WATER SERVICE PIPE SIZING

PART 9 - RESIDENTIAL

Water service pipe sizes for residential buildings containing one or two dwelling units may be sized using this worksheet provided the minimum water pressure entering the building is 29 psi (200 kPa) and the maximum length of the entire water distribution system is 295 ft (90 m).

Part 1 – Hydraulic Load (fixture unit) Calculation

Fixture or Device	Minimum Size of Supply Pipe	Private Use Hydraulic Load, fixture units	Quantity	Total Hydraulic Load, fixture units
Bathroom group with 6 LPF flush tank	N/A	3.6		
Bathtub with or without shower head	½"	1.4		
Bathtub with ¾ in. spout	¾"	10		
Bidet	⅜"	2		
Clothes washer	½"	1.4		
Dishwasher	⅜"	1.4		
Water closet, 6 LPF or less with flush tank	⅜"	2.2		
Hose bib:				
½" supply	½"	2.5		
¾" supply	¾"	3		
Combination hot and cold	½"	2.5		
Shower head:				
Single head	½"	1.4		
Multi-head, fixture unit per head	½"	1.4		
Sink:				
Bathroom (lavatory)	⅜"	0.7		
Bar	⅜"	1		
Kitchen	⅜"	1.4		
Laundry	⅜"	1.4		
Other:				
			Total:	
Existing Plumbing Conditions (if applicable)				
Existing Hydraulic Load/fixture units				
Existing Water Service Pipe				

Part 2 – Sizing of Water Service Pipe

Size of Water Pipe, in.	Water Velocity m/s[1]	Water Velocity m/s[1]
	3.0 (PEX)	2.4 (COPPER)
	Hydraulic Load, fixture units	Hydraulic Load, fixture units
½"	8	7
¾"	8.1 - 21	7.1 - 16
1"	21.1 – 43	16.1 - 31
1¼"	43.1 - 83	31.1 - 57

Using a velocity of _____m/s and _____ fixture units, a _____ " water service pipe is proposed.

Name:	BCIN (if applicable):	Signature: