

OUTSIDE PLANT PRECAUTIONS UNDERGROUND AND BURIED WORK

1. GENERAL	SECTION	TITLE
1.01 This section outlines the precautions to follow when working on underground and buried cables.	620-135-010	Guarding Work Areas
	620-140-501	Testing and Ventilating Manholes
1.02 This section is reissued to:	622-020-020	Conduit and Manhole Construction
	629-020-100	Buried Plant—Installation—Telephone and Power—Same Trench and in Separate Trenches in Same Easement
	629-020-102	Buried Plant—Maintenance to Existing System—Procedures and Precautions
	629-100-010	Buried Plant—Precautions
2. BURIED AND SUBSURFACE WORK		
2.01 Buried cable placing frequently involves the use of heavy equipment not normally used in other phases of telephone work. Work operations should be conducted in accordance with standard practices covering this type of work and in such a manner as to minimize the accident hazard to both employees and the public.	629-200-200	Buried Plant—Right-of-Way
	629-200-205	Buried Plant—Trenching and Backfilling
	634-220-500	Locating UG Pipes and Cables—Low Frequency Method
	634-220-501	Locating UG Pipes and Cables—High Frequency Method
2.02 All open manholes, trenches, excavations, holes, etc, shall be protected with guards, barricades, covers, flags, or other suitable warning devices at all times as covered in other sections in Division 620. Where traffic conditions warrant, it is preferable to provide more protection than may appear necessary rather than to underprotect.	634-220-515	Determining Depth of Buried Cables Using 121A Test Set.♦
	2.04 ♦Determine the path and depth of existing buried or underground cable and foreign subsurface plant in the vicinity along the route of work as outlined in Section 634-220-500, 634-220-501, 634-220-515, or 620-060-530 before starting excavation. <i>Make every effort to avoid exposing or making contact with the underground or buried plant belonging to other utilities, municipalities, etc.♦</i>	
2.03 ♦Prior to starting work, become familiar with the following Bell System Practices:		
	SECTION	TITLE
	620-060-530	Locating Buried Cable
	620-105-010	B Voltage Tester—Use

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SECTION 620-102-010

2.05 Other companies should be requested to establish the location of their buried or subsurface facilities and to expose, identify, and suitably protect their interest while work is in progress.

2.06 In some areas, other utility companies bury plastic pipe (gas pipe, water pipe, etc). To prevent damage, these facilities must be located, exposed, and protected while work is in progress. Since there is no test equipment available to locate plastic pipe, the appropriate utility should carefully mark the location of their facilities.

2.07 In areas where combustible gases or liquids are piped or stored, the atmosphere in trenches and manholes shall be tested and ventilated as outlined in Section 620-140-501.

2.08 If combustible mixtures are present, no work shall be done until the supervisor has been notified and arrangements made to clear the atmosphere of the combustible mixture.

2.09 Under normal conditions with stable soil, shoring is not required unless excavations are 5 feet or more in depth and employees have occasion to enter them. This 5-foot guide should be modified to shorter depths if unstable soil conditions or rainy weather exist or if heavy equipment or traffic is in proximity to the trench, excavation, or pit. Section 622-020-020 covers these requirements.

3. GAS AND ELECTRIC LINE HAZARDS

3.01 When foreign objects are encountered while digging, plowing, trenching, or pipe pushing, stop operations immediately. Expose obstruction by hand digging using wood handle or otherwise appropriately insulated tools. (See Section 629-020-100.) Under no circumstances should underground electrical plant or pipe line (gas or other) be disturbed.

3.02 Telephone plant should not be placed in the same manhole with power cables or conductors unless separated by a brick or concrete wall. Where special cases involve work in joint-use manholes, such as privately owned manholes on private property, **DO NOT ENTER MANHOLE** until your supervisor arrives on the job to supervise and

ensure that the following precautions are observed in addition to those contained in Part 4:

(a) Temporary protection (insulating blankets) from contact with power conductors, cables, or apparatus has been placed by an authorized representative of the owner of the manhole. Only the power cable(s) need be covered with blankets. Except for splicing operations, covering should be as complete as practical to obtain. When only splicing is involved, cover need only extend for a distance of approximately 2 feet beyond the splice (in both directions). If power cables are on the opposite wall, they should be covered for a distance of approximately 5 feet opposite the splicing location. If the sheath of any power cable has been cut back, that portion should be covered with insulating blankets regardless of where it is located.

(b) **Do not move power conductors:** Any power conductors, cables, or apparatus blocking access to telephone plant, must be moved only by an authorized representative of their owner.

(c) **Do not connect bonds to power cable sheath.** Where bonds have to be placed, connection to the power cable sheath shall be placed by either the customer's electrician or the power company.

3.03 If a gas line should be broken or damaged:

(a) Turn off all spark producing equipment.

(b) Leave the hole open to allow gas to dissipate into atmosphere.

(c) Warn residents and the public in the vicinity.

(d) Notify local fire department.

(e) Notify local gas company.

(f) Keep the public clear of the area until condition is cleared.

(g) Notify your supervisor.

3.04 If an electric line should be broken or damaged:

- (a) Barricade location until condition has been cleared.
- (b) Notify the local electric company.
- (c) Keep the public clear of the hazardous area.
- (d) Notify your supervisor.

3.05 If a pipe line, other than gas, should be broken or damaged:

- (a) If a liquid is noticed which appears to be volatile, such as gasoline, follow instructions in 3.03.
- (b) Notify the utility, municipality, etc, to which it belongs.
- (c) Notify your supervisor.

4. UNDERGROUND WORK

4.01 Manholes and cable entrance facilities (cable vaults) shall be tested and ventilated as described in Section 620-140-501.

4.02 Exercise caution when entering and leaving manholes, particularly those located on traveled thoroughfares. Always use a ladder when entering or leaving a manhole. Keep hands free of materials or tools when ascending or descending ladders.

4.03 No open flame, torch, lighted cigarette, or pipe shall be brought near an open manhole, into a covering or tent over an open manhole, nor taken into a manhole. ***Under no circumstances shall a cigarette lighter, match, or other item that produces a hot spark be operated or ignited in a manhole.***

4.04 The precautions to take in using lighting equipment in and around manholes are also described in Section 620-140-501.

4.05 The precautions to take to prevent exhaust fumes of vehicles or engines from entering manholes are described in Section 628-200-208.

4.06 Use standard platform supports and planks or approved substitutes for erecting working platforms in manholes. Platform planks should have adequate strength to support all loads to which they may be subjected, including the loads incurred during cable bending and racking operations.

4.07 ***Employees should not remain in manholes during cable placing and removal operations:*** Should it be necessary to check for proper alignment of equipment prior to starting the pulling operation the employee can enter the manhole if:

- (a) He remains clear of the equipment.
- (b) The winch line has only enough tension to provide normal alignment of the equipment.