



## Alliant Energy - Gas Service Manual

### Chapter 4 – Gas Meter Connections

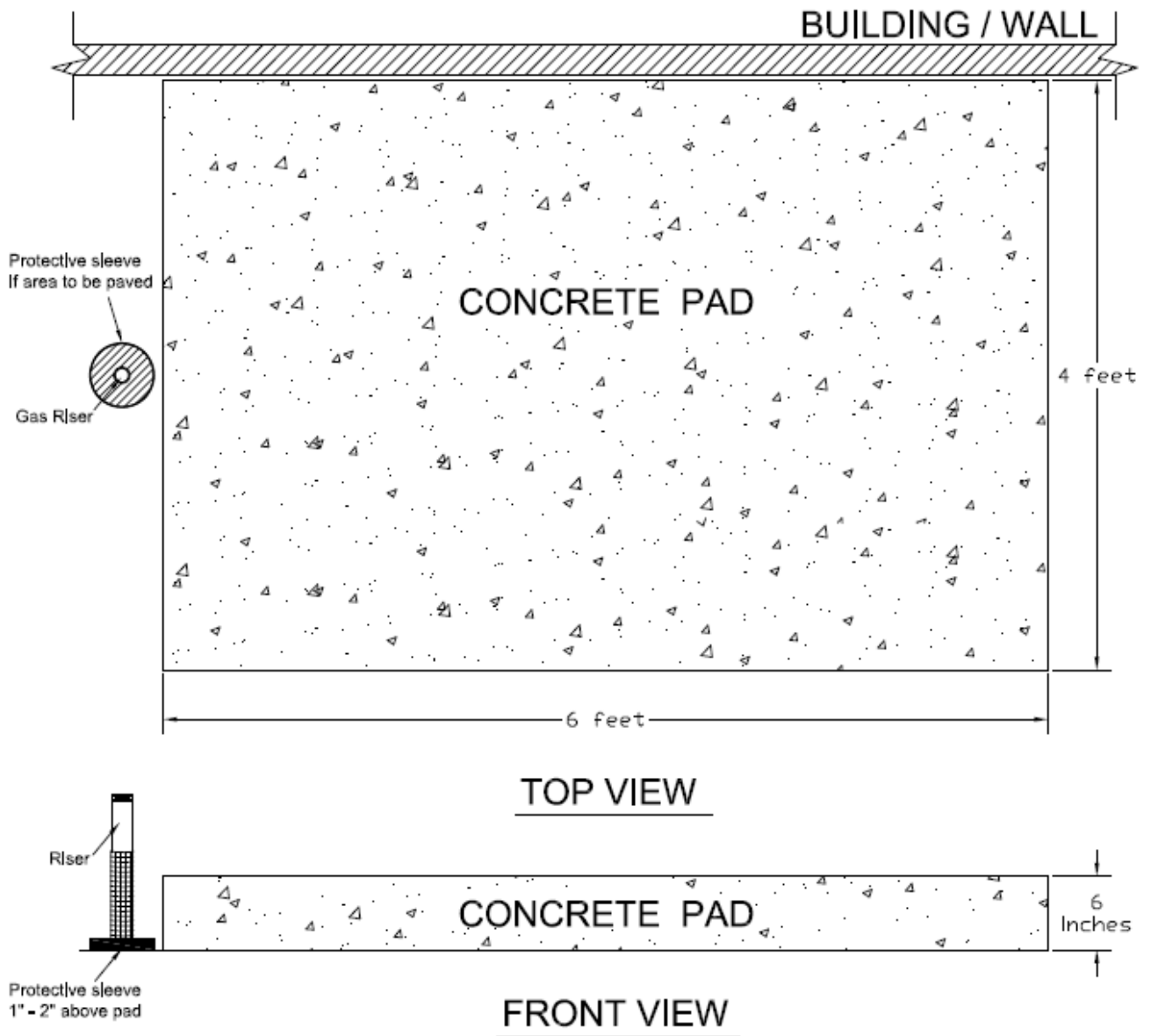
**Issued:** 2018

**Supersedes:** 2015

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#### A. GAS METER CONNECTIONS

1. All service and metering connections, including meter installation, shall be made by the Company.
2. Connection to or alteration of the Company's gas service or other equipment is prohibited.
3. Meter connections detailed in the following pages are for connected loads from 0 to 19,000 standard cubic feet per hour (Scfh). Contact the Company for metering facility drawings for larger loads.
4. Contact the Company for multi-meter facility drawings for installations requiring more than two meters.
5. Customers requiring a delivery pressure exceeding 7" w.c. should contact the Company to determine what other delivery pressures are available at their location.
6. The gas service riser may require a riser bracket to be attached to the foundation wall. Contact the Company for additional information. Where required, the bracket shall be installed 1 to 2 inches below final grade.
7. The customer shall install, own and maintain a concrete meter pad whenever Type D, F, G and H gas meter connection is required. Pad dimensions shall be 4 ft x 6 ft x 6 inches, as shown on the following page. Contact the Company for location and clearance requirements.



Notes:

1. Backfill under concrete pad must be properly compacted.
2. The pad must slope downward from the building.
3. Rubber sealant or similar filler will be used at the joint between the building and concrete pad.



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## **B. GAS METER CONNECTION – TYPE A**

0 to 250 Scfh at 7" w.c. or 2 psig delivery pressure

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas meter connection
- 5) Gas meter

A riser bracket may need to be attached to the foundation. At customer request, the riser bracket may be attached to foundation by the customer's contractor. Contact the Company to obtain riser bracket.

The customer shall own and maintain:

- 6) 1" shut-off valve (provided by the utility)
- 7) All customer piping

(Refer to figure on next page)

**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by Company personnel.

All external customer piping must be securely supported protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).





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### C. GAS METER CONNECTION- TYPE B

251 to 630 Scfh at 7" w.c. delivery pressure or

251 to 1,350 Scfh at 2 psig delivery pressure

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas meter connection
- 5) Gas meter

A riser bracket may need to be attached to the foundation. At customer request, the riser bracket may be attached to foundation by the customer's contractor. Contact the Company to obtain riser bracket.

The customer shall own and maintain:

- 6) 1-1/4" shut-off valve (provided by the utility)
- 7) All customer piping

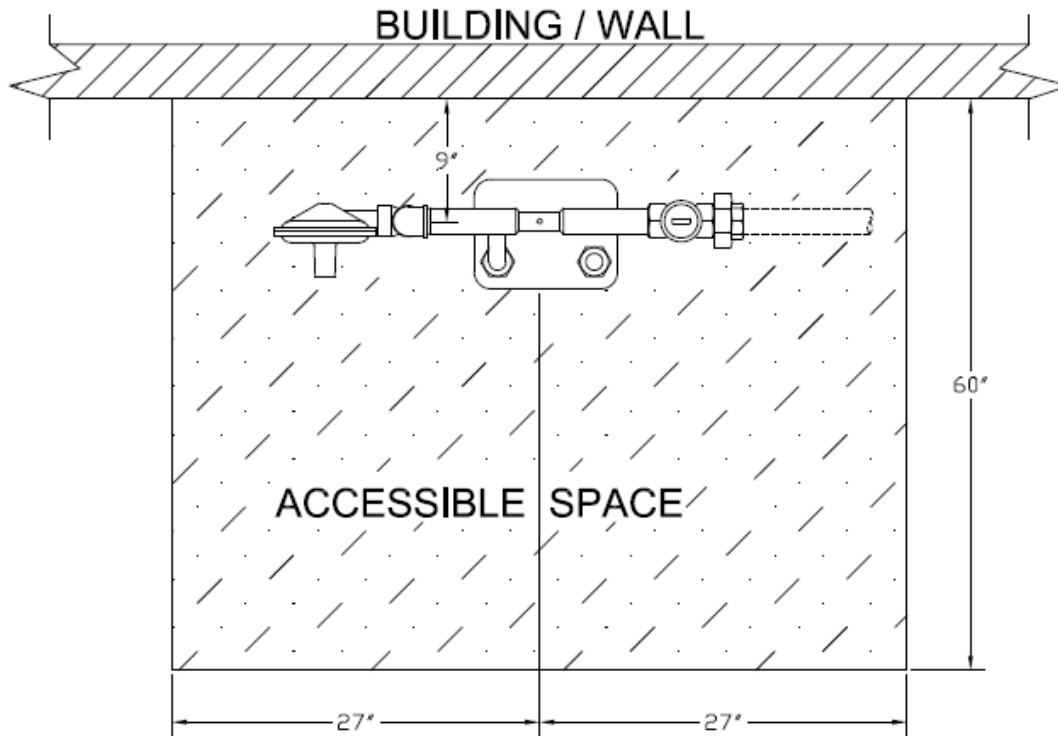
(Refer to figure on next page)

**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by Company personnel.

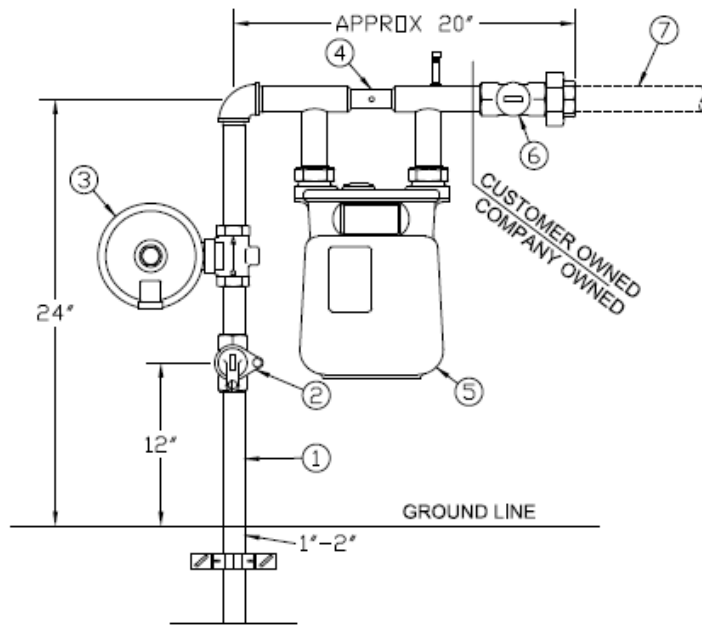
All external customer piping must be securely supported, protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).



**GAS METER CONNECTION – TYPE B (Continued)**



**TOP VIEW**



**FRONT VIEW**

(Dimensions Approximate)



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## D. GAS METER CONNECTION - TYPE C

631 to 1,000 Scfh at 7" w.c. delivery pressure

**NOTE:** Customers requiring flowrates between 1,001 – 1,800 Scfh at 7" w.c. should contact the Company to determine if Type C or Type D should be used.

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas meter connection
- 5) Gas meter
- 6) 1-1/4" shut-off valve

The customer shall own and maintain:

- 7) 1-1/4" shut-off valve (provided by the utility)
- 8) All customer piping

(Refer to figure on next page)

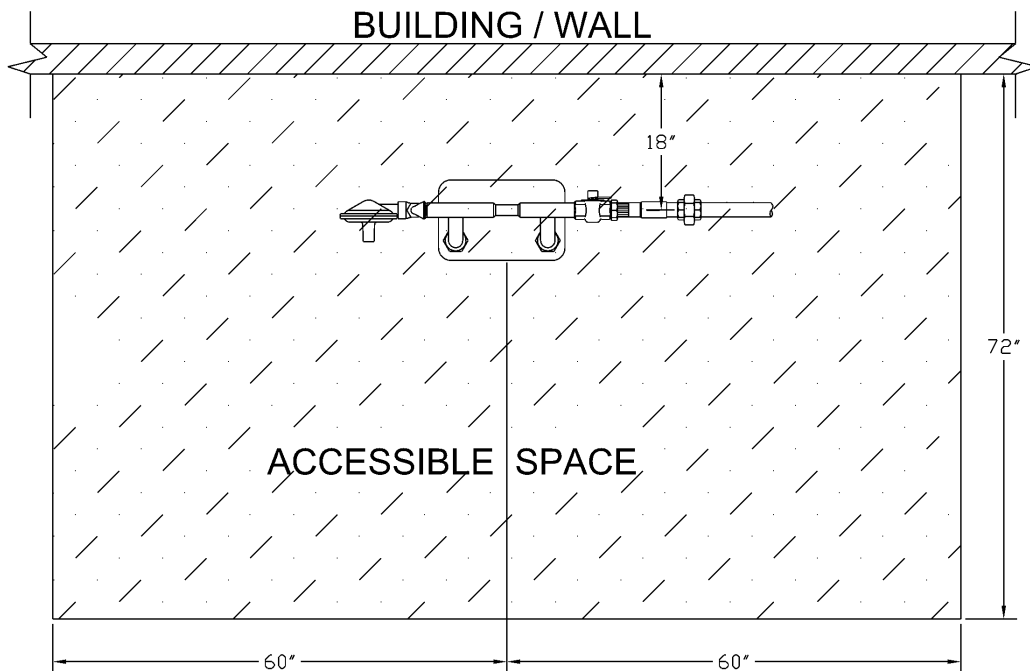
**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by Company personnel.

All external customer piping must be securely supported, protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).

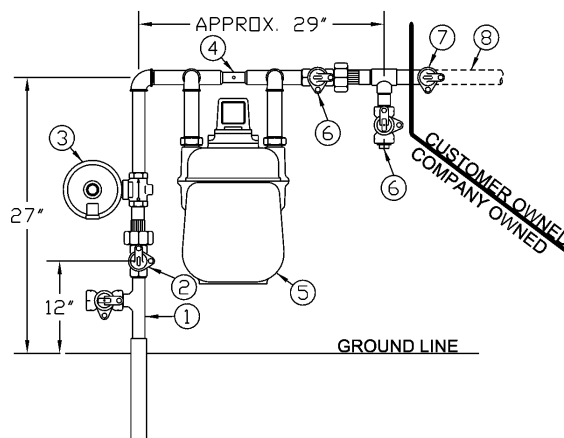




**GAS METER CONNECTION – TYPE C (Continued)**



TOP VIEW



FRONT VIEW

(Dimensions Approximate)



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## E. GAS METER CONNECTION – TYPE D

1,001 to 5,000 Scfh at 7" w.c. delivery pressure or

**NOTE:** Customers requiring flowrates between 1,001 – 1,800 Scfh at 7" w.c. should contact the Company to determine if Type C or Type D should be used.

2,301 to 5,000 Scfh at 2 psig delivery pressure

**NOTE:** Customers requiring flowrates between 5,001 – 5,500 Scfh at 2 psig should contact the Company to determine availability.

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas strainer
- 5) Gas meter connection
- 6) Gas meter
- 7) 3" steel nipple (on meter connection outlet)
- 8) Bypass valve
- 9) Relief valve
- 10) Shut-off valve

The customer shall install, own and maintain:

- 11) Concrete meter pad
- 12) All customer piping

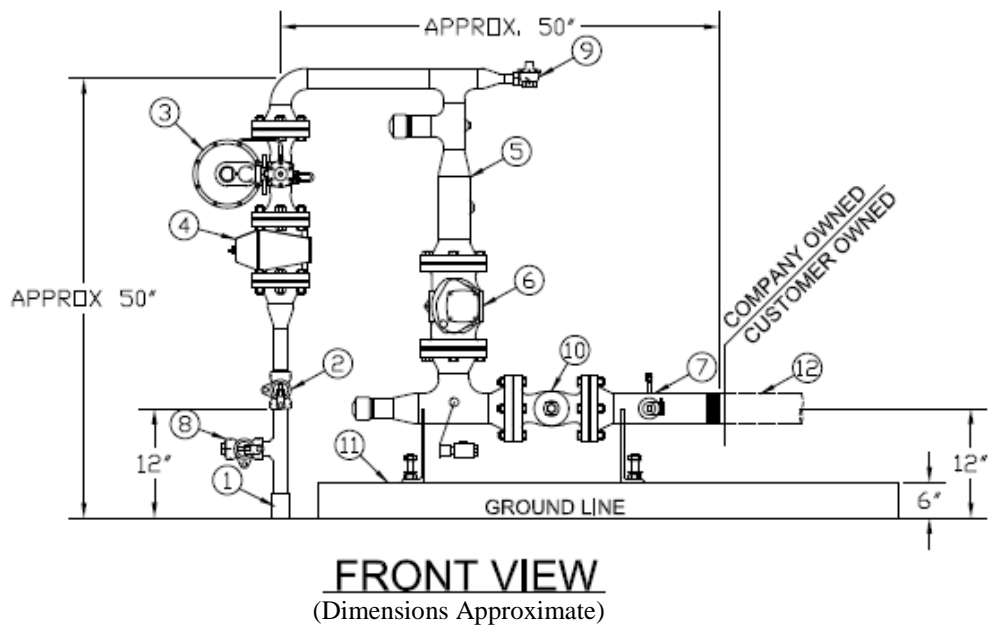
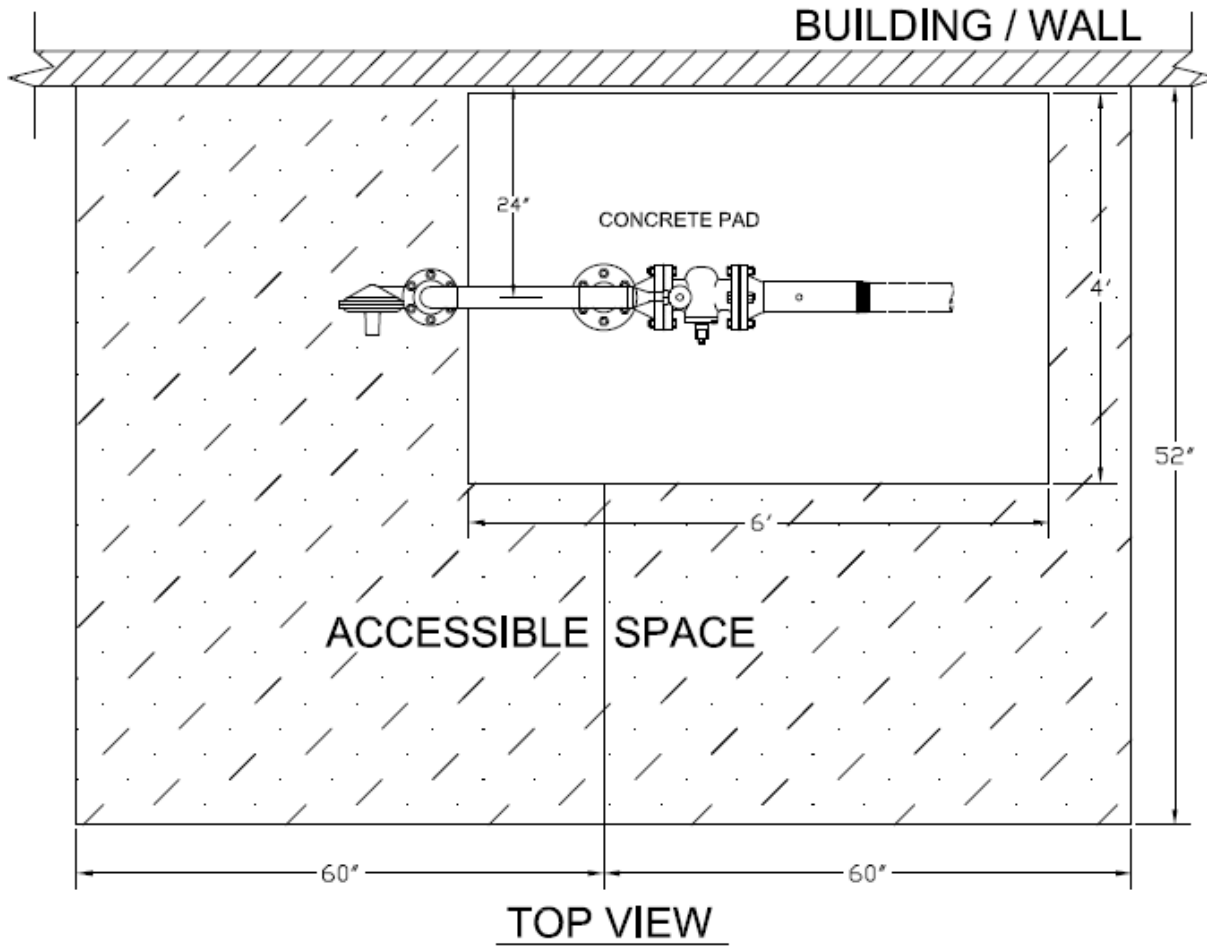
(Refer to figure on next page)

**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by Company personnel. It is recommended that customers install their own shut-off valve for maintenance or emergency use. Shut-off valves must comply with ASME B16.33, B16.34 or B16.38 and must be rated for a minimum of 125 psig.

All external customer piping must be securely supported, protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).



**GAS METER CONNECTION-TYPE D (Continued)**





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**F. GAS METER CONNECTION – TYPE E**

1351 to 2,385 Scfh at 2 psig delivery pressure or

0 to 2,700 Scfh at 5 psig delivery pressure or

0 to 3,400 Scfh at 10\* psig delivery pressure or

0 to 3,700 Scfh at 15\* psig delivery pressure

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas meter connection
- 5) Gas meter
- 6) 1-1/4" shut-off valve
- 7) Relief valve

The customer shall own and maintain:

- 8) 1-1/4" shut-off valve (provided by the utility)
- 9) All customer piping

(Refer to figure on next page)

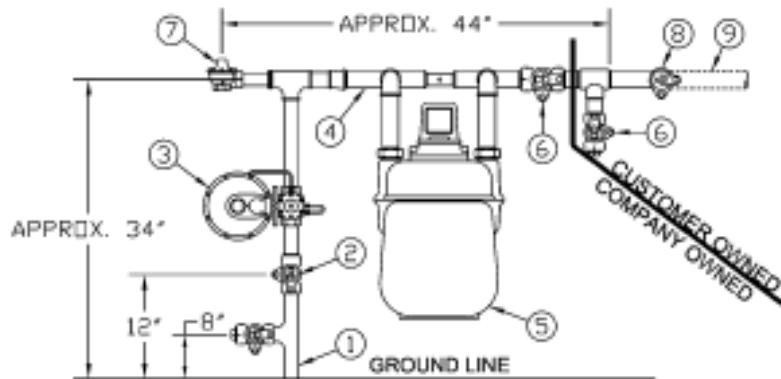
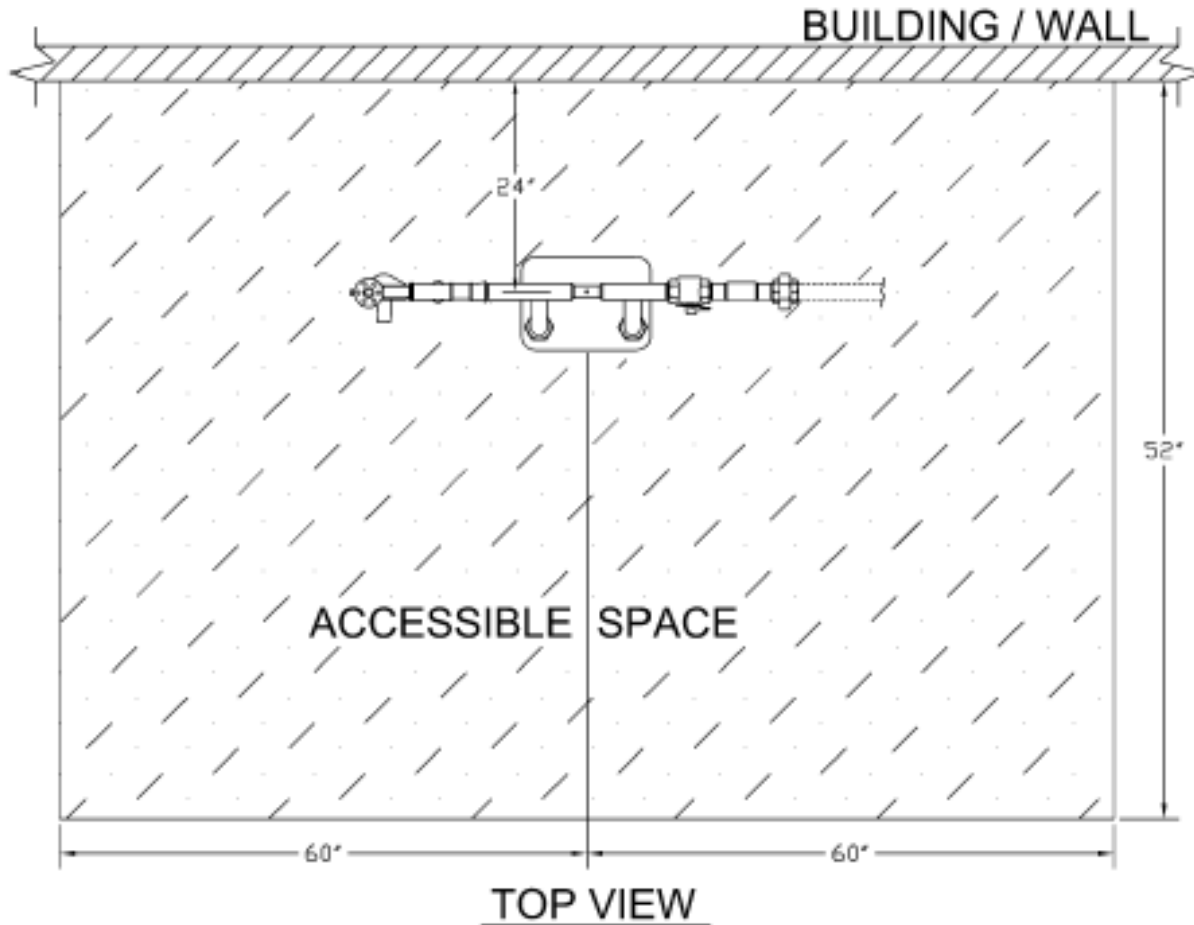
**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by Company personnel.

All external customer piping must be securely supported, protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).

\*For delivery pressures greater than 5 psig, additional piping joint requirements apply. Refer to GSM Chapter 5.



**GAS METER CONNECTION – TYPE E (Continued)**



(Dimensions Approximate)



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## G. GAS METER CONNECTION – TYPE F

2,701 to 9,300 Scfh at 5 psig delivery pressure or

3,401 to 11,600 Scfh at 10\* psig delivery pressure or

3,701 to 14,000 Scfh at 15\* psig delivery pressure

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas strainer
- 5) Gas meter connection
- 6) Gas meter
- 7) 3" steel nipple (on meter connection outlet)
- 8) Bypass valve
- 9) Relief valve
- 10) Shut-off valve

The customer shall install, own and maintain:

- 11) Concrete meter pad
- 12) All customer piping

(Refer to figure on next page)

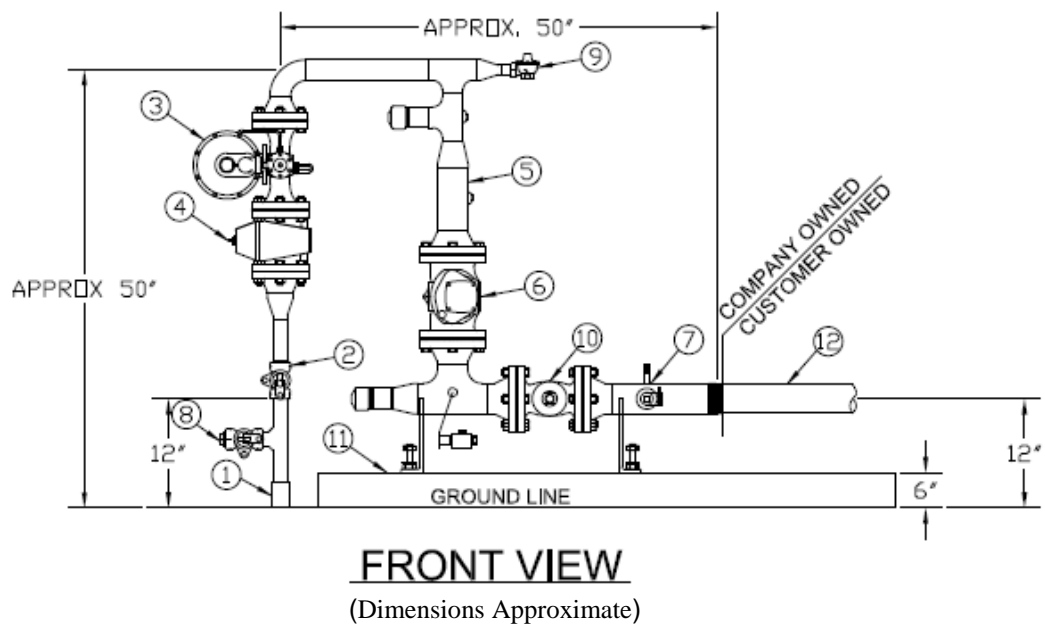
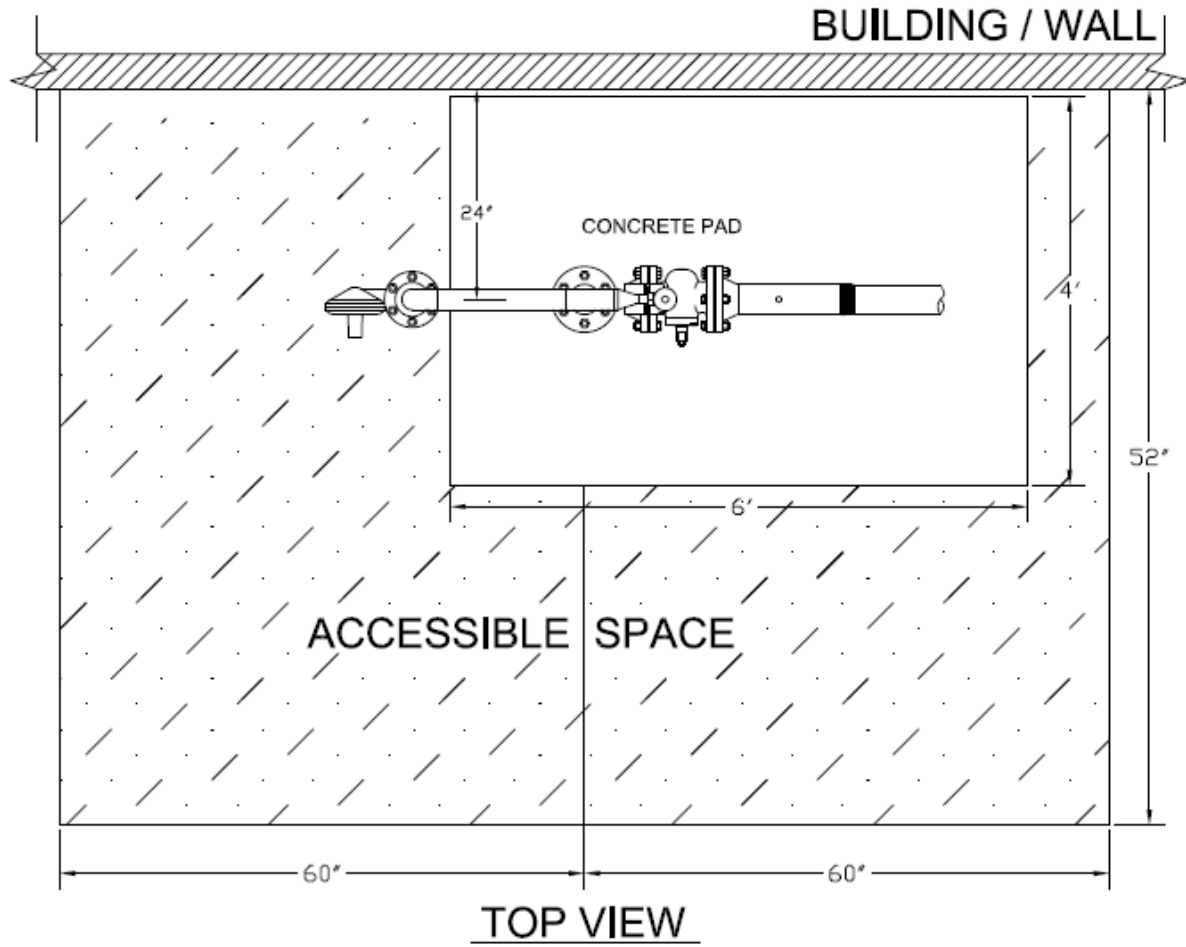
**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by a Company personnel. It is recommended that customers install their own shut-off valve for maintenance or emergency use. Shut-off valves must comply with ASME B16.33, B16.34 or B16.38 and must be rated for a minimum of 125 psig.

All external customer piping must be securely supported, protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).

\*For delivery pressures greater than 5 psig, additional piping joint requirements apply. Refer to GSM Chapter 5.



**GAS METER CONNECTION - TYPE F (Continued)**





## H. GAS METER CONNECTION – TYPE G

9,301 to 14,600 Scfh at 5 psig delivery pressure or

11,601 to 18,200 Scfh at 10\* psig delivery pressure or

14,001 to 22,200 Scfh at 15\* psig delivery pressure

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas strainer
- 5) Gas relief valve
- 6) Gas meter connection
- 7) Gas meter
- 8) 4" steel nipple (on meter connection outlet)
- 9) Bypass valve
- 10) Shut-off valve

The customer shall install, own and maintain:

- 11) Concrete meter pad
- 12) All customer piping

(Refer to figure on next page)

**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by a Company personnel. It is recommended that customers install their own shut-off valve for maintenance or emergency use. Shut-off valves must comply with ASME B16.33, B16.34 or B16.38 and must be rated for a minimum of 125 psig.

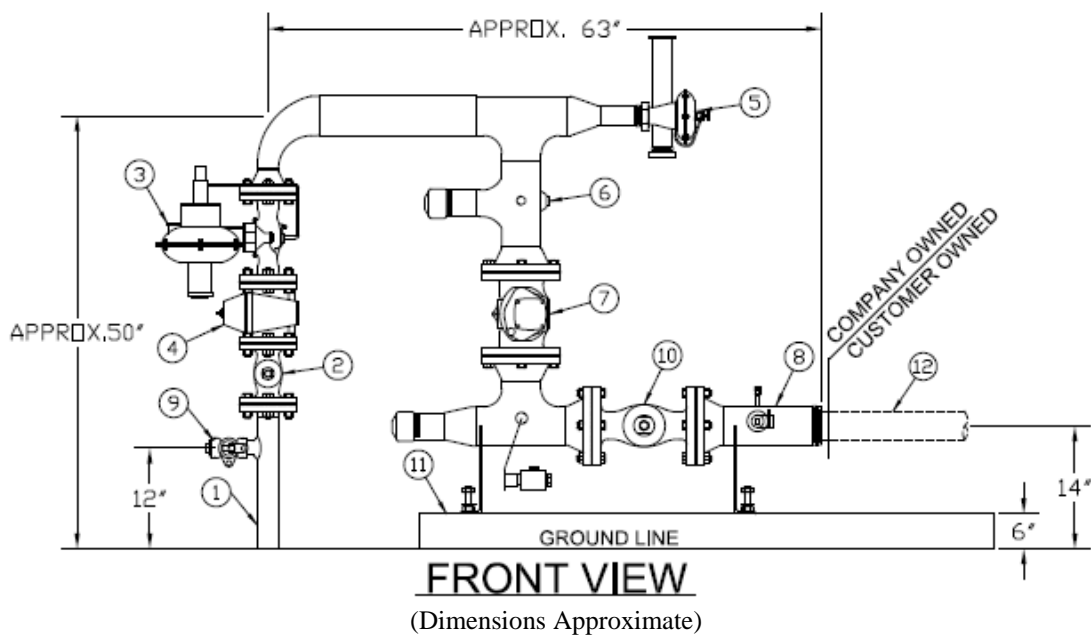
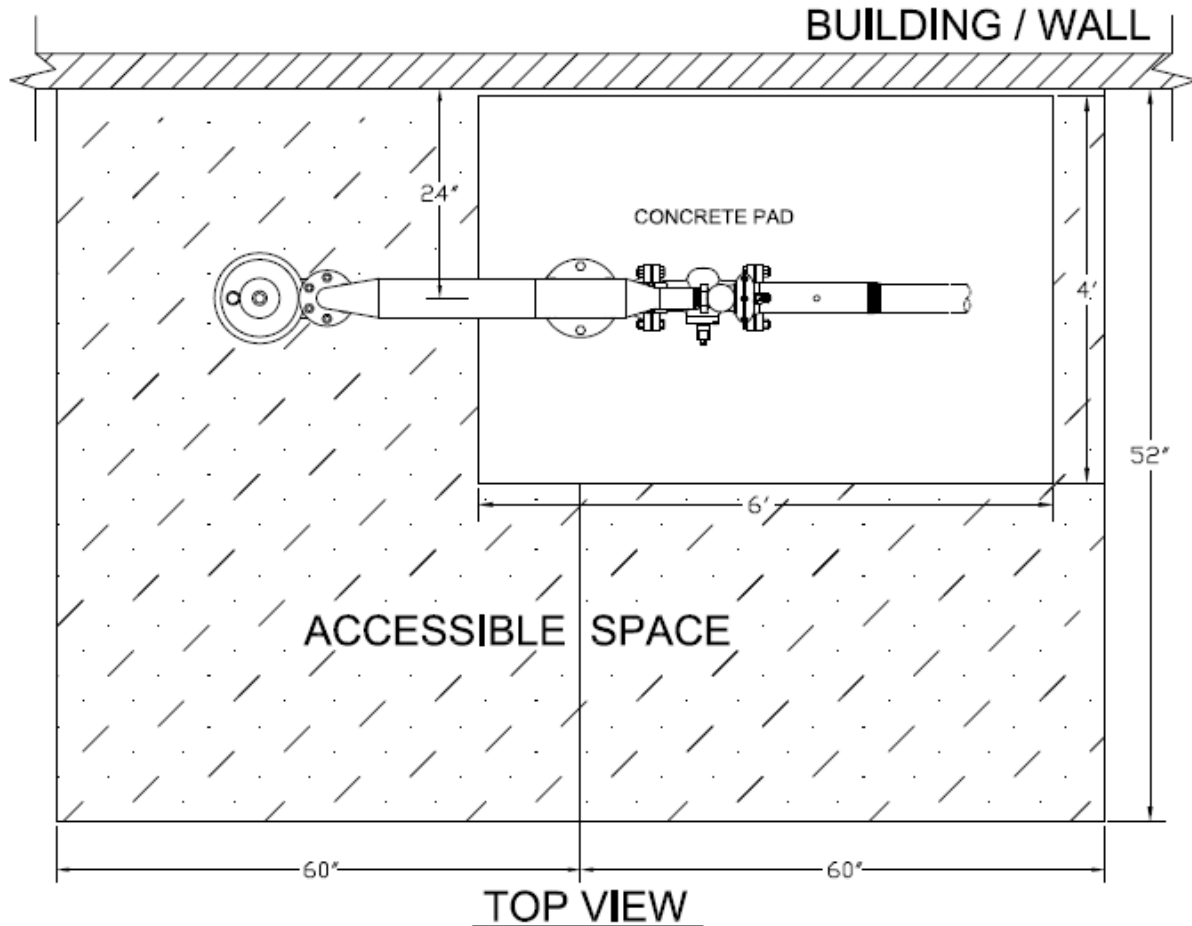
All external customer piping must be securely supported, protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).

\*For delivery pressures greater than 5 psig, additional piping joint requirements apply. Refer to GSM Chapter 5.





**GAS METER CONNECTION – TYPE G (Continued)**





## I. GAS METER CONNECTION – TYPE H

14,601 to 19,000 Scfh at 5 psig delivery pressure

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas strainer
- 5) Gas relief valve
- 6) Gas meter connection
- 7) Gas meter
- 8) Bypass connection
- 9) Shut-off valve
- 10) 2" steel nipple (on meter connection outlet)

The customer shall install, own and maintain:

- 11) Concrete meter pad
- 12) All customer piping

(Refer to figure on next page)

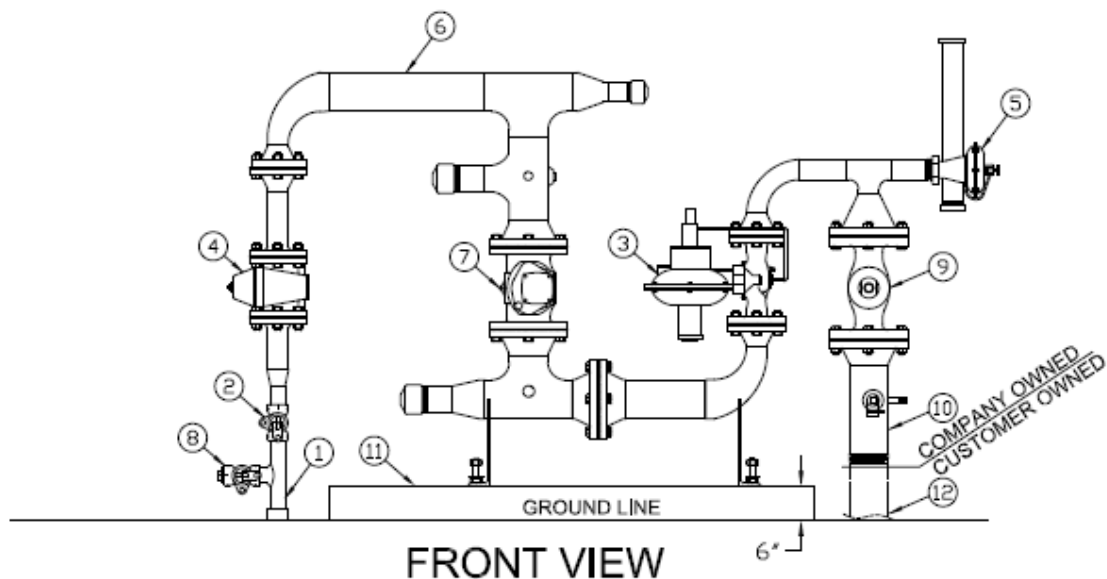
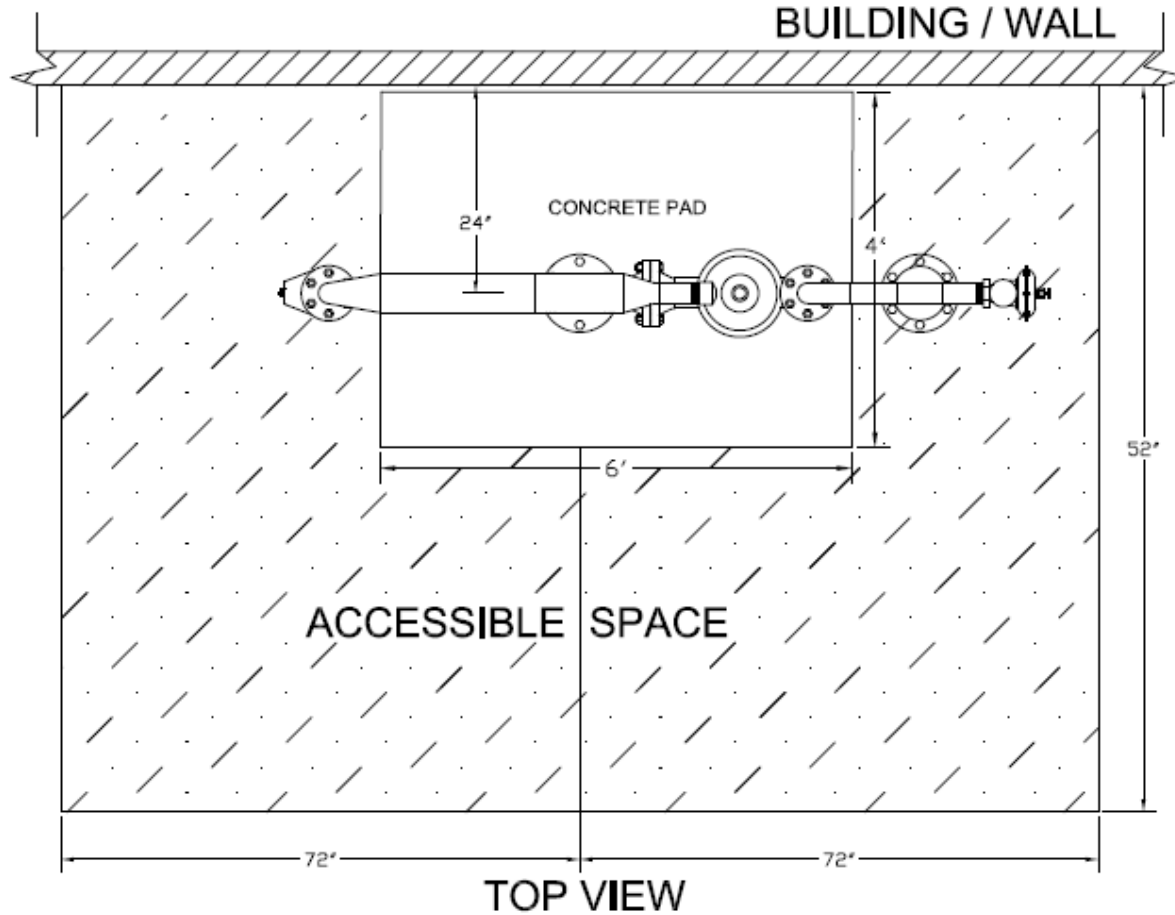
**NOTE:** Shut-off valves on the Company owned side of the figure on the following page may only be operated by Company personnel. It is recommended that customers install their own shut-off valve for maintenance or emergency use. Shut-off valves must comply with ASME B16.33, B16.34 or B16.38 and must be rated for a minimum of 125 psig.

All external customer piping must be securely supported, protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements).

**NOTE: Work with the Company for meter connections greater than 19,000 Scfh.**



**GAS METER CONNECTION – TYPE H (Continued)**



(Dimensions Approximate)



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## J. AUTOMATED METER READING INSTALLATIONS

The Company will install, own and maintain:

- 1) Gas meter
- 2) Gas meter corrector/instrument
- 3) Automated meter reading recorder (CID) if applicable
- 4) Wiring from meter/corrector/instrument to CID if applicable
- 5) Wiring from CID to telephone network interface device
- 6) Pulse relay equipment if applicable
- 7) Intrinsic safety barrier if applicable
- 8) Wiring from pulse relay to CID or corrector/instrument if applicable

The customer shall install, own and maintain:

- 9) 120 VAC with maximum 10 AMP breaker if applicable
- 10) Nema approved outdoor enclosure for pulse relay if applicable
- 11) 2'X2' plywood mounting board if applicable
- 12) Wiring from pulse relay to customer equipment if applicable
- 13) Customer pulse management system if applicable
- 14) Reading circuit maximum 30 VDC and 1 AMP if applicable
- 15) A direct inward dialing telephone extension or standard voice-grade, analog telephone line. Telephone extension or line cannot be shared or used by other telephone or telephone operated equipment. Tone dialing service is preferred. Telephone line will terminate at plywood mounting board with telephone network interface device

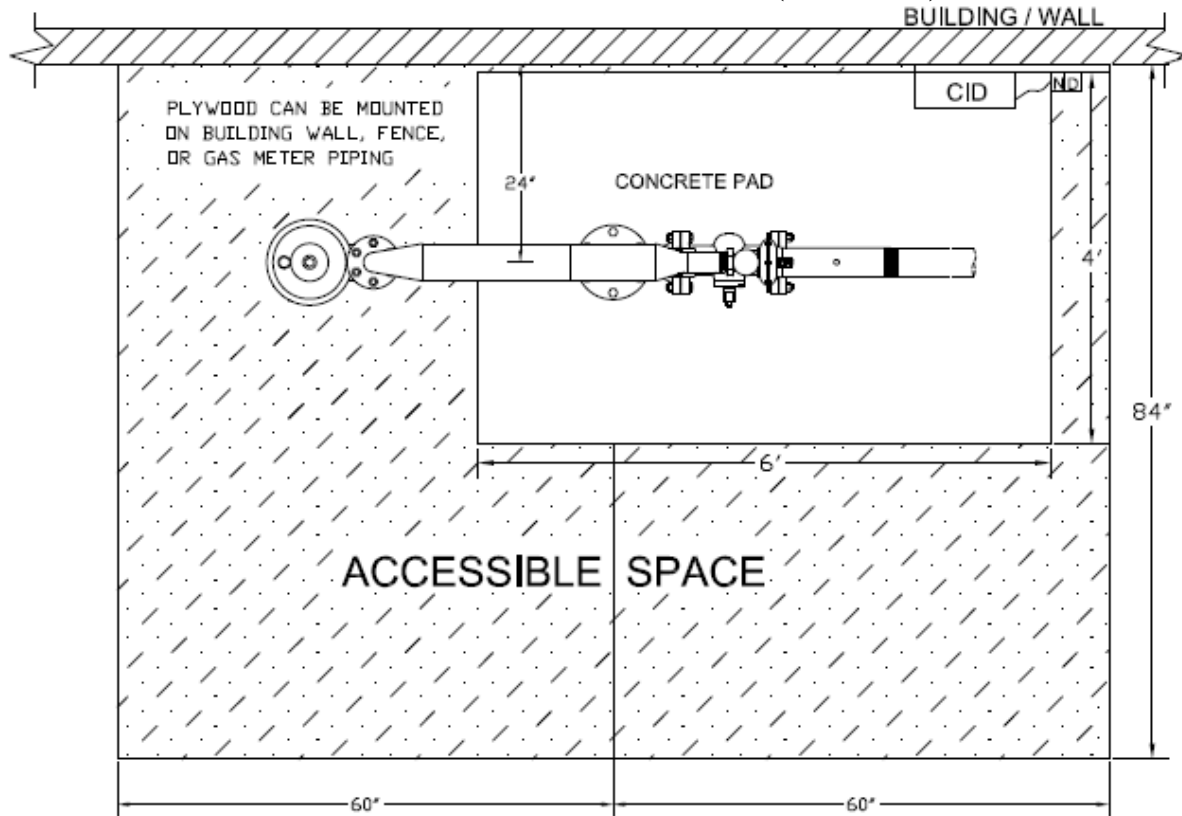
(Refer to figure on next page)

Clearance requirements are dependent on the type of equipment being installed. Contact the Company for required clearance.

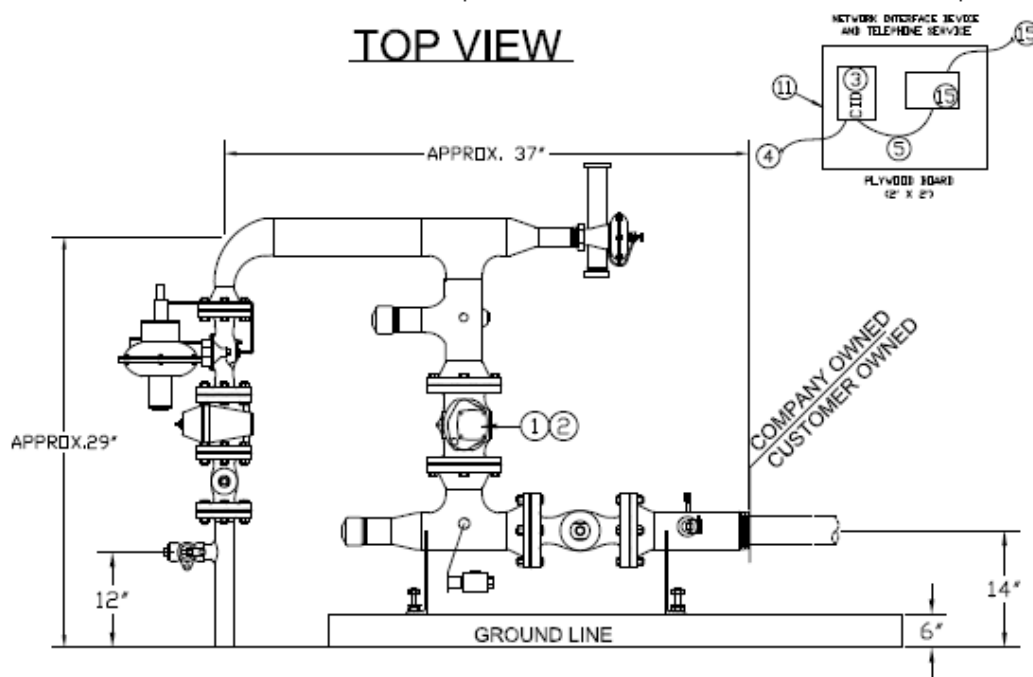
Wisconsin customers choosing to participate in the cellular modem pilot should contact the Company for more information.



**AUTOMATED METER READING INSTALLATIONS (Continued)**



**TOP VIEW**



**FRONT VIEW**

(Dimensions Approximate)



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## **K. MULTIPLE GAS METER CONNECTION**

For two meters:

0 to 250 Scfh at 7" w.c. or 2 psig delivery pressure

The Company will install, own and maintain:

- 1) Gas service lateral
- 2) Gas service shut off valve
- 3) Gas regulator
- 4) Gas meter connection
- 5) Gas meter

The customer shall own and maintain:

- 6) 1" shut-off valve (provided by the utility)
- 7) All customer piping

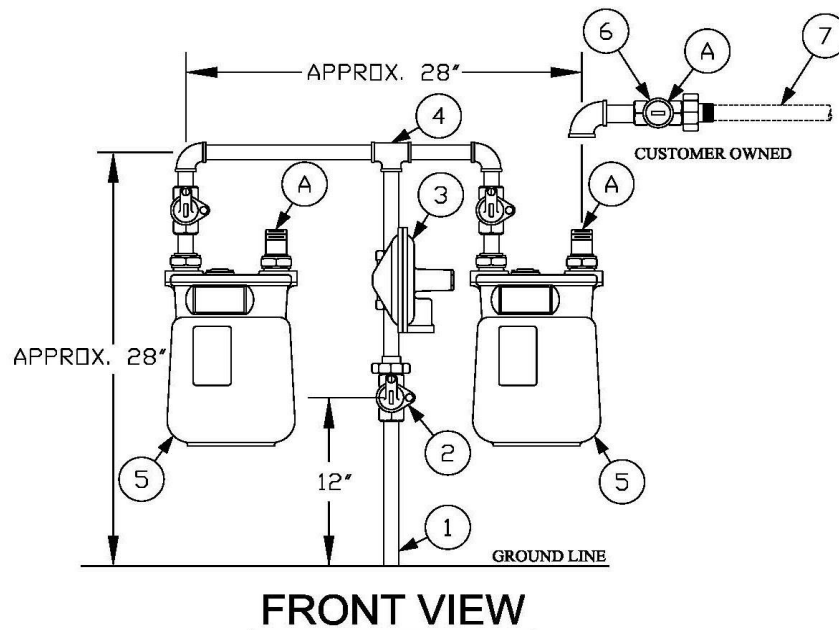
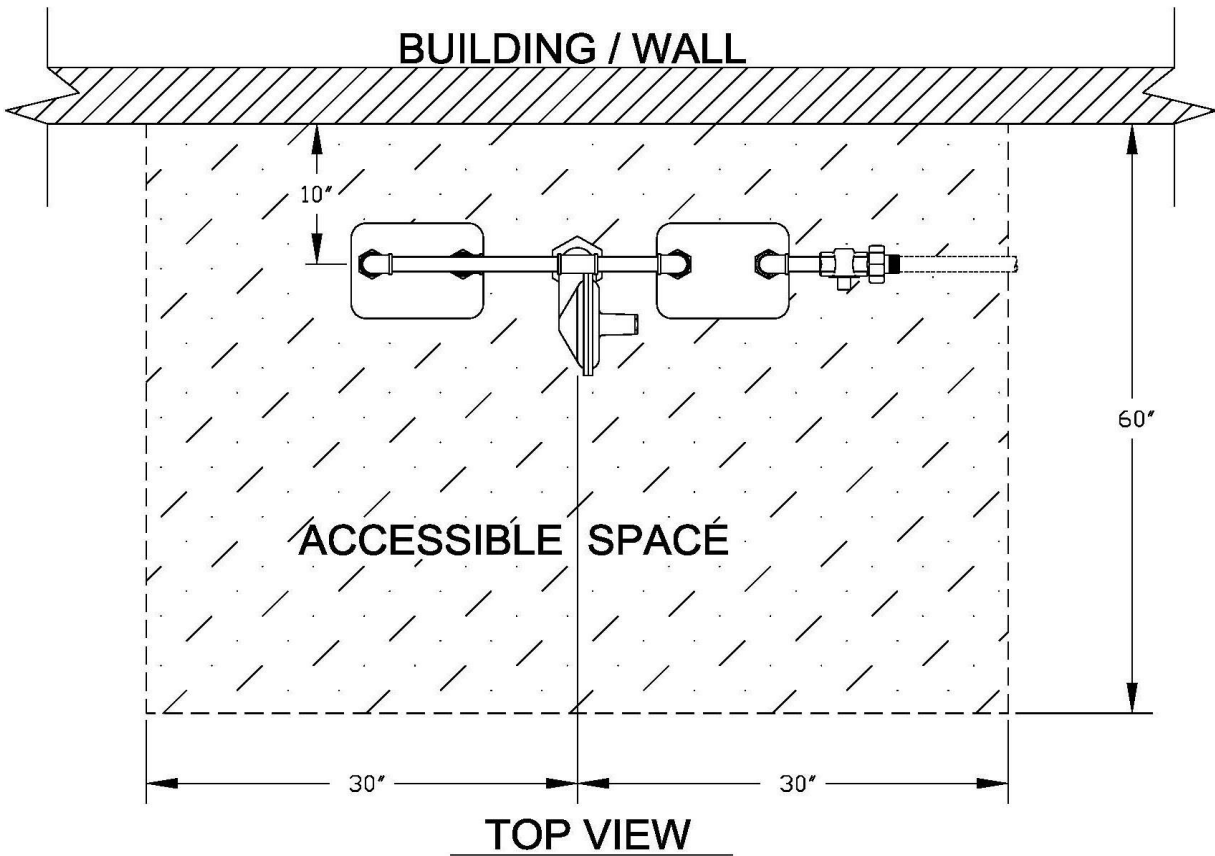
(Refer to figure on next page)

All external customer piping must be securely supported protected from physical damage and/or properly buried (refer to GSM Chapter 5 for piping requirements). Refer to GSM Chapter 5 for marking requirements for identifying customer piping in a multiple meter installation, as well as for piping.

**For multiple meter installations other than described above, consult the Company.**



**MULTIPLE GAS METER CONNECTION (Continued)**



(Dimensions Approximate)



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## **L. GRAIN DRYER CONNECTION**

The air intake on most grain dryers is located at the bottom of the unit; therefore meter sets need to be located far enough away from the grain dryers that natural gas from blowing relief valves will not create a hazardous situation. It is recommended that the meter set be placed a minimum of 25 feet away from the grain dryer.