

Section 4 – Gas Metering

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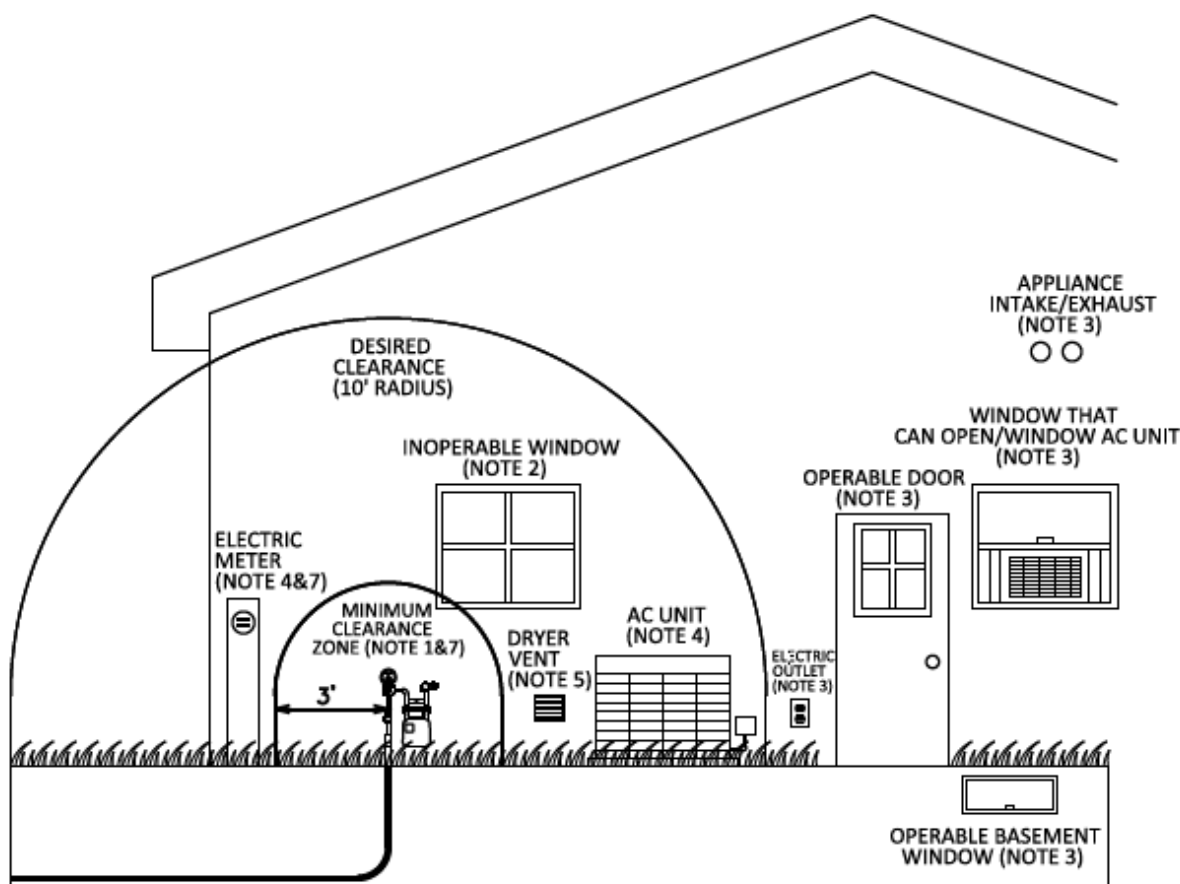
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4-1 Clearance to Gas Meters

THE LOCATION OF A GAS METER MAY REQUIRE THE INSTALLATION OF PROTECTIVE DEVICES. REFER TO SECTIONS 4-2 AND 4-3 FOR ADDITIONAL REQUIREMENTS ASSOCIATED WITH PROTECTION FROM VEHICLES, SNOW, AND ICE.

Object	Minimum Radial Distance from Regulator Vent	Desired Radial Distance from Regulator Vent
Source of Ignition (ex. electric meter, air conditioner, electric outlet)	3'	10'
Operable Windows and Doors	3'	10'
Sealed Combustion Intakes for Gas Appliances	3'	10'
All Other Intakes (ex: fresh air, fireplace, ect.)	3'	10'
Exhaust Vents	3' clearance required. Additionally, the meter assembly shall not be located directly below an exhaust vent that has potential to produce condensation and freeze up the regulator vent	



- 1: 3' MINIMUM CLEARANCE ALSO APPLIES TO AREA IN FRONT OF METER
- 2: WINDOWS THAT CANNOT BE OPENED ARE EXEMPT FROM CLEARANCE REQUIREMENTS
- 3: THESE ITEMS MEET THE DESIRED CLEARANCE
- 4: THESE ITEMS MEET THE MINIMUM CLEARANCE REQUIREMENTS, BUT NOT THE DESIRED CLEARANCE
- 5: EXHAUST VENTS SHALL NOT BE LOCATED DIRECTLY ABOVE THE GAS METER SET IN ADDITION TO 3' MINIMUM CLEARANCE
- 6: TELEPHONE AND CABLE BOXES ARE NOT SOURCES OF IGNITION
- 7: NO PART OF THE GAS METER ASSEMBLY SHOULD BE WITHIN A 30" WORKING SPACE IN FRONT OF THE ELECTRIC METER

4-2 Meter Protection from Vehicles

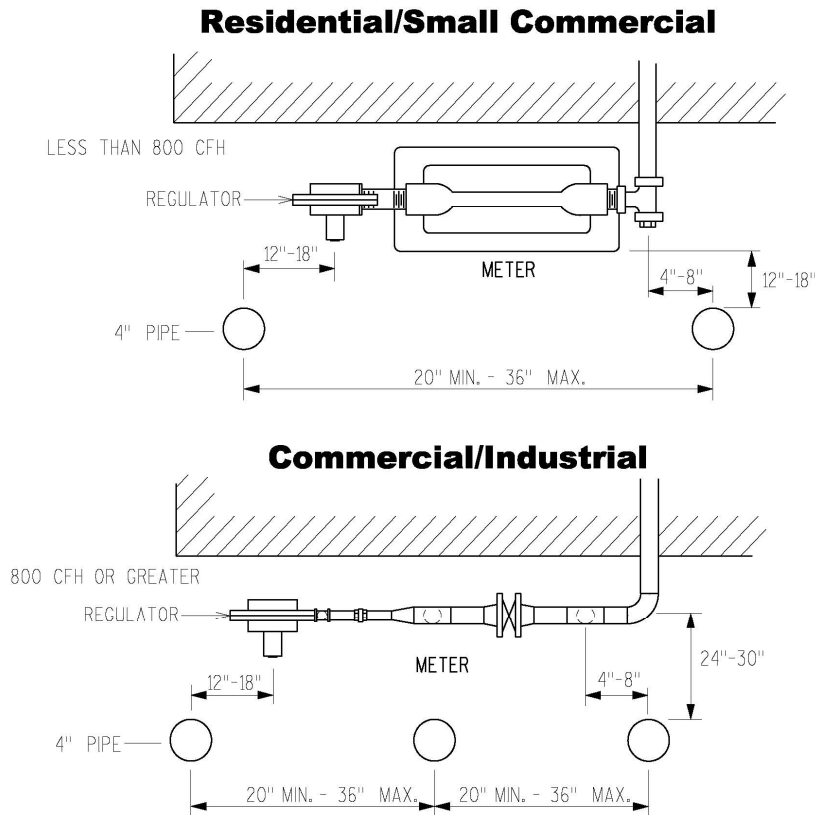
Suggested Vehicular Protection for Meters and Regulators

Damage to a gas meter or piping can cause a potentially dangerous situation and result in serious injury or damage. It is the responsibility of the customer to provide a safe location for new gas meters and regulators.

It is preferred to avoid locations where vehicles could accidentally run into the gas meter and piping. If this is not possible, meter protection is usually needed to prevent accidental collision with the gas facilities. The customer, the building inspector, or the Company can determine if meter set protection is needed.

Suggested protection includes 4" or larger steel posts or a 6" concrete curb. The customer can choose to install either post(s) or a curb, or the Company can install posts for a fee. Company-installed protection will typically consist of one or more posts or protectors as shown in the pictures below.

Please call the Company for assistance if you have or think you may have a potentially dangerous meter location.



Notes:

1. The drawings above are typical post layouts for areas where protection is needed.
2. When installing the posts, use good judgment in areas such as alleys, driveways, walkways, etc.
3. Guidelines for Post Installation:
 - a. Always call Diggers' Hotline at 1-800-242-8511 prior to making any excavations.
 - b. Posts shall not be driven.
 - c. Posts should be level and plumb with other posts.
 - d. Posts should be buried to a depth of 30" and should extend 36" above the ground.
 - e. Tamped granular material shall be used around post or use approximately one foot of concrete or Speed-Crete and fill the balance of the hole with tamped granular material.
 - f. Fill the post with sand or gravel, and cap off with concrete.

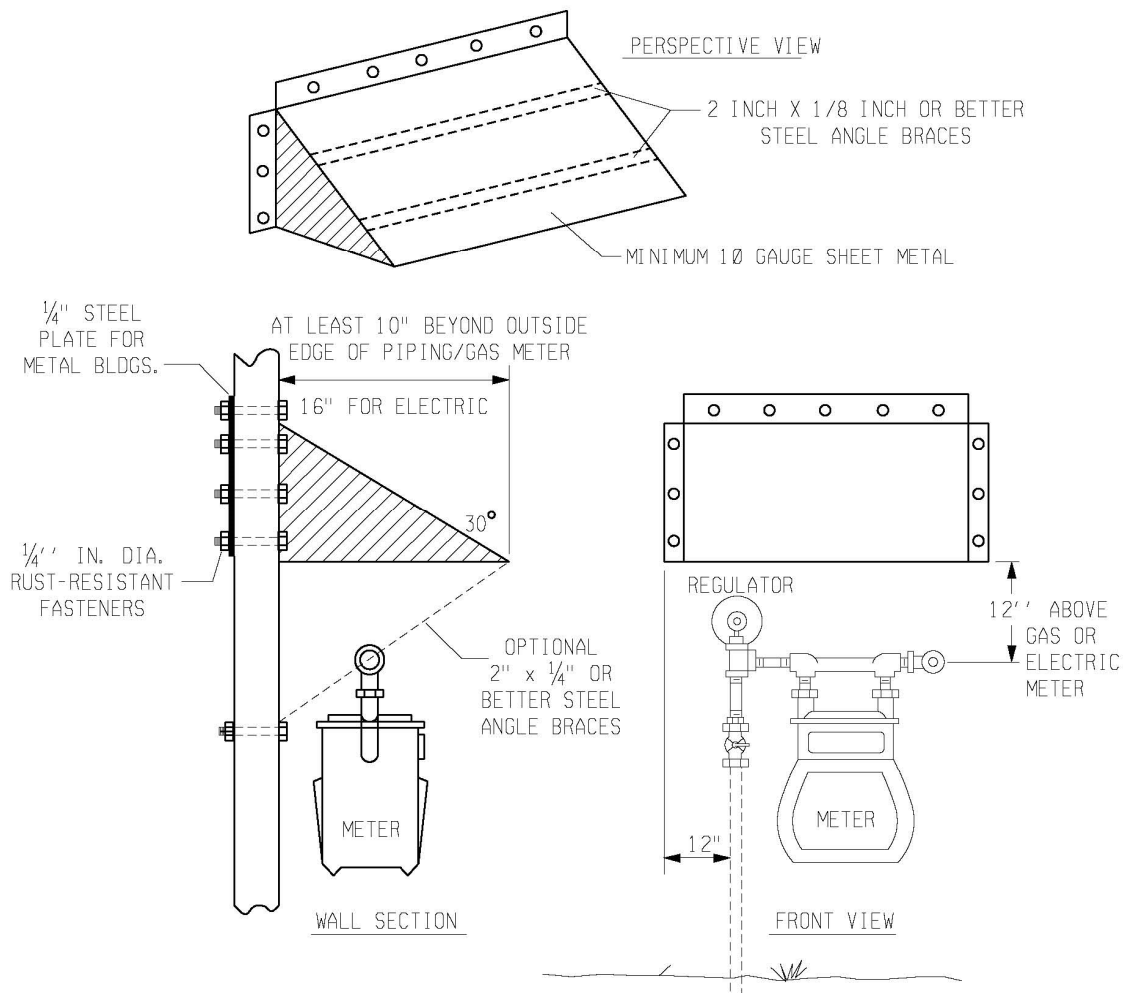
4-3 Meter Protection from Snow and Ice

The customer is responsible to provide a safe location for the gas and electric meters to protect them from damage.

The company will determine if protection is required for gas meters, as required by code (DOT 192).

A snow and ice shield is mandatory on the pitched side of metal buildings (provided by the customer). A shield is highly recommended for other areas.

A typical snow and ice protective shield is shown below, but other methods may be used per the guidelines listed in the notes below the picture.

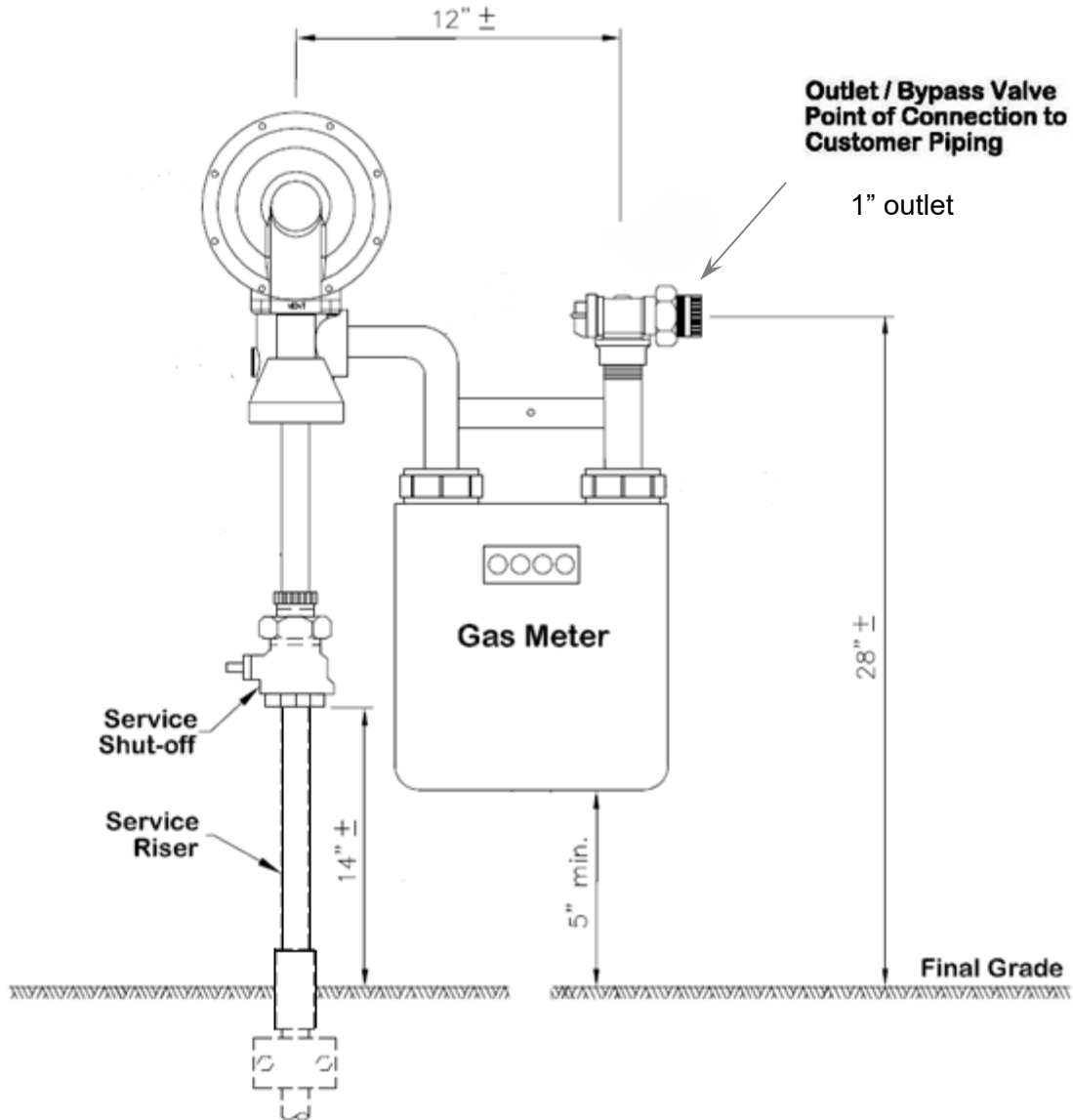


Notes:

1. The shield must be constructed to handle the force of falling ice/snow from a given height.
2. A metal shield should be constructed, primed, and painted with a minimum of 10 gauge metal.
3. The protective shield does not have to be constructed using metal but must be constructed using good engineering and construction practices to complete #1 above.

4-4 Meter Size Dimensions

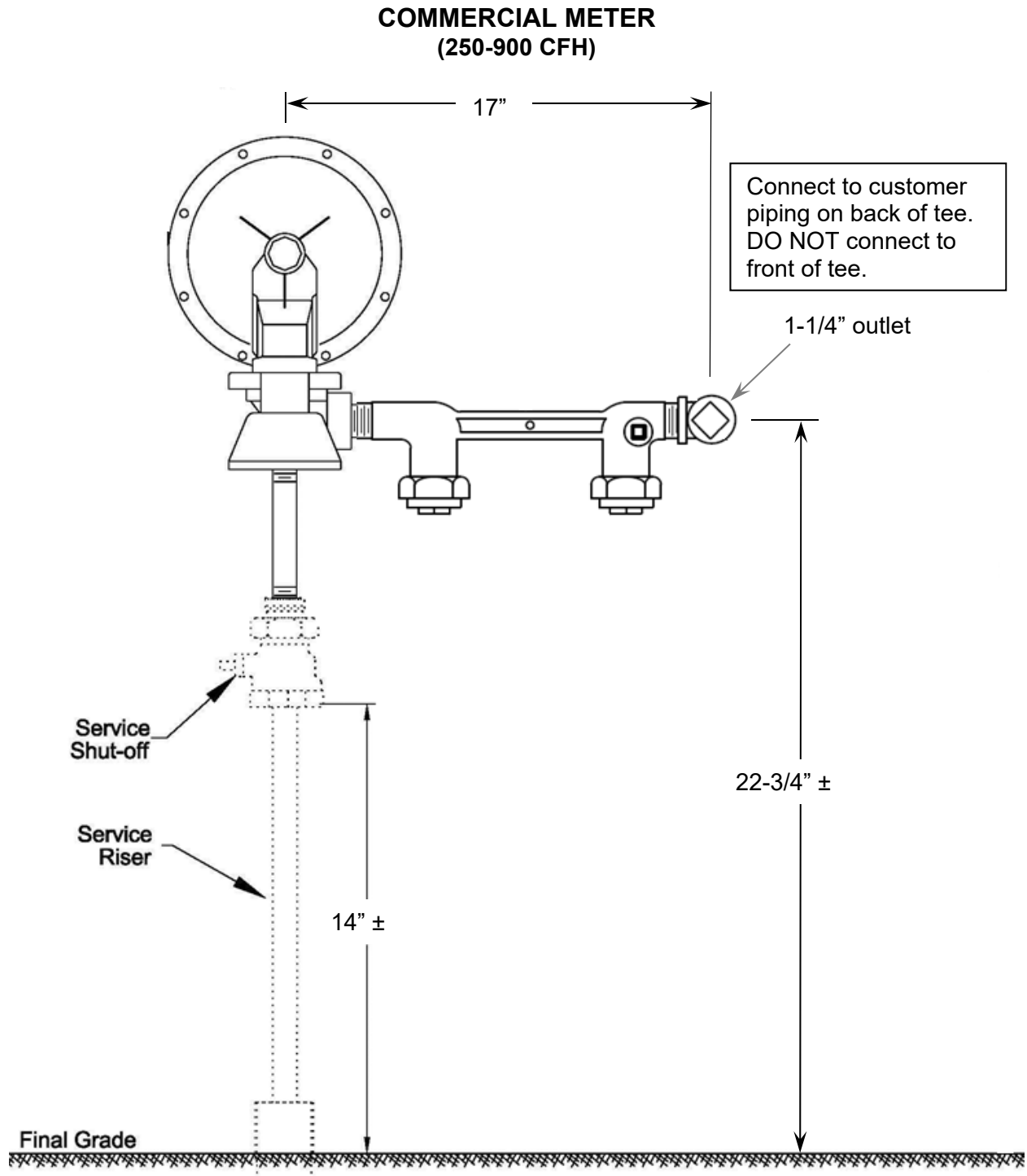
RESIDENTIAL METER (UP TO 250 CFH)



Notes:

1. Customer piping must be electrically bonded per the National Electrical Code. See subsection 6-3 in the Web version of the manual.
2. The fuel run must be wrapped thru the wall. A double wrap of electrical tape is acceptable.
3. If flexible CSST tubing is used for fuel piping, additional meter support must be added. The use of steel pipe at the outlet of the meter bar and through the wall is recommended for this purpose.
4. For protection from vehicles, see subsection 4-2.
5. For protection from ice and snow, see subsection 4-3.

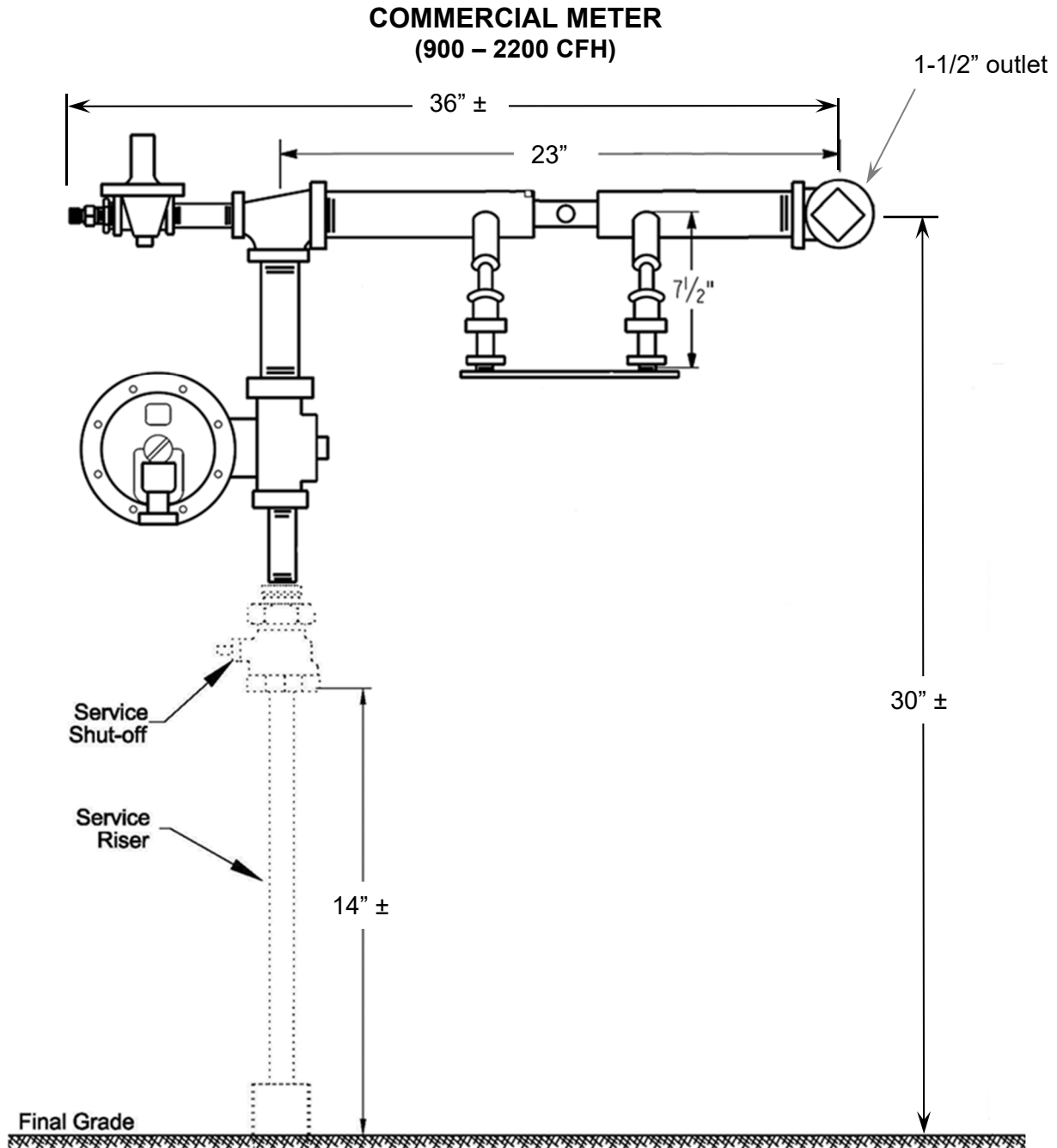
4-4 Meter Size Dimensions (Cont'd)



Notes:

1. Customer piping must be electrically bonded per the National Electrical Code. See subsection 6-3 in the Web version of the manual.
2. The fuel run must be wrapped thru the wall. A double wrap of electrical tape is acceptable.
3. If flexible CSST tubing is used for fuel piping, additional meter support must be added. The use of steel pipe at the outlet of the meter bar and through the wall is recommended for this purpose.
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4-4 Meter Size Dimensions (Cont'd)

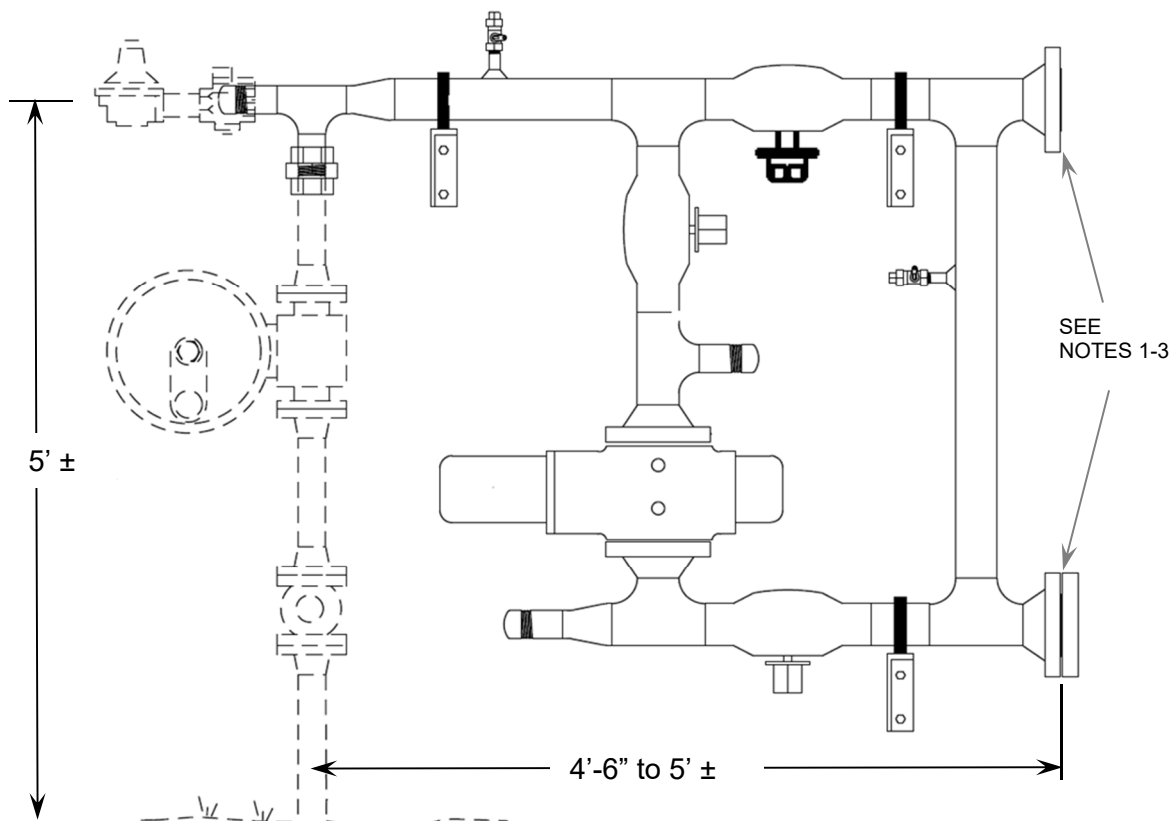


Notes:

1. Customer piping must be electrically bonded per the National Electrical Code. See subsection 6-3 in the Web version of the manual.
2. The fuel run must be wrapped thru the wall. A double wrap of electrical tape is acceptable.
3. If flexible CSST tubing is used for fuel piping, additional meter support must be added. The use of steel pipe at the outlet of the meter bar and through the wall is recommended for this purpose.
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5. For protection from ice and snow, see subsection 4-3.

4-4 Meter Size Dimensions (Cont'd)

COMMERCIAL / INDUSTRIAL (2,200 – 16,000 SCFH)



Notes:

1. Raised-Face flange connection.
2. Flange size varies depending on customer load and metering pressure.
3. Connection to either top or bottom flange is acceptable.
4. For protection from vehicles, see subsection 4-2.
5. For protection from ice and snow, see subsection 4-3.

4-5 Connecting to Meter Assemblies

Customer Valve

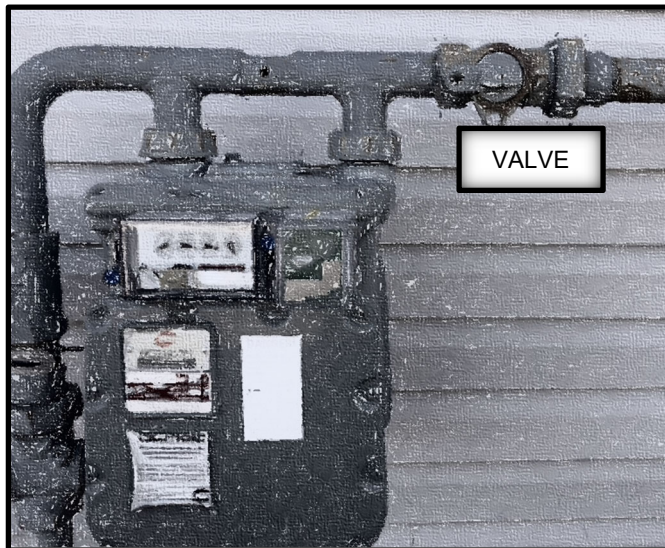
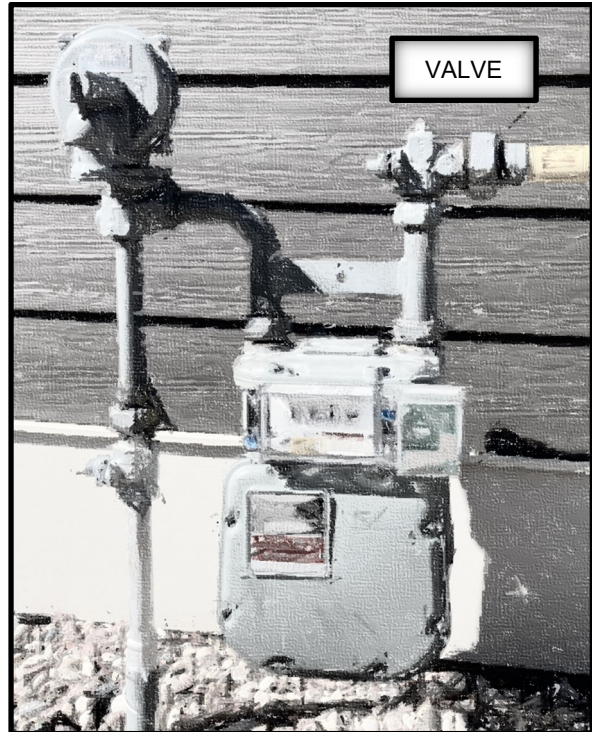
If there is a valve immediately downstream of the meter it is a customer valve and is the point of connection to customer piping.

- The valve can be straight or angle bodied.
- If there is a union on the outlet of the valve, do not remove it. Connect customer piping to the union outlet.

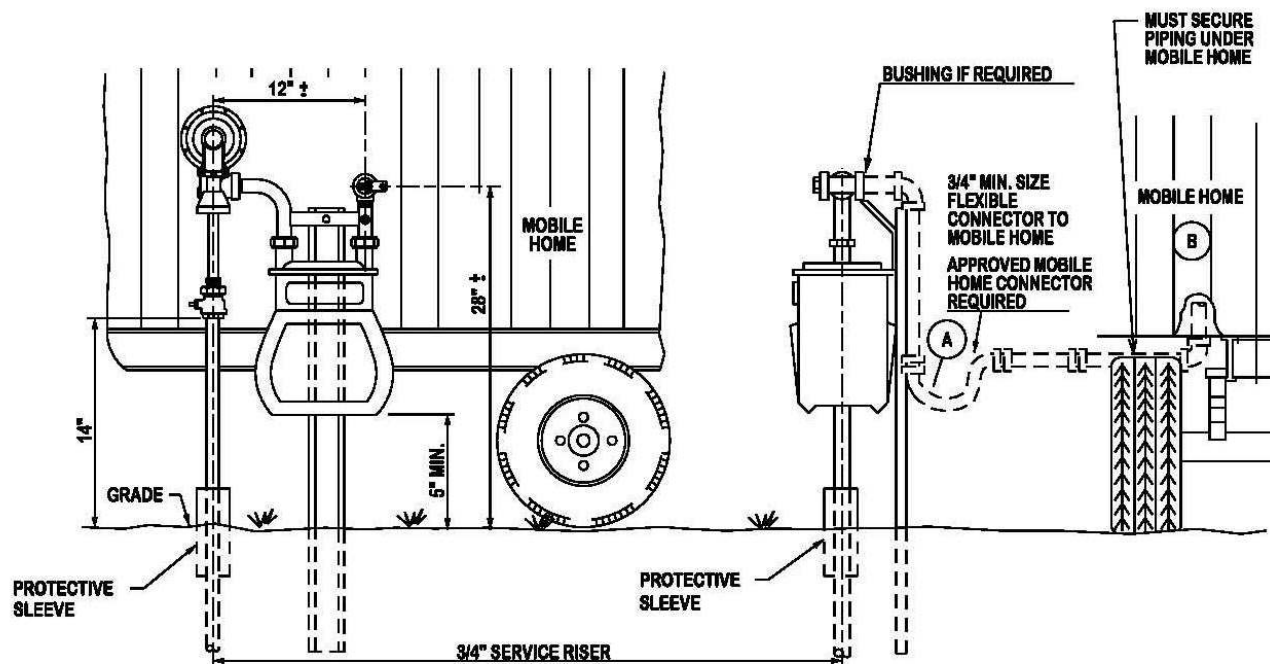
Hot-Change Tee

If there is a tee immediately downstream of the meter (no valve) connect customer piping to the back-side of the tee opposite the malleable iron plug.

- Do not remove the malleable plug.
- The plugged side of the tee is for company use only.



4-6 Mobile Home Installation



Notes:

1. Gas meters are typically installed approximately 3-4 feet from the edge of the mobile home stand.
2. An approved mobile home connector is required to connect the meter set to the rigid piping that passes through the mobile home skirt. The connector must not pass through the skirting.
3. Furnaces and water heaters must have nameplate stating: "Approved for mobile or manufactured home installation." The Company cannot provide gas to a water heater or furnace if not listed for installation in a mobile home.
4. Flexible CSST has not been approved as an acceptable joining material to a meter set on a mobile home, as governed by HUD.
5. For a full list of requirements related to mobile home piping installation, reference NFPA 501A or contact an HVAC dealer.

4-6 Underground Fuel Runs

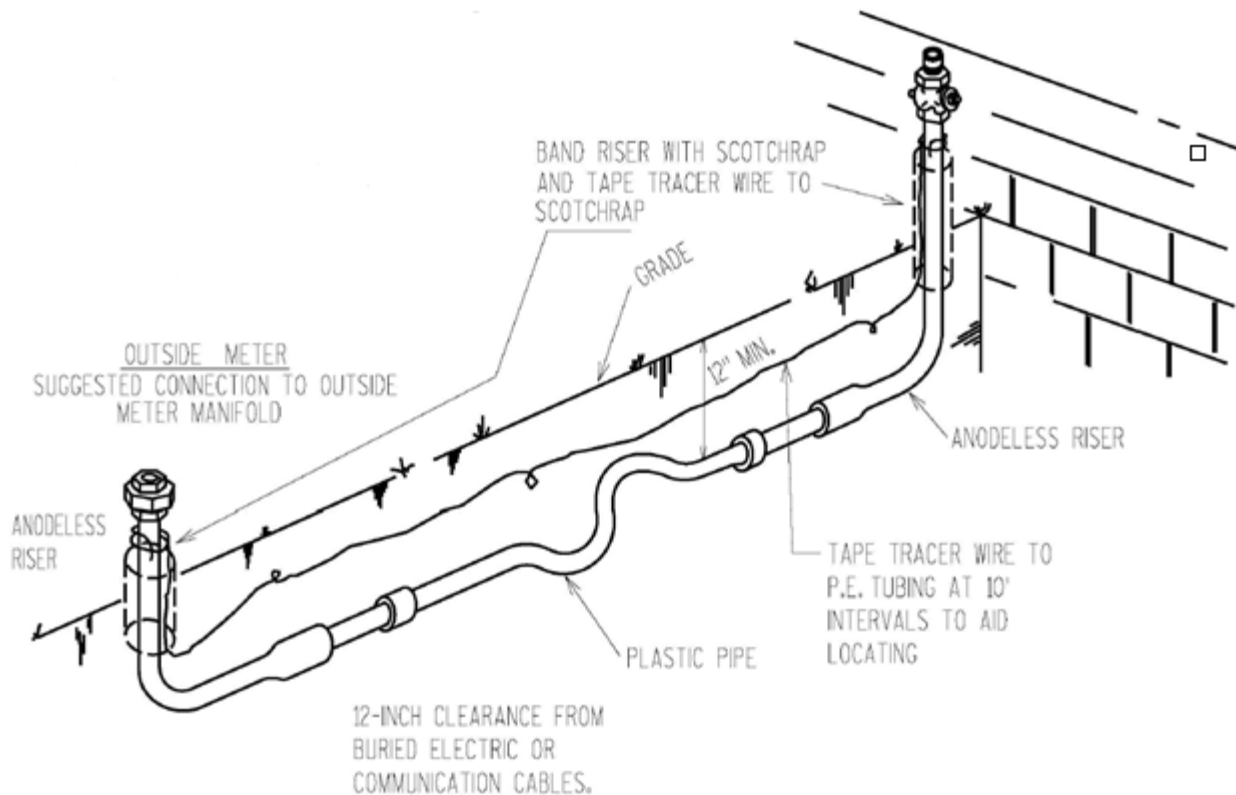
Wisconsin has adopted the National Fuel Gas Code for residential-type and commercial gas piping systems (Chapter SPS 323.16, SPS 365.0400).

The National Fuel Gas Code provides a complete list of requirements associated with underground fuel runs; including materials, methods of construction, how to enter a building, corrosion control, depth of cover, etc.

Plastic is not allowed aboveground and CSST is not approved for direct bury.

Shown below is a typical plastic underground fuel run.

Approved Plastic Installation



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4-7 Multiple Services to a Single Premises/Parcel

Definitions

New Service: A new service line is a service installed to serve a single premises/parcel where there has not been an active service line within the past twelve months and where the customer has not applied for a service line within the twelve-month period. There is one service per premises/parcel allowed with new service allowance. Any additional services are not allowed the new service allowance unless a private fuel run can't be utilized.

Second Service: A second service is a service requested on a single premises/parcel that could safely and effectively be served by a private fuel run as determined by the Company. No service allowance is applicable to the service cost, and all gas meters are subject to the applicable monthly facility charges. This will be billed as a **special service**.

Acceptable Meter Location: The preferred meter location for a residential gas service is 3' back from the front corner of the building on the side opposite the garage. An acceptable meter location would be at the face of the primary building using gas nearest to the main or the first acceptable Company approved location back from the face of the building on either side.

For residential applications, the primary building is considered the residence and not any outbuilding. If a dedicated service to an outbuilding(s) is requested, it would be considered a **special service** if service is already existing on the primary building. This applies even where the outbuildings have a larger gas usage profile than the residence.

Service Line for Outbuildings

Service to attached garages:

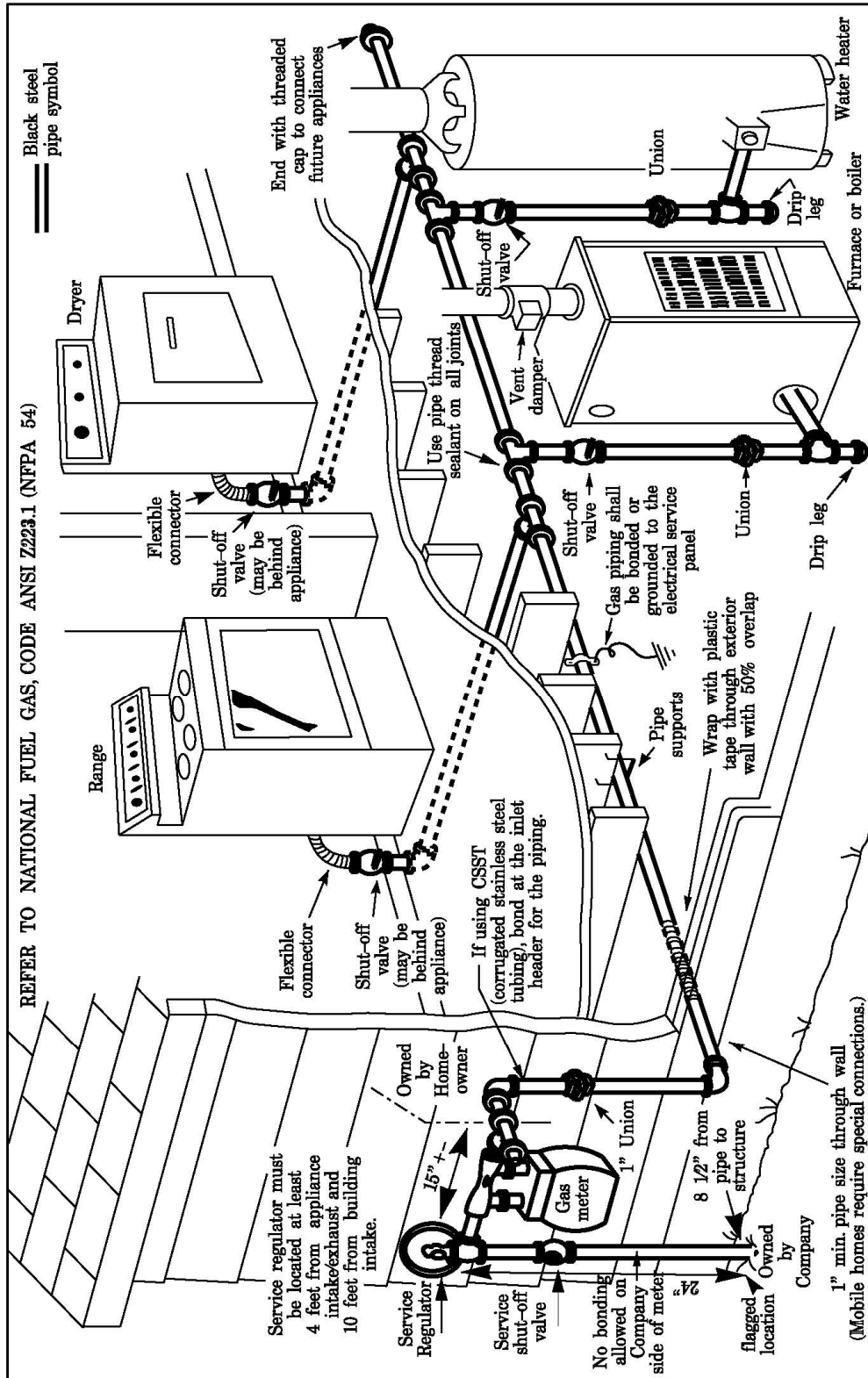
1. When a dwelling is serviced by an existing service line, a second service line will NOT be allowed to provide gas to an attached garage.
2. Gas may be supplied to an attached garage by a customer's private fuel run if the garage is insulated as required by Wisconsin Administrative Code PSC 136.

Service to detached outbuildings:

1. The Company will install a dedicated natural gas service line for detached outbuildings such as, but not limited to, garages, stables, hobby workshops, storage buildings, etc. for those buildings where a private fuel run is not an effective solution as determined by the Company. These will be considered a new service for the purpose of pricing.
2. The outbuilding must be insulated as required by Wisconsin Administrative Code PSC 136 prior to receiving service.
3. Single service line footage allowance is applicable unless the service is deemed **special service**. The customer will pay for excess footage charges and other chargeable costs prior to the service line installation. The prepaid price quote should not change unless there are design changes agreed to by both the customer and the Company prior to performing the work.
4. Outbuildings will be assigned to the appropriate commercial rate based on estimated consumption unless it is specifically intended for use as a residence. In such cases, it will be assigned a residential rate.
5. An outbuilding can be considered **special service** with no allowable service allowance if the Company determines the building can be served with a customer's private fuel run. In this case, the customer pays the full cost of the additional service.

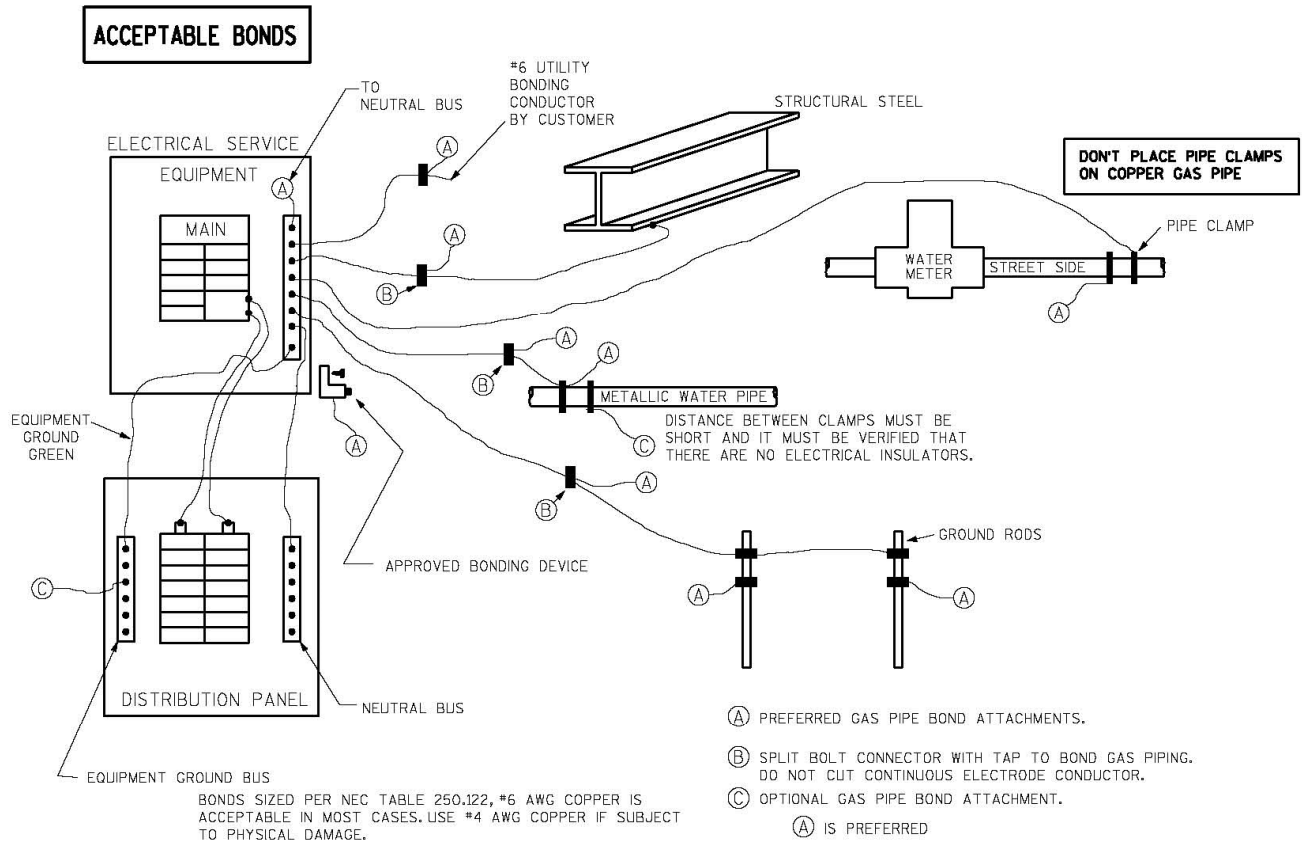
4-8 Gas Piping Bonds

Residential interior piping for natural gas



4-8 Gas Piping Bonds (cont'd)

GAS PIPING BONDS



UNACCEPTABLE BONDS

