

**DCS GUIDELINE**

ISSUING DEPARTMENT: DE&P  
ISSUED BY: Manager, Technical Services

DCS GUIDELINE: D-G1000  
PAGE NO.: 1 OF 8  
EFFECTIVE DATE: 7-97  
REVIEW DATE: 7-00

**TITLE: Site Delineation and Mark and Locate Surface Marking**

**Purpose:**

This guideline establishes uniform procedures for providing temporary surface markings of both planned excavations and of substructures in potential conflict with planned excavations.

This standard supports the DCS Standard D-S0214 "Protection of Underground Infrastructure."

**Implementation:**

The manager, Technical Services is responsible for approving, reviewing, and distributing this guideline.

**Definition of Terms:**

1. **Approximate location of subsurface installations:** is a strip of land not more than 24 inches on either side of the exterior surface of the subsurface installation. "Approximate location" does not mean depth.
2. **Delineation:** identifying (pre-marking) the area of proposed excavation by surface markings or other means.
3. **USA:** refers to the regional one-call notification centers for PG&E's service territory. There are two centers serving PG&E: Underground Service Alert of Northern California and Underground Service Alert of Southern California. The telephone number for both centers is (800) 227-2600.
1. **General:**
  - A. White markings are used for excavation delineation. Substructure markings are of a specific color listed in the Color Code Identifiers section on Page 7.
  - B. Full facility operator and excavator responsibilities are detailed in Section 1. Chapter 3.1 "Protection of Underground Infrastructure," Article 2 of California Code 4216 through 4216.9 and DCS Standard D-S0214 "Protection of Underground Infrastructure."
  - C. Temporary markings should be clearly seen, functional, and considerate to surface aesthetics and the local community. When marking on private property, if paint is used, chalk based paint is recommended. Avoid marking on private fences, brick work, ornamental plants, etc.
  - D. **Marking in Paved Areas:** Avoid excessive or oversized marking, especially if marking outside the excavation area. Conditions permitting, use spray chalk paints, water based paints or equivalent less permanent type marking. Limit length, height, and interval of marks to those recommended. Letters and numbers should not exceed 3" to 6" in height.
  - E. **Marking in Non-Paved Areas:** When paint is not used, use appropriately colored stakes, lath, pennants or chalk lines. Select marker types that are most compatible to the purpose and marking surface. Adhere to paved area marking suggestions to the extent practical.

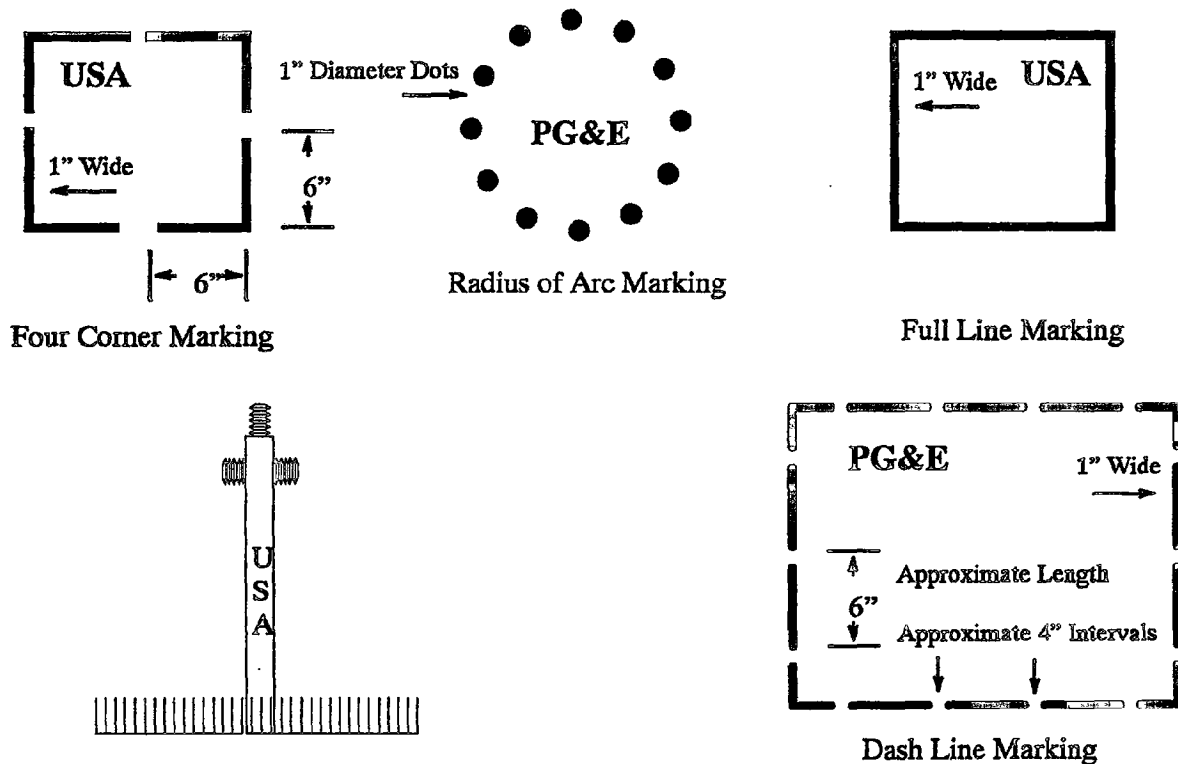
## TITLE: Site Delineation and Mark and Locate Surface Marking

- F. If any marking information is omitted due to site conditions, communicate omitted data by direct contact, signs, phone, fax, etc.
- G. Offset markings should clearly indicate the direction, the distance and the path of facility or excavation.

### 2. Excavation Delineation Surface Markings

- A. Delineation of excavations is a requirement of California Code 4216.
- B. Delineate the area to be excavated before calling USA. Delineated areas should be identified in white markings with the letters USA, or PG&E within the pre-marked zones (see examples).
- C. If pre-marking is not practical, delineate the excavation area appropriately and communicate the method of delineation when calling in the USA request.
- D. Delineation must not be misleading, duplicative or misinterpreted as traffic or pedestrian control.

### 3. Single Point Excavation Examples



Four Corner Marking

Full Line Marking

Radius of Arc Marking

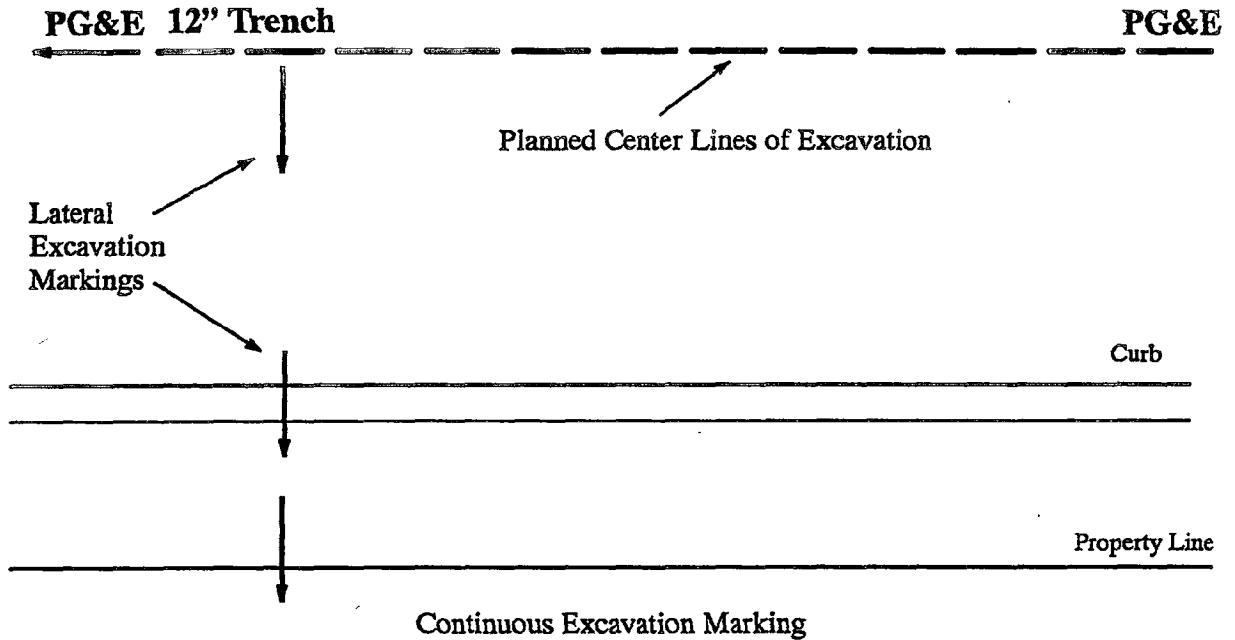
Dash Line Marking

### Pole Replacement Marking in Non-paved Areas\*

\*Note: If placing new pole in new hole or placing new anchor, stake the location of the proposed pole or anchor in addition to marking on the existing pole.

## TITLE: Site Delineation and Mark and Locate Surface Marking

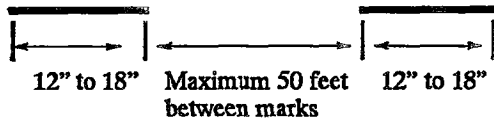
### 4. Trenching, Boring, or Other Continuous Type Excavations



A. Mark center line of planned excavation with 6" x 1" arrows (approx. 4' apart) to show direction of excavation. For boring or continuous operations where marked paving is not to be removed, mark at critical points with maximum mark separation of approximate 50'. Mark lateral excavations with arrows showing excavation direction from center line with marks at curb or property line if crossed. Intermittently indicate excavation width on either side of center line in 3" to 6" high figures. Dots may be used for curves and closer interval marking.

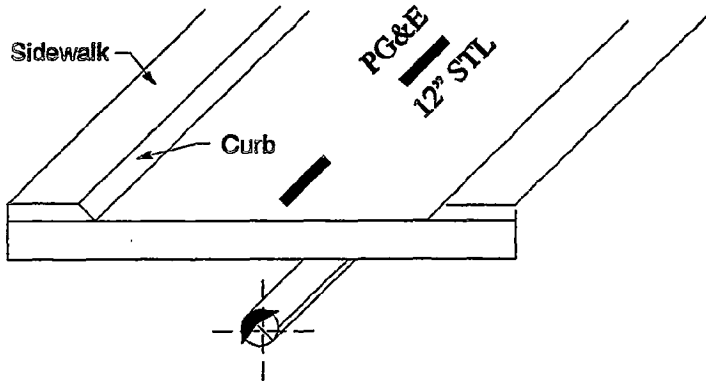
### 5. Mark and Locate Surface Markings

A. Marks in the appropriate color should be approximately 12 to 18 inches in length, spaced no more than fifty feet apart.



**TITLE: Site Delineation and Mark and Locate Surface Marking**

B. The marks should be placed over the approximate center of the facility



C. Company initials should be placed near the marks if there could be confusion as to who owns the facility. An example would be where another utility is operating a gas line in the vicinity of our gas facilities.

**PG&E**

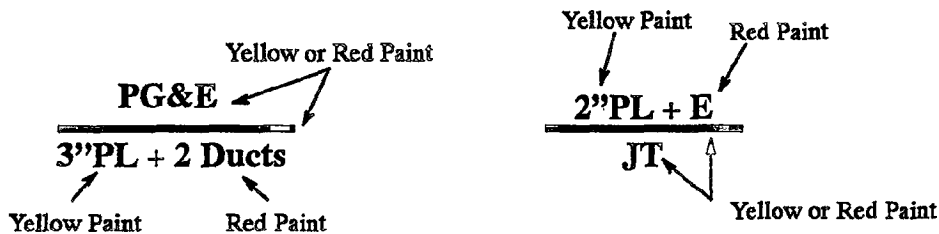
D. Information as to the size and composition of the facility should be marked at an appropriate frequency, if known. Examples are: the number of ducts in a multi-duct structure, diameter of a pipeline, and whether it is steel, plastic, bare cable, etc.

<u>PG&amp;E</u>	<u>PG&amp;E</u>	<u>PG&amp;E</u>	<u>PG&amp;E</u>	<u>2\" PL</u>	<u>E</u>
4\" PL	2 Ducts	24\" STL	1/2\" PL		

E. A facility installed in a casing should be identified as such. Examples are 2\" plastic gas installed in 4\" cast iron, 1/2\" plastic gas service installed in 3/4\" steel.

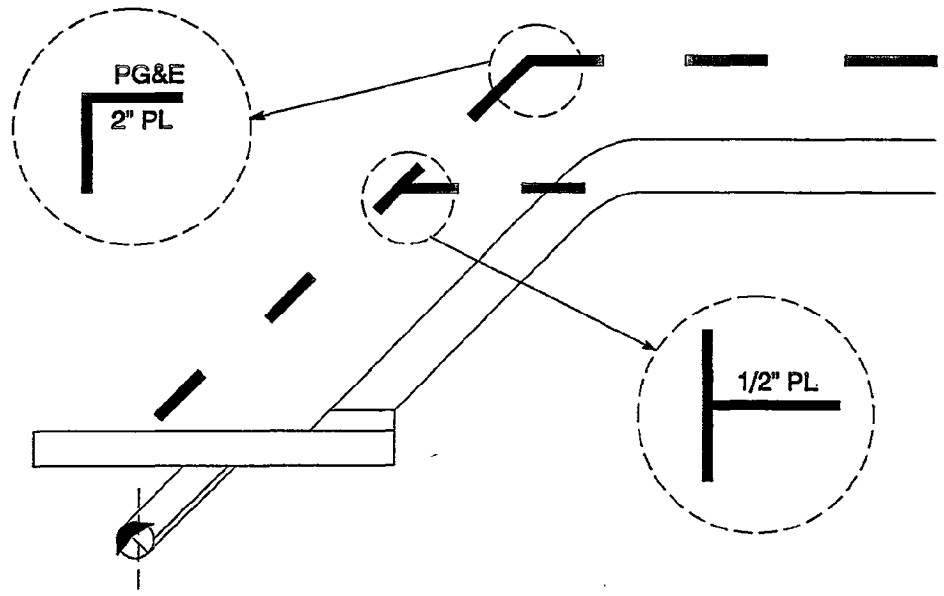
2PL(4CI)      1/2PL(3/4STL)

F. Joint trench facilities may be indicated on the same mark as shown.

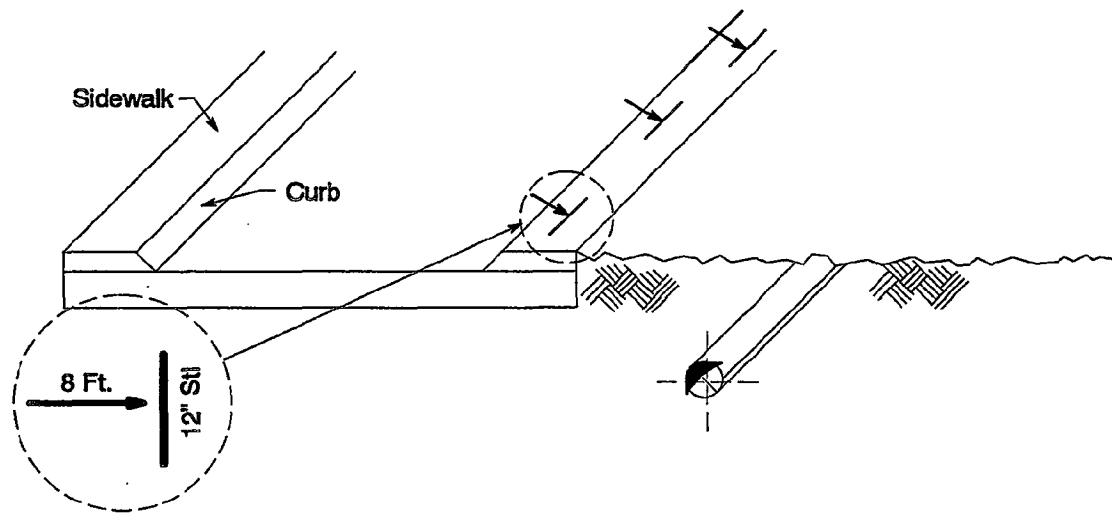


**TITLE: Site Delineation and Mark and Locate Surface Marking**

**G. Changes in direction and lateral connections should be clearly indicated at the point where the change in direction or connection occurs.**

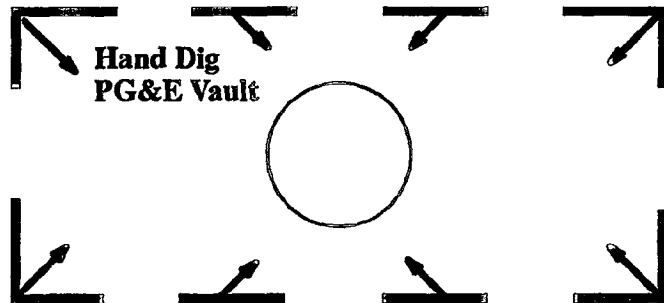


**H. When providing offsets, show the direction of the main, and the distance to the main. In the example below, a 12" steel gas main is shown in the dirt area, 8 feet to the right of the markings in the sidewalk.**



## TITLE: Site Delineation and Mark and Locate Surface Marking

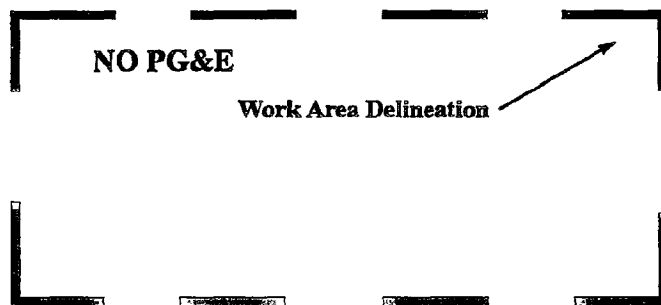
I. Structures, such as vaults, that are physically larger than obvious surface indications, should be marked so as to generally define the parameters of the structure.



J. Termination points or dead ends should be indicated as such.



K. If there is "no conflict" and the work area has been delineated, "NO PG&E" should be marked within the delineated work area. Allow adequate space for facility mark outs by others. No conflict marking indicates that there are no PG&E facilities (gas, electric, etc.) within the approximate location of the delineated area or within the work area as described on the USA ticket.



**TITLE: Site Delineation and Mark and Locate Surface Marking****6. Color Code Identifiers**

Red-Electric

Yellow-Gas/Oil/Steam

Orange-Telephone/Communications/Cable TV

Blue-Water

Green-Sewer

Purple-Reclaimed Water

White-USA Delineation Area

Pink-Temporary Survey Markings

**7. Marking related products**

Red Traffic Spray Chalk - M016346

Yellow Traffic Spray Chalk - M016350

White Traffic Spray Chalk - M139159

Red Traffic Paint - M130478

Yellow Traffic Paint - M130476

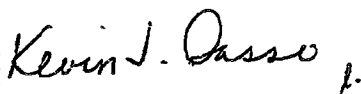
White Traffic Paint - M130477

Electric Flag - 21" Staff - M016837  
Bundle of 100Electric Flag - 30" Staff - M019102  
Bundle of 100Electric Flag - 36" Staff - M019104  
Bundle of 100Gas Flag - 21" Staff - M373962  
Bundle of 100Gas Flag - 30" Staff - M019106  
Bundle of 100Gas Flag - 36" Staff - M019107  
Bundle of 100

Marking Stick - 32" Long - M204854

**Date Issued/Updated:**Effective Date: **January 1, 1997**Review Date: **January 1, 2000**

Signed,

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**Reference Documents:**

DCS Standard D-S0214 "Protection of Underground Infrastructure"