



**SOUTHWEST GAS CORPORATION**

**ENGINEERING STAFF**

***MATERIAL SPECIFICATION***

Prepared By: Engineering Staff 

Approved By: Jerome T. Schmitz 

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<b>Issue Date:</b>	03/01/16
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**MISCELLANEOUS**

**Pipeline Markers and Signs**

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**1. SCOPE**

This specification covers the follow items:

- Post-type pipeline markers (road markers) designed to meet regulatory requirements for the marking of buried and aboveground pipeline facilities.
- Road markers designed to meet regulatory requirements for the marking of buried and aboveground pipeline facilities and to perform as electrical test stations.
- Signs designed to meet regulatory requirements for the marking of aboveground facilities and crossings of navigable waters.
- Curb markers designed to mark pipeline facilities for maintenance and operating purposes.
- Service line markers for marking service stubs or the ends of mains.

**2. APPLICABLE DOCUMENTS**

- 2.1 United States Department of Transportation (DOT) Code of Federal Regulations (CFR), Title 49, Part 192, "Transportation of Natural and Other Gas by Pipeline, Minimum Safety Standards."

**NOTE:** Unless otherwise specified, the editions of the above documents incorporated by DOT 49 CFR 192 are applicable. Documents not incorporated by DOT 49 CFR 192 will be the most recent edition.

**3. TERMINOLOGY**

3.1 General

3.1.1 The terms "approve," "as approved," "satisfactory," "as directed," "or equal," or other similar terms wherever used in this specification and other related documents will mean "as determined by Southwest Gas," unless specifically stated otherwise.

3.1.2 "Southwest Gas," "Southwest" or "SWG" wherever used in this specification and other related documents will refer exclusively to Southwest Gas Corporation.



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**3. TERMINOLOGY (Cont'd)**

3.1.3 "Product Information Package" or "PIP" wherever used in this specification and other related documents will mean the required technical product information that a manufacturer must submit to SWG to determine if the product is suitable for use by SWG, unless specifically stated otherwise.

**4. MATERIAL AND MANUFACTURE**

- 4.1 All markers and signs will be made of materials approved by Southwest.
- 4.2 Road markers will be available in a variety of lengths, including 36" and 62" and will be designed to be driven into the ground using drivers approved by Southwest.
- 4.3 Road markers will be supplied in the color yellow. Road marker-type cathodic protection test stations will be supplied in the color orange. Other colors may be requested on the purchase order.
- 4.4 Decals or markings will be affixed to each side of the post as specified on the purchase order and selected from Figure O-28.1. Decals will be available as separate items. For Arizona only, a decal as shown in Figure O-28.2 will be available for placing on installed meter set assembly piping 1" and smaller.
- 4.5 Signs for crossings of navigable waters will be specified on the purchase order as selected from Figure O-28.3 and will have provisions to be mounted on posts as shown. The specified wording will be permanently affixed to the sign.
- 4.6 Facility signs will be supplied as specified on the purchase order and will have holes for mounting in each corner of the sign or as specified. The specified wording may be a decal or otherwise permanently affixed to one side of the sign.
- 4.7 Curb markers will be supplied in the 2-1/2" diameter and permanently marked as shown in Figure O-28.4. Stick-on numbers will also be available. Provisions to permanently attach the curb marker to pavement will be provided.
- 4.8 Road marker-type cathodic protection stations will have provisions for the installation of (2) AWG wires. Provisions will be made to permanently attach the wires to the road marker and allow electrical contact with at least 1" of an exposed contact point.
- 4.9 Service line markers will have provisions for attachment to 1/2" to 2-3/8" diameter pipe and extend at least 6 feet above the pipe. The service line marker will be yellow and the words "Gas Line" will be permanently affixed to the marker.



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**5. PERFORMANCE REQUIREMENTS**

- 5.1 All signs will have sufficient resistance to sunlight and other anticipated environmental conditions. Colors and lettering will not fade and the sign will remain intact.
- 5.2 Road markers will be selected based on their ability to be installed in particular ground conditions.
- 5.3 Road markers will be stiff enough to be installed in hard ground without digging and flexible enough to withstand anticipated impact from vehicles and livestock.
- 5.4 The adhesive for attaching curb markers to pavement will withstand foot and vehicle traffic and environmental conditions.



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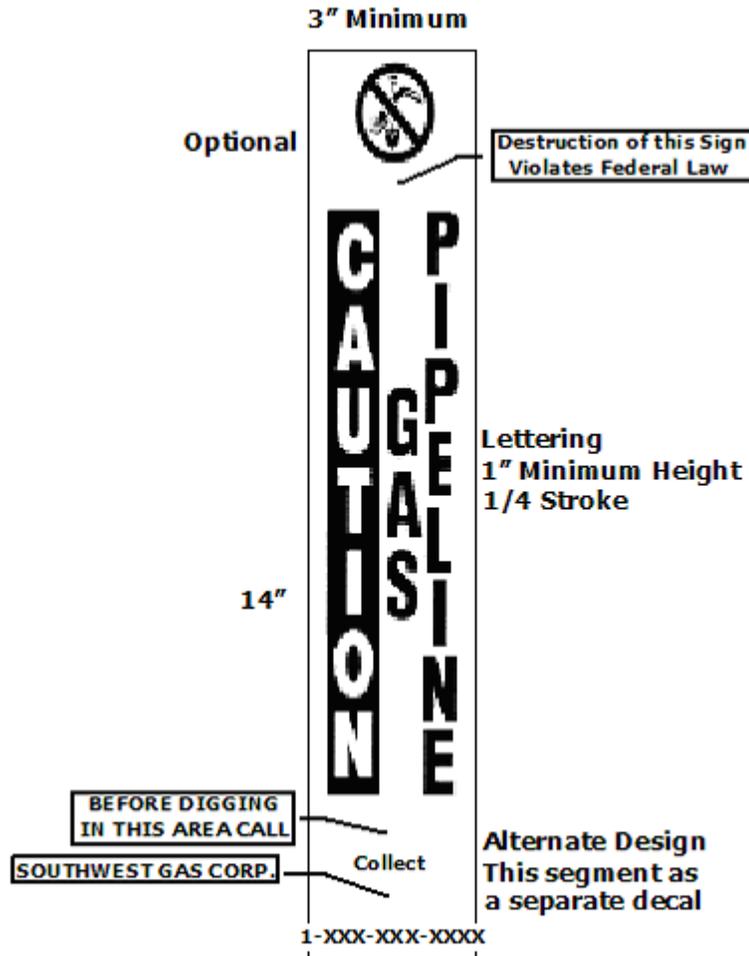
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**6. DIMENSIONS AND TOLERANCES**

**Appendix A**



“CAUTION” – Yellow letters on black background.

Other Lettering – Black letters on yellow background.

**NOTE:** “Paiute Pipeline” may be substituted for “Southwest Gas Corporation.”

**FIGURE O-28.1**



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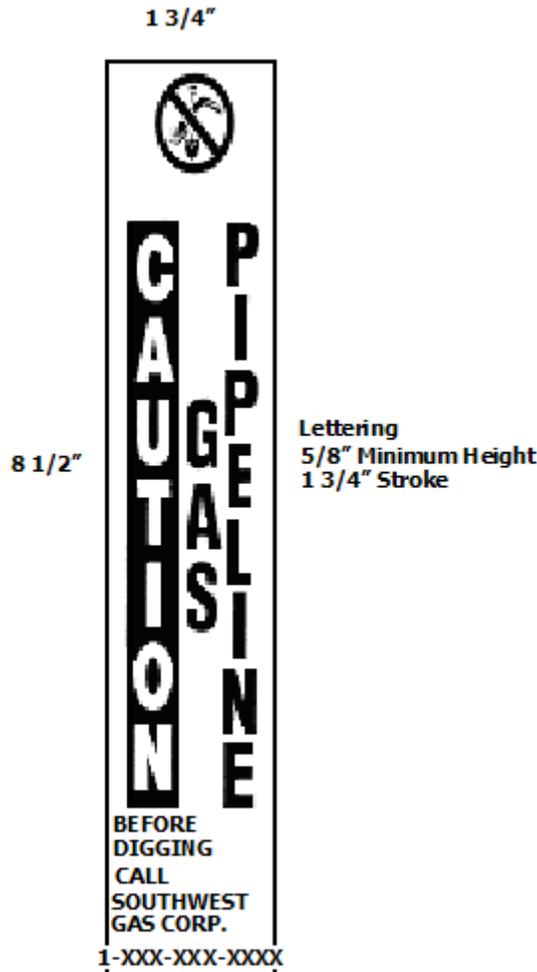
**MISCELLANEOUS**

Pipeline Markers and Signs

**6. DIMENSIONS AND TOLERANCES** (Cont'd)

**Appendix B**

**ARIZONA ONLY MSA MARKER**



“CAUTION” – Yellow letters on black background.  
Other Lettering – Black letters on yellow background

**FIGURE O-28.2**



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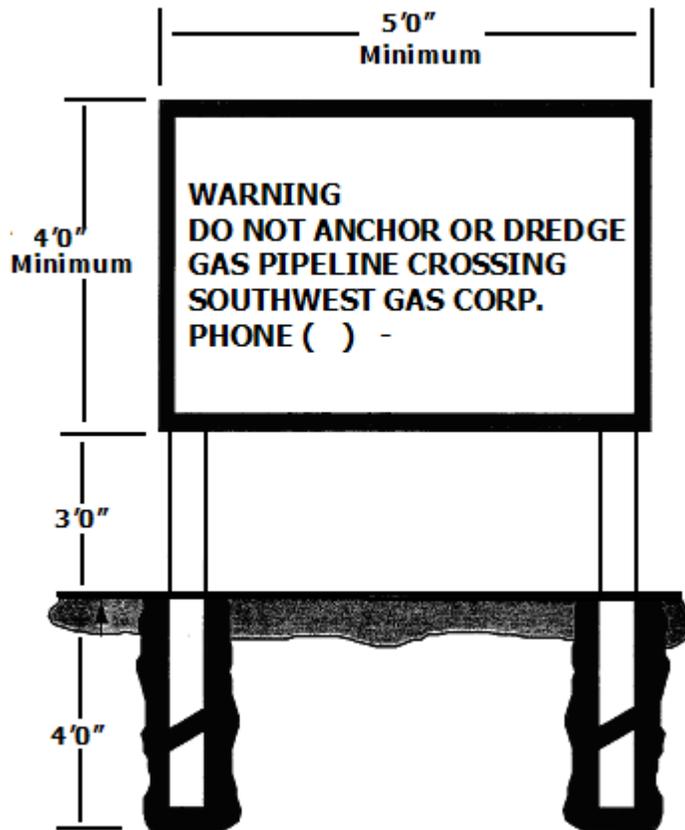
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**6. DIMENSIONS AND TOLERANCES (Cont'd)**

**Appendix C**

**SIGN FOR NAVIGABLE WATERWAY**



This sign must be rectangular in shape, have blocked-style black letters, a narrow strip along each edge colored international orange, and the area between lettering on the sign and boundary strips colored white.

**FIGURE O-28.3**



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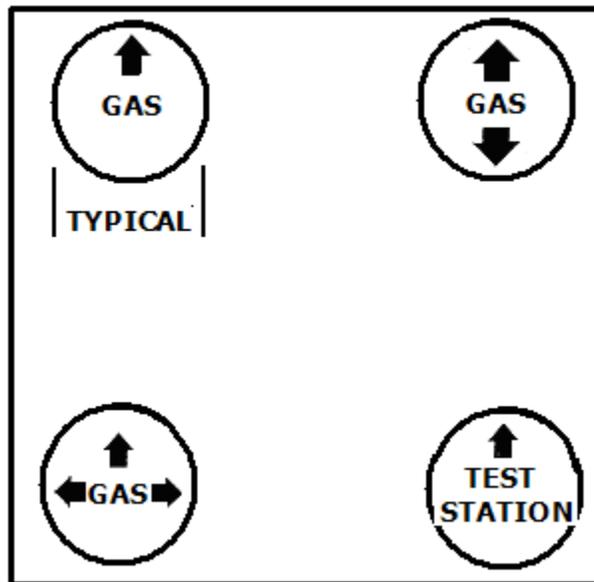
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**6. DIMENSIONS AND TOLERANCES (Cont'd)**

**Appendix D**

**Curb Markers**



**FIGURE O-28.4**



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**7. INSPECTION**

- 7.1 Successful review of the Product Information Package (PIP), as well as any future reference by SWG to the Seller's part number or internal code number in any future contract or purchase, will mean only that no conflict with the specification was found and will not relieve the Seller from meeting all the requirements of this specification.
- 7.2 SWG retains the option to inspect the manufacture and testing of any and all materials, products or systems referenced in this specification that are sold to SWG.
- 7.3 SWG will make appropriate inspections and tests of any and all materials, products or systems supplied to this specification. SWG will have the right, at their option, to reject any material which fails to conform to this specification. Any such rejection may take place at the manufacturer's facility; the supplier's warehouse or any subsequent delivery location, before or after SWG assumes possession. Notice of the rejection will be made promptly to the supplier by SWG. The defective product will be replaced or returned for credit at the manufacturer's expense.
- 7.4 Any changes in the manufacturing of previously approved pipeline markers and signs covered under this document for sale to SWG must be approved by SWG's Engineering Staff. **Failure to obtain SWG's approval may be cause for rejection and disqualification as an approved supplier.**

**8. CERTIFICATION**

The manufacturer's or supplier's certification shall be furnished to Southwest. This certification shall state that samples representing each lot have been manufactured, tested, and inspected in accordance with this specification and that all requirements have been met. When requested or specified in the purchase order or contract, a report of test results will be provided.

Upon the request of Southwest, the certification of an independent third party indicating conformance to the specification may be considered at Southwest's expense.



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**9. SAFETY DATA SHEETS**

In accordance with law, the Seller will supply Safety Data Sheets for all applicable items supplied under this specification to the following:

- 1) The Receiving Location
- 2) Engineering Staff
- 3) Southwest Gas Corporation  
Corporate Safety  
Mail Station LV0-511  
P.O. Box 98512  
Las Vegas, NV 89193-8512

**10. PRODUCT MARKING**

Product marking shall be in accordance with Appendices A, B, C and D.

**11. PACKAGING**

All pipeline markers and signs will be packaged in a manner to prevent damage during transportation and storage.



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**12. STOCK CLASSIFICATION DESCRIPTION**

SIGN, "CAUTION GAS PIPELINE," ROAD MARKER TYPE, \_\_\_\_\_-INCH LONG YELLOW POST WITH 3.00-INCH × 14-INCH DECAL APPLIED TO BOTH SIDES OF POST.

TEST STATION, C.P. ELECTRICAL/PIPELINE MARKER, CARSONITE, 62-INCH LONG ORANGE POST WITH 3.00-INCH × 14-INCH DECAL APPLIED TO BOTH SIDES OF POST.

MARKER, PIPELINE, WITHOUT DEPTH MARKINGS, 600Y, NO RADAR ENGINEERS, YELLOW.

CURB MARKER, 2.500-INCH DIAMETER STANDARD, DAS, \_\_\_\_\_ DIRECTION DURACAST, REFLECTIVE, "GAS," BLACK LETTERS ON YELLOW BACKGROUND.