



# BIGHORN CONSULTING ENGINEERS, CO.

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1215 Chambers Ave

Domestic Water Calculations

November 11<sup>th</sup>, 2024 – Updated February 9, 2026.

## **Building 1**

Assumptions:

- Total building size is 15050 ft<sup>2</sup>.
- 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 13140 ft<sup>2</sup>.
- 7 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:

- 115.5 WSFU, Estimated Peak flow is 47 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 7675 ft<sup>2</sup>.
- 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 14525 ft<sup>2</sup>.
- 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 5**

#### Assumptions:

- Total building size is 17775 ft<sup>2</sup>.
- 11 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:

- 181.5 WSFU, Estimated Peak flow is 61.3 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 12525 ft<sup>2</sup>.
- 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 7**

### Assumptions:

- Total building size is 13725 ft<sup>2</sup>.
- 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.)