Fire Hydrant/Water Main

Plan Submittal Checklist

Title Block Information

- □ Owner name
- □ Occupant name
- □ Approved street address
- □ Name, address, telephone number, fax number and e-mail address of designing civil engineer
- □ Point of compass on each page
- □ Scale and graphical representation
- □ A detailed explanation of the scope of work
- □ List of codes and edition dates that were used to design the system
- □ The following statement shall be provided on each set of water plans with the signature block as indicated below

According to the modeled calculations reviewed by the governing water district and/or Colorado registered civil engineer/designer; the theoretical available fire flow at node _____ is _____ gallons per minute under maximum daily demand conditions at 20psi residual. The actual fire flow may vary due to various parameters.

Upon detailed review of the available water supply, fire hydrant locations and hose lay distances, these plans are hereby considered approved.

_____FIRE DEPARTMENT
Fire Department Signature: _____
Date: _____

Building Information

- □ Gross square footage of all proposed structures (including all floors/basements) shall be included in the foot print of each structure
- □ The construction type of all proposed structures shall be included in the foot print of each structure
- □ Any and all area separation walls (ASW) shall be provided, and the gross square footage located on each side of the ASW shall be provided
- □ The word “SPRINKLERED” or “NONSPRINKLERED” shall be noted according within the footprint of all proposed structures
- □ The location of the fire department connection (FDC) shall be indicated on all structures that will contain a fire sprinkler system
- □ If a fire sprinkler system is provided a 50% reduction in required fire flow may be allowed. If this reduction is requested it shall be clearly indicated on the plans

Water Supply Information

- □ Assurance of looped water supply
- □ Size of water supply main or storage tank
- □ Modeled theoretical available water supply to all fire hydrants
- □ The minimum acceptable water supply allowed by the fire code is 1500gpm, regardless of the 50% reduction allowance
- □ All theoretical fire flows shall be provided at 20psi

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- □ Underground pipe size, length, location, material and point of connection to dependable water supply
- □ A chart shall be provided to indicate the required and available water supplies (as indicated)

Construction Type	VB
Gross Square Footage	17,300
Required Fire Flow	3,500 gpm
FIRE SPRINKLERED 50% reduction	1,750 gpm
Required Number of Hydrants	1
Average Spacing between Hydrants	500-feet
Max Hose Distance	250-feet

(See Appendix B & C of the International Fire Code for more information)

Fire Hydrant Information

- □ All existing fire hydrants shall be indicated
- □ All proposed (new) fire hydrants shall be provided
- □ A fire hydrant shall be placed within 100-feet of all fire department connections (FDC) in fire sprinklered structures
- □ Fire hydrants shall not be closer that 40-feet to a structure
- □ Fire hydrants shall be painted in accordance with requirements of the appropriate water provider and the fire authority having jurisdiction

Inspection Information

- □ All new water supply mains shall be adequately hydrostatically pressure tested and flushed prior to new water supply systems being placed into service for fire protection use
- □ No combustibles are to be brought onto any construction site until the fire hydrant and water main is in service
- □ Actual fire flow reports for each required fire hydrant shall be obtained and provided to the fire code inspector during the final fire inspection

Well Water and Storage Tank Information

- □ Please contact PEAK Consulting Services, Inc. for case by case information concerning the use of well water and storage tank water for fire protection

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Fire Flow Requirements

FIRE AREA (*GROSS* square feet)[1] × 0.0929 for sq. meters					FIRE FLOW GPM × 3.785 for L/min.	FLOW DURATION (hours)
Type I-A I-B[2]	Type IIA IIIA[2]	Type IV V-A[2]	Type IIB IIIB[2]	Type V-B[2]		
22,700	12,700	8,200	5,900	3,600	1,500	2
30,200	17,000	10,900	7,900	4,800	1,750	
38,700	21,800	12,900	9,800	6,200	2,000	
48,300	24,200	17,400	12,600	7,700	2,250	
59,000	33,200	21,300	15,400	9,400	2,500	
70,900	39,700	25,500	18,400	11,300	2,750	
83,700	47,100	30,100	21,800	13,400	3,000	3
97,700	54,900	35,200	25,900	15,600	3,250	
112,700	63,400	40,600	29,300	18,000	3,500	
128,700	72,400	46,400	33,500	20,600	3,750	
145,900	82,100	52,500	37,900	23,300	4,000	4
164,200	92,400	59,100	42,700	26,300	4,250	
183,400	103,100	66,000	47,700	29,300	4,500	
203,700	114,600	73,300	53,000	32,600	4,750	
225,200	126,700	81,100	58,600	36,000	5,000	
247,700	139,400	89,200	65,400	39,600	5,250	
71,200	152,600	97,700	70,600	43,400	5,500	
295,900	166,500	106,500	77,000	47,400	5,750	
Greater	Greater	115,800	83,700	51,500	6,000	
		125,500	90,600	55,700	6,250	
		135,500	97,900	60,200	6,500	
		145,800	106,800	64,800	6,750	
		156,700	113,200	69,600	7,000	
		167,900	121,300	74,600	7,250	
		179,400	129,600	79,800	7,500	
		191,400	138,300	85,100	7,750	
		Greater	Greater	Greater	8,000	

Notes: 1. The areas listed in this table represent the maximum allowable areas for the listed flow rates.
2. Types of construction are based on the International Building Code

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Fire Hydrant Requirements

FIRE FLOW REQUIREMENT (gpm)	MINIMUM Number of HYDRANTS	Average Spacing between Hydrants (feet)	Maximum Hose Lay Distance from Hydrant to Engine Stopping Point on a Driveable Surface (feet)
× 3.785 for L/min		**× 0.3048 for meters**	
1,750 or less	1	500	250
2,000 - 2,250	2	450	225
2,500 - 2,750	3	450	225
3,000 - 3,250	3	400	225
3,500 - 4,250	4	350	210
4,500 - 5,250	5	300	180
5,500 - 5,750	6	300	180
6,000 - 6,250	6	250	150
6,500 - 7,250	7	250	150
7,500 - 8,000	8	200	120

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