



BIGHORN CONSULTING ENGINEERS, CO.

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1215 Chambers Ave
Domestic Water Calculations
November 11th, 2024

Building 1

Assumptions:

- Total building size is 15050 ft².
- 8 Tenants in the building.
- Each tenant will have 1 hose bib, 1 service sink, 2 water closets, 2 lavatories, 1 urinal, and 1 drinking fountain.
- Pressure at the building will be between 50 psi and 60psi.
- Maximum Development Length estimated at 300'

Sizing:

- 132 WSFU, Estimated Peak flow is 50.7 GPM.
- 1-1/2" tap and meter, 2" distribution Pipe. (Refer to 2021 IPC. Appendix E, Table E104.1)
- 4" Fire sprinkler Line (estimated 325 GPM, 10ft/s-20 ft/s flow velocity, NFPA 13 System.)

Building 2

Assumptions:

- Total building size is 13365 ft².
- 8 Tenants in the building.
- Each tenant will have 1 hose bib, 1 service sink, 2 water closets, 2 lavatories, 1 urinal, and 1 drinking fountain.
- Pressure at the building will be between 50 psi and 60psi.
- Maximum Development Length estimated at 300'

Sizing:

- 132 WSFU, Estimated Peak flow is 50.7 GPM.
- 1-1/2" tap and meter, 2" distribution Pipe. (Refer to 2021 IPC. Appendix E, Table E104.1)
- 4" Fire sprinkler Line (estimated 325 GPM, 10ft/s-20 ft/s flow velocity, NFPA 13 System.)

Building 3

Assumptions:

- Total building size is 7755 ft².
- 5 Tenants in the building.
- Each tenant will have 1 hose bib, 1 service sink, 2 water closets, 2 lavatories, 1 urinal, and 1 drinking fountain.
- Pressure at the building will be between 50 psi and 60psi.
- Maximum Development Length estimated at 250'

Sizing:

- 82.5 WSFU, Estimated Peak flow is 38.75 GPM.
- 1-1/2" tap and meter, 1-1/2" distribution Pipe. (Refer to 2021 IPC. Appendix E, Table E104.1)
- 4" Fire sprinkler Line (estimated 325 GPM, 10ft/s-20 ft/s flow velocity, NFPA 13 System.)

Building 4

Assumptions:

- Total building size is 29050 ft².
- 9 Tenants in the building.
- Each tenant will have 1 hose bib, 1 service sink, 2 water closets, 2 lavatories, 1 urinal, and 1 drinking fountain.
- Pressure at the building will be between 50 psi and 60psi.
- Maximum Development Length estimated at 300'

Sizing:

- 148.5 WSFU, Estimated Peak flow is 54.41 GPM.
- 1-1/2" tap and meter, 2" distribution Pipe. (Refer to 2021 IPC. Appendix E, Table E104.1)
- 4" Fire sprinkler Line (estimated 325 GPM, 10ft/s-20 ft/s flow velocity, NFPA 13 System.)

Building 5

Assumptions:

- Total building size is 34460 ft².
- 10 Tenants in the building.
- Each tenant will have 1 hose bib, 1 service sink, 2 water closets, 2 lavatories, 1 urinal, and 1 drinking fountain.
- Pressure at the building will be between 50 psi and 60psi.
- Maximum Development Length estimated at 300'

Sizing:

- 165 WSFU, Estimated Peak flow is 59 GPM.
- 1-1/2" tap and meter, 2" distribution Pipe. (Refer to 2021 IPC. Appendix E, Table E104.1)
- 4" Fire sprinkler Line (estimated 325 GPM, 10ft/s-20 ft/s flow velocity, NFPA 13 System.)

Building 6

Assumptions:

- Total building size is 14025 ft².
- 9 Tenants in the building.
- Each tenant will have 1 hose bib, 1 service sink, 2 water closets, 2 lavatories, 1 urinal, and 1 drinking fountain.
- Pressure at the building will be between 50 psi and 60psi.
- Maximum Development Length estimated at 300'

Sizing:

- 148.5 WSFU, Estimated Peak flow is 54.41 GPM.
- 1-1/2" tap and meter, 2" distribution Pipe. (Refer to 2021 IPC. Appendix E, Table E104.1)
- 4" Fire sprinkler Line (estimated 325 GPM, 10ft/s-20 ft/s flow velocity, NFPA 13 System.)

Building 7

Assumptions:

- Total building size is 13725 ft².
- 9 Tenants in the building.
- Each tenant will have 1 hose bib, 1 service sink, 2 water closets, 2 lavatories, 1 urinal, and 1 drinking fountain.
- Pressure at the building will be between 50 psi and 60psi.
- Maximum Development Length estimated at 300'

Sizing:

- 148.5 WSFU, Estimated Peak flow is 54.41 GPM.
- 1-1/2" tap and meter, 2" distribution Pipe. (Refer to 2021 IPC. Appendix E, Table E104.1)
- 4" Fire sprinkler Line (estimated 325 GPM, 10ft/s-20 ft/s flow velocity, NFPA 13 System.)