buildings

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Fire Alarm & Detection Systems

1103.7 Fire Alarm Systems. An approved fire alarm system shall be installed in existing buildings and structures; unless other requirements are provided in other sections of the code.

Where a fire alarm system is required to be installed in an existing building, an approved fire detection system shall be installed.



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Fire Plan Review Staff

FIRE PLAN REVIEW PERSONNEL

Karen Roberts	602-495-5586
Greg Preston	602-534-2639
Rachel LaMesa	602-534-7970
Luis Badilla	602-495-3664
Andrea Holliday	602-495-6885
Catharine Voorhees	602-495-6883
Karen Mikus (contractor)	cell 602-326-9191



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Questions?



Karen Roberts
Fire Prevention Specialist II
602-495-5586
karen.roberts@phoenix.gov

