

SUBSURFACE FACILITIES STANDARD MARKING AND STAKING PROCEDURES

| CONTENTS | PAGE |
|--|------|
| 1. GENERAL | 1 |
| 2. MARKING AND STAKING STANDARDS | 2 |
| 3. SAFETY ZONES | 2 |
| 4. MARKING OF STREET AND ROAD CUTS | 3 |

1. GENERAL

1.01 This section contains standardized temporary marking and staking procedures for subsurface facilities with the intent of preventing accidental damage and the interruption of such facilities by contractors, other utility companies, or any other person or persons working on or near such subsurface facilities. This section replaces 620-060-511 which is rated non-standard for Indiana Bell. It should be removed from all binders and destroyed.

1.02 Whenever this section is reissued, the reason(s) for reissue will be provided in this paragraph.

1.03 This section recommends marking and staking standards that conform to the national standards of the American Public Works Association (APWA) Utility Location Coordination Council for temporary marking of cable and conduit locations in construction and excavation areas. Under the Occupational Safety and Health Act (OSHA), the excavator must attempt to determine if underground services exist before excavation starts.

1.04 For the purpose of the marking and staking procedures, the following definitions shall apply:

- (a) Subsurface facilities means buried conduit, cable, pipe, sewers, storm drains, and related appurtenances.

- (b) Surface markings means temporary identification marks on pavement or hard ground made with spray paint of a specific color to identify the type of facility that is underground.

- (c) Marking stakes means temporary stakes or marking flags which are color-coded and marked with identification to indicate the type of facility that is underground.

- (d) Color code means colors chosen specifically for like groups of facilities and products. It is **not** a color chosen for each facility but a color chosen to designate a group with similar type products, using a specific color for each group.

1.05 The uniform color code that has been adopted by the APWA for marking or staking the location of subsurface facilities is:

- (a) Safety alert **orange** for telephone and telegraph system, police and fire communications, and cable television.

- (b) Safety **red** for electric power distribution and transmission and municipal electric systems.

- (c) High visibility safety **yellow** for gas transmission and distribution, petroleum products transmission and distribution, dangerous chemicals, product lines, and steam lines.

- (d) Safety precaution **blue** for water systems and slurry pipelines.

- (e) Safety **green** for sewer systems.

1.06 Symbols are required to identify on the pavement or stake the facility which has been marked or staked. The following symbols are recommended for general use by all facilities:

NOTICE

Not for use or disclosure outside Indiana Bell
except under written agreement.

SECTION 620-060-904NB

| | |
|------------------|--------------------|
| CH | Chemical |
| E | Electric Power |
| FA | Fire Alarm |
| G | Gas |
| J | Joint Trench |
| PP | Petroleum Products |
| S | Sewer |
| SS | Storm Sewer |
| ST | Steam |
| T | Telephone |
| T or Bell Emblem | Indiana Bell |
| TC | Traffic Control |
| TV | Cable TV |
| W | Water |

2. MARKING AND STAKING STANDARDS

2.01 Staking shall be done using wooden stakes or making flags that display the color code and identity of the facility doing the making. The stakes and marking flags should be a minimum 24 inches in length. Wooden stakes longer than 24 inches may be used, when required, to provide proper visibility in long grass, weeds, underbrush, or snow.

2.02 The predominant color of the stake will cover the top 6 inches and will be safety alert orange for telephone and telegraph systems, police and fire communications, and cable television. The wooden stakes will also be identified by 1-inch minimum size letters and numbers in a **contrasting color**, having the utility identification symbol (T) printed on at least one broad side of the exposed portion of the stake.

2.03 Directional arrows, logos, numbers, or other markings can be placed on the broad face of the stake but, in no case, should all of the markings cover more than 50 percent of the portion of the stake exposed above the ground.

2.04 Stakes or flags shall be placed over the facility at maximum intervals of 50 feet and at smaller intervals, as required, to show all changes in direction and curves. Spacing must be such that it is always possible to see two adjacent stakes or flags so a line may be established by eye. A minimum of three stakes flags should always be placed to ensure positive indication of line direction.

2.05 Off-center staking is not recommended because of the potential for error, misunderstanding, or oversight.

2.06 Where staking or flagging is not feasible, the identification of subsurface facilities by marking pavement, sidewalks, and berms should be done with spray paint, using the colors assigned in paragraph 1.05.

2.07 The letter symbol (T) indicating a telephone facility should be painted approximately 4 inches in height and **underscored with a line directly over the facility** approximately 18 inches long and 1/2 inch wide, indicating the location and direction of the facility.

3. SAFETY ZONES

3.01 A safety zones of 36 inches in width from the outside edges of the subsurface facility is required.

3.02 All existing conduit and/or cables that require power digging equipment within this three foot area shall be located positively by exposing by hand digging.

NOTE: Power digging equipment may be used in the immediate vicinity of the telephone plant provided the following precautions are used:

- (a) A Telephone Company employee (one familiar with the operation) must direct the movement and placement of the digging equipment.
- (b) The path and depth (test set) of the telephone plant checked and staked at the immediate location each time the equipment must change locations.
- (c) After the telephone plant has been exposed, (by hand), power digging equipment may be

used to enlarge the excavation provided the digging equipment is directed away or to the side of the location of the telephone plant.

- (d) When a jackhammer is required to remove concrete grout from a conduit formation an asphalt spade type bit shall be used. A concrete chisel point **SHALL NOT** be used for this type work.

NOTE: It has been proved by past performance that if an operator temporarily loses control of the jackhammer a pointed bit will puncture the conduit and cable, whereas, a dull spade type bit will bounce off the conduit and not damage the cable.

3.03 Providing the depth of subsurface facilities, while of some possible value to the excavator, is not recommended. Indicating depth may convey a false sense of security to the excavator and lead to eventual facility damage. The reliability of locating equipment to make accurate depth measurements is insufficient for this purpose. Hand exposure remains the only safe means of determining depth.

3.04 Locating and marking is no guarantee there will be no need for an inspector to remain at the site during the digging to prevent plant damage. At Construction sites, where in the opinion of the

person marking the subsurface facility, a situation exists where a one time visit and marking occasion will not provide adequate protection one or all of this following should be considered.

1. Arrange for an on site meeting with the Contractor assigned to do the digging to discuss items of concern.
2. Arrange to return to the construction site at the time the digging operation will approach the subsurface facility.
3. Return to the construction site regularly to insure markings have not been moved or destroyed if construction will last over a prolonged period.
4. Arrange to stay at the construction site until the possibility of damage no longer exists.

4. MARKING OF STREET AND ROAD CUTS

4.01 Local Government regulations may or may not require identification markings when a street or road cuts have been restored.

4.02 In localities where this requirement applies marking shall be done according to local regulations using the uniform Color Code.