

WATER CALCULATION WORKSHEET FOR _____

NAME/ADDRESS OF PROJECT _____

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

- 1. Demand of building in gallons per minute. WSFU's _____ = (GPM) _____
- 2. Difference in elevation from main or external pressure tank to building control valve. (feet) _____
- 3. Size of the water meter. (When applicable) 5/8" __, 3/4" __, 1" __, 1-1/2" __, 2" __, 3" __, 4" __, 6" __.
- 4. Developed length from main or external pressure tank to building control valve. (feet) _____
- 5. Low pressure at main in street or external pressure tank. (psig) _____

CALCULATE WATER SERVICE PRESSURE LOSS

- 6. Low pressure at main in street or external pressure tank. (value of # 5 above) _____
- 7. Water service diameter is _____. Material is _____. Pressure loss per 100 ft = _____ psi. X _____ (decimal equivalent of service length, i.e.; 65ft = .65) _____
(Subtract line 7. from line 6.) **subtotal** _____
- 8. Determine pressure **gain or loss** due to elevation, (multiply the value of # 2 above by .434) value of "8" _____
- 9. Available pressure after the bldg. control valve. (Subtract or add line 8. Enter in "B".) **subtotal** _____

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

- B. Available pressure after the bldg. control valve. (from "9" above) Value of "B" _____
- C. Pressure loss of water meter (when meter is required or installed) Value of "C" _____
(Subtract line C. from line B.) **subtotal** _____
- D. Pressure at controlling fixture. Value of "D" _____
(Controlling fixture is _____)
(Subtract the value of D.) **subtotal** _____
- E. Difference in elevation between the building control valve and the controlling fixture in feet _____ X .434 psi/ft. Value of "E" _____
(Subtract the value of E.) **subtotal** _____
- F. Pressure loss due to water treatment devices, instantaneous water heaters and backflow preventers which serve the controlling fixture. Value of "F" _____
(Pressure loss due to _____)
(Subtract the value of F.) **subtotal** _____
- G. Developed length from building control valve to controlling fixture in feet _____ X 1.5 Value of "G" _____
(Divide by the value of G.) **subtotal** _____
(Water distribution piping material is _____)
Multiply by _____ **100**
- A. Pressure available for uniform loss **"A" =** _____

INSTRUCTIONS FOR COMPLETING THE WATER CALCULATION WORKSHEET

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| <p>1. Determine demand of building in GPM.
Add up WSFU's (Tables 82.40- 1&2), convert to GPM, (Table 82.40-3).
WSFU's _____ = GPM _____</p> | <p>9. Available pressure after the building control valve.
(enter in line "B")</p> | <p>G. Developed length from the building control valve to the controlling fixture.
This is the measured length (ft) of pipe between the building control valve and the controlling fixture.
Multiply the length (ft) by 1.5.</p> |
| <p>2. Determine difference in elevation from main or external pressure tank to building control valve.
Ask purveyor depth of main in street, or ask pump installer depth of pipe at connection to external pressure tank.</p> | <p>B. Available pressure after the building control valve.
(from line "9")</p> | <p>Calculating the pressure available for uniform loss (value of "A").</p> |
| <p>3. Size of meter. (if applicable)
Ask purveyor meter size for GPM demand.</p> | <p>C. Determine pressure loss of water meter.
(Refer to Graph A-82.40(7)-1 or to loss curve from manufacturer.</p> | <p style="text-align: right;">Value of "B" _____</p> |
| <p>4. Developed length from main or external pressure tank to building control valve.
Measure actual distance.</p> | <p>D. Pressure at controlling fixture.
This is the pressure required for a fixture to perform as designed.
Compare;
(1) required fixture pressure,
(2) elevation of fixture,
(3) developed length to fixture.</p> | <p style="text-align: right;">Subtract value of "C" _____</p> <p style="text-align: right;">subtotal _____</p> |
| <p>5. Determine low pressure at main in street, or external pressure tank.
Ask purveyor the low pressure of water at address, or ask pump installer low pressure setting on switch.</p> | <p>E. Determine difference in elevation between the building control valve and the controlling fixture.
Measure difference in height (ft) from the building control valve to the controlling fixture.
Multiply height (ft) by .434.</p> | <p style="text-align: right;">Subtract value of "D" _____</p> <p style="text-align: right;">subtotal _____</p> |
| <p>6. Low pressure at main in street, or external pressure tank. (as determined at # 5 above)</p> | <p>F. Determine pressure loss due to water treatment devices, instantaneous water heaters and backflow preventers which serve the controlling fixture.
This is determined by pressure loss curves based upon the GPM flow through the equipment or device.
This pressure loss only applies when serving the controlling fixture.</p> | <p style="text-align: right;">Subtract value of "E" _____</p> <p style="text-align: right;">subtotal _____</p> |
| <p>7. Determine pressure loss due to friction in the water service.
Refer to Graphs A-82.40(7)-2 thru 6.</p> | <p>G. Determine pressure loss due to water treatment devices, instantaneous water heaters and backflow preventers which serve the controlling fixture.
This is determined by pressure loss curves based upon the GPM flow through the equipment or device.
This pressure loss only applies when serving the controlling fixture.</p> | <p style="text-align: right;">Subtract value of "F" _____</p> <p style="text-align: right;">subtotal _____</p> |
| <p>8. Determine the pressure loss due to the difference in elevation between the main or external pressure tank and the building control valve.
Measure difference in height (ft) from the main or external pressure tank to the building control valve. Multiply height (ft) by .434.</p> | <p>F. Determine pressure loss due to water treatment devices, instantaneous water heaters and backflow preventers which serve the controlling fixture.
This is determined by pressure loss curves based upon the GPM flow through the equipment or device.
This pressure loss only applies when serving the controlling fixture.</p> | <p style="text-align: right;">Divide by value of "G" _____</p> <p style="text-align: right;">subtotal _____</p> <p style="text-align: right;">Multiply by <u> 100 </u></p> <p style="text-align: right;">"A" = _____</p> |
| <p>"A" = pressure available for uniform loss. This number is only an indicator for using the pipe sizing Tables 82.40-4 thru 82.40-9.
(this number is not actual pressure)</p> | | |