

1 SECOND FLOOR PLAN - PLUMBING
 SCALE: 1/4"=1'-0"

1
 P103
 SPS 382.40(7)(d)2.a.

WITH CONCURRENCE: **STEVE SCHLICHT**
 2-4 UNIT BLDGS

Information Needed for Water Service Sizing

- 34 Demand of building in gallons per minute.
- 95# Low pressure at main in street (or at external pressure tank).
- 10 Difference in elevation from main to meter (or external pressure tank to building control valve).
- 3/4" Size of water meter (if applicable).
- 167' Developed length from main to meter (or external pressure tank to building control valve).

You Must First Find the Available Pressure After the Water Meter (or at building control valve). To obtain this pressure, you must:

- 1597# Find pressure loss due to friction in 2" inch diameter water service. 47' OF 2" TYPE K = $1.1#/100' = .517#$ \times 1.597# LOSS
- 4.34 Find pressure loss due to elevation, main to meter (or external pressure tank to building control valve). Multiply the difference in elevation by .434 p.s.i./ft.
- 4# Find pressure loss due to meter. (from manufacturer or AHJ). 4 METERS BLDG w/16GPM EACH
- 85.06 Subtract the loss due to friction (Step 6), loss due to elevation (Step 7), and loss due to meter (Step 8) from the low main pressure (or low pressure at external pressure tank) (Step 2). This calculation is the available pressure after the water meter (or at the building control valve). This answer is entered in Line B, below.

Information Needed for Water Distribution Sizing

Using the following formula, find the pressure available for uniform loss (p.s.i./100' of pipe)

$$A = \frac{B - (C + D + E)}{F} \times 100$$

WHERE:

- 133 Pressure available for uniform loss (p.s.i./100' of pipe).
- 85.06# Available pressure after water meter (at the building control valve or low pressure at internal pressure tank). (See Step 9, above)
- 20# Pressure needed at controlling fixture.
- 5.2 Difference in elevation between water meter (building control valve or internal pressure tank) and controlling fixture. In feet 12' \times .434 p.s.i./ft.
- 0 Pressure loss due to water softeners, water treatment devices, instantaneous water heaters and backflow preventers which serve the controlling fixture. Conventional water heaters usually do not have a pressure loss.
- 45 Developed length from water meter (building control valve or internal pressure tank) to controlling fixture. In feet 30 \times 1.5

With pressure available for uniform loss, go to applicable table for distribution sizing.

| | H | C | T | |
|------------------|-----|-----|-----|--------|
| 8 WC | — | 2.0 | 2.0 | 16.0 |
| 8 LAV | .5 | .5 | 1.0 | 8.0 |
| 4 B. TUBS | 1.5 | 1.5 | 2.0 | 8.0 |
| 4 KIT. SINKS | 1.0 | 1.0 | 1.5 | 6.0 |
| 4 DISH WASHERS | 1.0 | — | 1.0 | 4.0 |
| 4 A.C.W | 1.0 | 1.0 | 1.5 | 6.0 |
| 4 3/4" SILLCOCKS | — | 2.0 | 4.0 | 16.0 |
| | | | | 64.0 |
| | | | | WSFU = |
| | | | | 34 GPM |

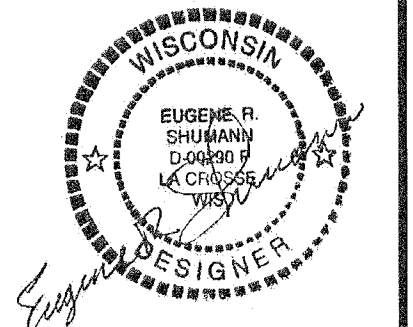
47' OF 2" K COPPER
 120' OF 2" PVC (ASTM 1785)
 167' TOTAL FOR LONGEST UNIT

4-3/4" METERS w/16GPM EA.

* WATER DIST. IS SCH 40 CPVC

REVISIONS:

PROJECT: **4-UNIT APARTMENT BUILDING FOR: STEVE SCHLICHT**
 DENTON STREET
 LA CROSSE, WISCONSIN



PROJECT: 22-4886
 DRAWN BY: ERS
 DATE: JUNE 09, 2022

SECOND FLOOR PLAN
 AND WATER
 CALCULATIONS
 PLUMBING

P103