

UTILITY ACCOMMODATION POLICY

Arkansas State Highway Commission

Arkansas State Highway and Transportation Department

Little Rock, Arkansas

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DEFINITIONS

AHTD/Department - Shall mean the Arkansas State Highway and Transportation Department.

ADT - Average Daily Traffic - The average 24-hour volume, being the total volume during a stated period divided by the number of days in that period. Unless otherwise stated, the period is a year. The term is commonly abbreviated as ADT.

1. Low Volume Roadway - Under 2,000 ADT
2. High Volume Roadway - Over 2,000 ADT

Backfill - Replacement of suitable material compacted as specified around and over a pipe, conduit, casing or other galleries.

Backslope - The slope leading away from flowline of ditch.

Bedding - Organization of soil or other suitable material to support a pipe, conduit, casing or other galleries.

Bury - Depth of top of pipe or facility below grade of roadway or ditch.

Cap - Rigid structural element surmounting a pipe, conduit, casing or other galleries.

Carrier - Pipe directly enclosing a transmitted fluid (liquid or gas).

Casing - A larger pipe enclosing a carrier.

Clear Zone - The total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or a clear run-out area. The desired width is dependent upon the traffic volumes and speeds, and on the roadside geometry.

Coating - Material applied to or wrapped around a pipe.

Conduit or Duct - An enclosed tubular runway for protecting wires or cables.

Control of Access - The condition where the right of owners or occupants of abutting land or other persons to access, light, air, or view in connection with a highway is fully or partially controlled by public authority.

Full Control of Access - The authority to control access is exercised to give preference to through traffic by providing access connections with selected public roads only by prohibiting crossings at grade or direct private driveway connections.

Partial Control of Access - The authority to control access is exercised to give preference to through traffic to a degree that, in addition to access connections with selected public roads, there may be some crossings at grade and some private driveway connections.

Cover - Depth to top of pipe, conduit, casing, cable or similar line or utility tunnel below the earth or roadway surface. It is normally referenced from the bottom of the highway ditch.

Cradle - Rigid structural element below and supporting a pipe.

Direct Burial - Installing a utility underground without encasement.

Drain - Appurtenance to discharge liquid contaminants from casings.

Drainage Structure - Any structure providing drainage for the highway other than a bridge.

Dry Bore - Augered or drilled, the use of water may be used as a lubricant.

Emergency - An unforeseen occurrence or condition, that may cause harm to persons, property, or the integrity of the highway, calling for immediate action.

Encasement - Structural element surrounding a pipe.

Encroachment - Unauthorized use of highway right-of-way or easements as for signs, fences, buildings, utilities, parking, storage, etc.

Expressway - A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

FHWA - Shall mean the Federal Highway Administration.

Flexible Pipe - A plastic, fiberglass, or metallic pipe having large ratio of diameter to wall thickness which can be deformed without undue stress.

Flowline of Ditch - The low point of a ditch that runoff water will follow.

Foreslope - The slope leading away from the pavement or shoulder of a highway.

Freeway - An expressway with full control of access.

Frontage Road - A local street or road auxiliary to and located on the side of an arterial highway for service to abutting property and adjacent areas and for control of access.

Grade Separation - A crossing of two highways, or a highway and a railroad, at different levels.

Grounded - Connected to earth or to some extended conducting body which serves instead of the earth whether the connection is intentional or accidental.

Grout - A cement mortar or a slurry of fine sand or clay.

High Volume Roadway - Over 2, 000 ADT

Highway, Street or Road - A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way.

Jacket - Encasement by concrete poured around a pipe.

Low Volume Roadway - Under 2,000 ADT

Manhole/Handhold - An opening in an underground system which workmen or others may enter for the purpose of making installations, inspections, repairs, connections, and tests.

Median - The portion of a divided highway separating the traveled ways for traffic in opposite directions.

MUTCD - Manual on Uniform Traffic Control Devices.

Normal - Crossing at a right angle.

OSHA - Occupational Safety & Health Administration

Overfill - Backfill above a pipe.

Pavement Structure - The combination of subbase, base course, and surface placed on a subgrade to support the traffic load and distribute it to the roadbed.

Pipe - A tubular product made as a production item for sale as such. Cylinders, formed from plate in the course of the fabrication of auxiliary equipment are not pipe as defined here.

Plowing - Direct burial of utility lines by means of a "plow" type mechanism which breaks the ground, places the utility line and closes the break in the ground in a single operation.

Pressure - Relative internal pressure.

Right-of-Way - A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

Rigid Pipe - Pipe designed for diametric deflection of less than 1%.

Roadside - A general term denoting the area adjoining the outer edge of the roadway. Extensive areas between the roadways of a divided highway may also be considered roadside.

Roadway - The portion of a highway, including shoulders, for vehicular use. A divided highway has two or more roadways.

Roadway Cross Sections - That area of a highway facility contained between the outside edges of backslopes/foreslopes (Divided facilities, the term applies to each set of roadways).

Safety Rest Area - A roadside area with parking facilities separated from the roadway provided for motorists to stop and rest for short periods. It may include drinking water, toilets, tables and benches, telephones, information, and other facilities for travelers.

Scenic Overlook - A roadside area provided for motorists to stop their vehicles beyond the shoulder, primarily for viewing the scenery in safety.

Semi-Rigid Pipe - Pipe designed to tolerate from 1 % to 3% diametric deflection.

Shoulder - The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of base and surface courses.

Sidefill - Backfill alongside a pipe.

Slab, Floating - Slab between but not contacting pipe or pavement.

Sleeve - Short casing through pier or abutment of highway structure.

SubBase - The later or layers of specified or selected material of designated thickness placed on a subgrade to support a base course.

Subgrade - The top surface of a roadbed upon which the pavement structure and shoulders are constructed.

Temporary Barrier - Temporary barriers are used to prevent vehicular access into construction or maintenance work zones and to redirect an impacting vehicles so as to minimize damage to the vehicle and injury to the occupants, while providing worker protection.

Traffic Barrier - A device used to prevent a vehicle from striking a more severe obstacle or feature located on the roadside or in the median, or to prevent crossover median accidents.

Toe-of-Slope - The bottom of a slope of a fill or cut area usually the lowest point of the slope.

Traffic Control Device - Any sign, signal, marking, or installation placed or erected under public authority for the purpose of regulating, warning, or guiding traffic.

Traveled Way - The portion of the roadway for the movement of through traffic.

Trenched - Installed in a narrow open excavation.

Untrenched - Installed without breaking ground or pavement surface for such operations as jacking, tunneling, boring, or mechanical compaction.

Use and Occupancy Agreement or Utility Permit - The document by which the highway authority regulates and/or gives approval of the use and occupancy of highway right-of-way by utility facilities or private lines.

Utility Tunnel - An underpass for one or more utility lines.

Vent - Appurtenance to discharge gaseous contaminants from casing.

Walled - Partially encased by concrete poured alongside the pipe.

Wet Bore - A hole is sluiced through the roadway subgrade by jetting with water under high pressure.

ARKANSAS STATE HIGHWAY COMMISSION

UTILITY ACCOMMODATION POLICY

PART I
INSTALLATION, ADJUSTMENT, RELOCATION
AND REMOVAL OF UTILITY FACILITIES
ON HIGHWAY RIGHT OF WAY AND
PROPERTY

DISTRIBUTED BY
UTILITIES SECTION - RIGHT OF WAY DIVISION

PART I
ACCOMMODATION OF UTILITIES
ON HIGHWAY RIGHT OF WAY

SECTION I

INTRODUCTION

101. PURPOSE

To prescribe the policies and procedures for the accommodation of utility facilities, both public and private on the right-of-way of all roadways and property within the Arkansas State Highway and Transportation Department System.

102. AUTHORITY

Under Arkansas Statutes, 27-67-218 and 27-67-304 public utilities may use highway right-of-way for the purpose of installing utility facilities, provided such use will not interfere with the use of the right-of-way for highway purposes. Utility owners must secure a permit and post a bond prior to performing any work. The bond will be used by the Commission in restoring the highway to its former condition if the utility who disturbs the highway fails to do so. Installation of utility facilities on highway right-of-way must be done in accordance with the rules and regulations prescribed by the Arkansas State Highway Commission.

103. SCOPE

To authorize the Utilities Section, Right of Way Division, Arkansas State Highway and Transportation Department to, issue permits and enter into agreements to provide for the installation, adjustments, relocation, maintenance, or removal of utilities on highway right-of-way and property. Issue permits for mechanical trimming and for use of chemicals for vegetation control on highway rights-of-way and property. Cover existing and provide for future joint use and occupancy of highway and utility rights-of-way and/or properties by highway and utility facilities on, over, under or across the same lands and under coincidental property rights or interests in accordance with State Law and Federal rules and regulations.

104. APPLICATION

This policy shall apply to the owners and operators of utility facilities including but not limited to electric power, water, sewer, gas, communications (telephone, telegraph, cable TV, and fiber optic or light guide cables), chemical, oil, petroleum products, steam, storm water not connected with highway drainage, irrigation and similar facilities.

This policy shall apply to all new installations, and to the servicing, repair, restoration, relocation, rehabilitation, or removal of any existing utility facilities where the roadway, roadside, right-of-way, or traffic will be affected by the work operations or by the new facilities occupancy.

105. PRIOR POLICY

The provisions of this Statement of Policy shall supersede and void all prior Commission or Administrative Orders and/or Statements of Highway Department Policy relating to the accommodation and/or adjustment of utilities on highway rights-of-way, included in Commission Minute Order No. 70-300 dated August 26, 1970, Commission Order No. 77-80 dated February 23, 1977, and Commission Order No. 89-455 dated September 20, 1989.

106. EXCEPTIONS

Exceptions to any provisions of this policy may be authorized under certain situations where it is shown that extreme hardship and/or unusual conditions provide justification, and where alternate measures can be prescribed in keeping with the intent of this policy.

Consideration of requests for exceptions on controlled access highways will be in accordance with American Association of State Highway and Transportation Official's (AASHTO) "A Policy on the Accommodation of Utilities Within Freeway Right-of-Way" (current issue).

Any request for exceptions to this policy shall be submitted to the Utilities Section for Departmental review and approval.

SECTION 2

GENERAL CONSIDERATIONS

The location and design of all utility installations within the highway rights-of-way shall conform as a minimum to the following:

201. LOCATION - CONTROLLED ACCESS HIGHWAYS

1. Longitudinal utility facilities are not permitted inside the limits of access control of a fully controlled access highway.
2. See Section 201A for this portion of the policy as it applies to fiber optics.
3. The installation of utilities on Partially Controlled Access Highways will be the same as Non-Controlled Access Highways with one notable difference - the utility facility will only be accessible at break points in the PCOA (driveways, county roads, etc.)
4. On highways with frontage roads, longitudinally utility installations may be located between the frontage roads and the right-of-way line.
5. Temporary access for construction by the Utility will be accomplished without using main lanes or connecting ramps, and shall pose no impact on the health, safety and welfare of the public.
6. Utility lines crossing the highway should be located at approximate right angles to the highway to the extent feasible and practicable.
7. Single customer utility service line connections crossing controlled access highways shall not be permitted in areas where distribution or feeder line crossings are available within a reasonable distance to serve consumers on either side of the highway.
8. The horizontal and vertical location of utility lines should conform with the clear roadside policy of the Department, consistent with the clearances applicable to all roadside obstacles. (AASHTO Roadside Design Guide - current issue).
9. All fully controlled access crossings must be encased the full width of the highway right-of-way.

201A FIBER OPTIC FACILITIES ON FULLY CONTROLLED ACCESS HIGHWAYS

I. STATEMENT OF POLICY

This policy is established pursuant to 23 U.S.C. 109 and 111 and Federal Regulations, which govern use and points of access to the Interstate and other controlled access highways and the 1989 Policy of The American Association of State Highway and Transportation Officials which provides for longitudinal use when a determination is made that denial would result in severe hardship or is contrary to the public interest.

It shall be the policy of the Department, to permit fiber optic facilities to locate longitudinally within the access control limits of fully controlled access highways when approved conditions are met.

Utilities which must cross over or under fully controlled access highways will be regulated in accordance with applicable Sections of the Utility Accommodation Policy.

A. CRITERIA FOR LONGITUDINAL INSTALLATIONS

The Arkansas State Highway and Transportation Department may permit longitudinal installations of fiber optic cable within the access control limits under the following conditions:

1. The cable is underground.
2. No above ground support facilities are to be within the access control limits, unless such facilities can be located at interchanges or highway rest areas and be of such design and location so as not to constitute a hazard.
3. Temporary access for construction by the Utility should be accomplished without using main lanes or connecting ramps, and shall pose no impact on the health, safety and welfare of the public. Traffic control shall comply with AHTD specifications and MUTCD.
4. Service connections to adjacent properties shall not be permitted from longitudinal utility installations located within the access control of a freeway. (except at interchanges, where approved).
5. The facilities shall present no hazard to life, health, or property, should it fail to function properly, be severed or otherwise damaged.
6. Facilities shall be installed in a manner which will require minimum maintenance.
7. No cable shall be permitted within the control of access unless the cable owner is a member of Arkansas One Call.

8. Any cable permitted in the control of access must be for shared resource purposes with the Department or for an agreed to service at another location.

This will enable the Department to improve its own communication network and obtain traffic control data from remote locations without substantial expenditures.

B. LIABILITY

This policy does not confer any liability upon the Arkansas State Highway and Transportation Department for any future costs of, damages to, or relocation or removal of the utility from the right-of-way for any reason.

C. PRINCIPLES

The underlying principles of this policy are as follows:

1. Economic benefits realized can be passed directly to the general public as users of transportation and utility facilities.
2. Public benefits may accrue if undisturbed land is preserved through joint use of the right-of-way corridors.
3. By being the most direct route with favorable grade and alignment these corridors provide the most economic transmission route.
4. Protected access of these corridors offers more security to utility lifelines from accidental or malicious damage.

D. GENERAL

1. All utility accommodations other than longitudinal on fully controlled access highways shall be in accordance with other parts of this Utility Accommodation Policy.
2. This policy does not apply to existing utility installations, except when there is a major replacement of current telephone or communication facilities.

II. INSTALLATION AND MAINTENANCE GUIDELINES

A. UTILITY REQUIREMENTS

1. The Department may establish a utility corridor along the outer edge of the right-of-way line and a utility access control line between the utility corridor and the roadway and ramps. Where feasible, the utility shall place its facility within this corridor and conduct installation within this area.

2. Limited maintenance will be permitted on the underground facility from within the utility corridor.
3. The utility's installation plan shall take into account:
 - a. Planned or likely improvements or alterations in the nature or configuration of the highway.
 - b. Planned or likely improvements or alterations in the nature and configuration of the utility system.
 - c. Planned or likely use of the utility corridor by other utilities or private users whose installations may also qualify under this policy.
4. Permanent above ground facilities shall not be placed within the access control of the highway facility except for documented hardship conditions or for installations at rest areas, interchanges, and only with Department approval.
5. The Utility will furnish all materials and labor required for the proposed installation. The Utility may install its facility by manual or machine methods. When it installs ducts, the ducts shall be installed to a depth which permits at least 36 inches of ground cover. Upon completion of installation, the utility shall return the disturbed area to its original condition. Backfill shall be compacted to the same condition as the surrounding area and seeded in accordance with the current edition of AHTD "Standard Specifications for Highway Construction".
6. The installation of underground ducts for fiber optic cable shall include all appurtenances necessary or incidental to the operation of the facility, and shall include manholes or other access points at appropriate spacing to permit pulling of additional cables into the duct system without further excavation.
7. A Traffic Control Plan shall be included as a part of the Utility's installation plans and shall address parking of the work crews and storage of materials. No parking or storage of materials shall be allowed on the right-of-way unless approved by the Department.

8. The Utility shall install permanent markers at appropriate intervals showing the approximate location of its underground facility. Markers shall not interfere with highway operations nor constitute a hazard to the traveling public. The Utility shall also maintain records that describe the facility, its location, depth, size and other relevant data, which shall be available to the Department's Utilities Section and to other interested Utilities. A copy of these records, including as-built plans and any subsequent revisions shall be provided to the Department's Utilities Section.
9. The Utility will comply with Industry Standards for special marking techniques and location standards for their facility, except where this Policy calls for different procedures, the installation and maintenance of utility facilities under this Policy shall follow applicable procedures set forth elsewhere in this policy.
10. The Utility shall make no direct service connection to adjacent properties from the installed utility facility, except that the utility line or branch of the utility line may exit the highway right-of-way at any point along the right-of-way, upon approval by the Department.
11. The Utility shall obtain all approvals for the authorized activities, including necessary environmental and federal regulatory authorizations, if applicable.
12. The Policy shall be implemented through an "Agreement" upon finding that a proposed installation meets the criteria and conditions of this Policy.

202. LOCATION - NON-CONTROLLED ACCESS HIGHWAYS

1. The integrity of the roadway cross section must be maintained; therefore, no excavation or longitudinal installations will be permitted within this area. (See Figure 1, Page 33)
2. Utility facilities shall be located to avoid or minimize the need for adjustment for future highway improvements and to permit access to the utility lines or maintenance with minimum interference to highway traffic.
3. Longitudinal installations shall be located on uniform alignment as near as practicable to the right-of-way line to provide a safe

environment for traffic operation and preserve space for future highway improvements or other utility installations.

4. To the extent feasible and practicable, utility crossings of the highway should be installed on a line generally normal to the highway alignment.
5. The horizontal and vertical location of utilities lines should conform with the clear roadside policy of the Department, consistent with the clearances applicable to all roadside obstacles. When these conditions cannot be met and it is determined by the Department to be in the best interest of the public, a utility facility may be permitted to do so using the "AASHTO Roadside Design Guide" (current issue). Full consideration shall be given to all measures reflecting sound engineering principles and economic factors necessary to preserve and protect the integrity of the highway and to avoid interference with the use of the right-of-way for highway purposes; even if the result is that the utility cannot be accommodated on the highway right-of-way.

203. DESIGN

1. The design and integrity of any utility installation will be the responsibility of the utility owner. This includes the measures to be taken to preserve the safe and free flow of traffic, the structural integrity of the roadway or highway structures, ease of highway maintenance, and the appearance of the highway. The location and manner of installation within the highway right-of-way must be reviewed and approved by the Department.
2. Such approvals shall be in accordance with AASHTO publications "A Guide for Accommodating Utilities within Highway Right of Way" and "A Policy on the Accommodation of Utilities Within Freeway Right of Way" (current issues) adopted by reference herein with the same force and effect as if recited at length.
3. Design of utility installations on, over, or under highway right-of-way or attached to highway structures should as a minimum meet the following requirements:
 - (a) Electric power and communication facilities should conform with the currently applicable National Electrical Safety Code.
 - (b) Waterlines should conform with the current applicable specifications of the American Water Works Association.

- (c) Pressure pipelines should conform with the current applicable sections of the Standard Code of Pressure Piping of the American National Standards Institute, Title 49 CFR Parts 192, 193, 195 and applicable industry codes.
 - (d) Liquid petroleum pipelines should conform with applicable recommended practice of the American Petroleum Institute for pipeline crossings under railroads and highways.
 - (e) Any pipeline carrying hazardous materials shall conform to the rules and regulations of the United States Department of Transportation governing the transportation of such materials.
4. Above ground utility facilities should be of a design compatible with the visual quality of the specific highway section being traversed.
 5. All utility installations within highway right-of-way or attached to highway structures should be of durable materials designed for long service life expectancy and relatively free from routine servicing and maintenance.
 6. On new installations or adjustments of existing utility lines, provisions should be made for known or planned expansion of the utility facilities, particularly those located underground or attached to bridges. They should be planned so as to minimize hazards and interference with highway traffic when additional overhead or underground lines are installed at some future date.
 7. Manholes/handholes shall be limited to those necessary for installation and maintenance of underground lines. In no case shall they be placed or permitted to remain in the pavement or shoulders of high volume roadways. Exceptions may be allowed at those locations on non-controlled access highways in urban areas where necessary for existing lines which may be permitted to remain in place under existing or proposed roadways. Manholes may remain in place or be installed under traffic lanes of low volume roadways in municipalities provided measures are taken to minimize such installations and to avoid their locations at intersections as much as possible.
 8. Manholes/handholes vary as to size and shape depending on the type of utility they serve. To conserve space their dimensions

should be the minimum acceptable by good engineering and safety standards. Where soil conditions require, outside forms shall be used. In general the only equipment to be installed in manholes located on highway right-of-way is that which is essential to the normal operation of the utility, such as cable splices, relays, etc. Other equipment, pumps, etc. should be located outside the limits of the highway right-of-way. All manhole covers shall be flush with the ground or pavement surface, whichever is applicable. All manholes shall be designed with sufficient structural capacity for vehicular loading in accordance with AHTD current standard specifications.

9. Acquiring all necessary permits, including the accommodation of utilities on highway right-of-way and environmental controls shall be the responsibility of the utility owner.

204. SCENIC ENHANCEMENT

1. The type and size of utility facilities, and the manner and extent to which they are permitted along or within highway right-of-way can materially alter the scenic quality, appearance, and view of highway roadsides and adjacent areas. For these reasons, additional controls are applicable in certain areas that have been acquired or set aside for their scenic quality. Such areas include scenic strips, overlooks, rest areas, recreational areas, the rights-of-way of highways adjacent to such areas, and the rights-of-way of sections of highways which pass through forests, parks and historic sites. Aerial installations will not be approved at such locations when there is a feasible and prudent alternative.
2. To protect trees and shrubbery on the highway right-of-way the Department shall specify the extent and methods of tree removal and trimming in making underground or overhead utility installations. Where justified by conditions, the Department may permit removal of trees or shrubbery of value to the highway, provided the utility owner replaces such removals as specified by the Department's District Engineer.

205. SAFETY

1. The Utility Owner shall assume full liability of hazard to traffic created by their operation and shall maintain use of appropriate safety devices such as barricades, lights, signs and flagging operations needed to protect traffic and shall comply with the "Manual on Uniform Traffic Control Devices" (MUTCD - current

issue).

2. The utility owner shall be responsible for maintaining all existing highway, street, and county road regulatory warning, guide and informational signs in an effective location at all times for the duration of any work while on highway rights-of-way and shall re-install them at the correct location upon the completion of the work. Any sign damaged during the work shall be replaced at the utility owner's expense.
3. The utility owner shall indemnify and save harmless the State of Arkansas, the Arkansas State Highway Commission, the Arkansas State Highway and Transportation Department, its officials and employees, in all respects from any and all losses, damages or injury to persons or property resulting in any manner from any negligent act or omission in connection with work operations, occupancy, or use of State Highway Rights-of-Way or Property.
4. The utility owner shall perform all work in accordance with State Law, Federal rules (and regulations), and in accordance with OSHA standards.

206. CONSTRUCTION & MAINTENANCE OPERATIONS

1. The utility owner must notify the Department's appropriate District three (3) days prior to beginning work on highway right-of-way. (See back cover).
2. The utility owner shall take all means necessary to protect the traveling public and to avoid any hazard or interference to the safe and free movement of traffic on the highway. In some circumstances it may be necessary that the hours of work operation be established by the Department's District personnel (See Figures 16, page 48 and 17, page 49).
3. The utility owner shall provide adequate protection on or over any pavement, roadway surfacing, shoulders or highway structure before moving or operating any heavy or steel tracked or cleated equipment thereon. The method of protection must first be approved by the Department's District personnel.
4. The utility owner shall not use or cause to be used, heavy equipment on soft shoulders or unsurfaced right-of-way areas during wet or bad weather in the initial construction or during normal servicing when such use could cause excessive damage to the shoulders or

unprotected right-of-way areas.

5. The utility owner will not track mud onto the roadway surface under any circumstances. The utility owner shall take steps to eliminate dust along state highways during the construction period. If, in the opinion of the Department's District Engineer or his representative, dust is excessive, the utility owner shall immediately take necessary action to resolve the problem.
6. Care shall be taken in utility installations to avoid disturbing existing highway drainage facilities.
7. Trenches for utility installations shall be backfilled with previous material, and outlets shall be provided for entrapped water so as to avoid even temporary ponding or excess sub-base saturation. Underdrains should be provided where necessary. No jetting or puddling shall be permitted under the roadway. (See Figure 8, page 40 and Figure 11, page 43).
8. The highway right-of-way shall not be used as a material storage area or for maintenance of vehicles or parking of equipment and/or vehicles.
9. Blasting will not be permitted on highway right-of-way except with specific approval of the Department's District Engineer.
10. All non-metallic buried facilities placed on highway right-of-way either parallel to or crossing the roadway, shall have an approved identification wrap of detectable tape or wire in order that the facility can be located by metal locators or other suitable devices.
11. All highway rights-of-way in the State Highway System are being monumented with permanent orange triangular metal markers. Should any markers be damaged during a utility's work operation, the responsible party must notify the Department's District Engineer who will re-establish the monument and bill the utility owner for the cost (See Figure 14, page 46)
12. When the removal of a section of the right-of-way or control of access fence has been approved by the Department, the fence must be reinstalled as soon as possible and to the satisfaction of the Department's District Engineer.
13. When new or relocated utility facilities are located or constructed along, on, or across a freeway the location and future servicing

of such facilities shall comply with the AASHTO policy set forth in "A Policy on the Accommodation of Utilities Within Freeway Rights of Way" (current issue). This policy shall also be used as a guide for access routes and restrictions for servicing as appropriate on all highways with partial control of access.

14. Servicing of utilities which are installed solely for operating freeway facilities shall not be performed directly from through traffic lanes or ramps, and the utility shall exercise extreme caution in using the freeway as a route of access to the proximity of the utility service area to avoid any hazard or interference to the safe and free movement of traffic on the freeway during such utility access and operations.
15. The area disturbed by utility construction, or maintenance, shall be kept to a minimum. The utility owner shall restore all highway right-of-way to as good or better condition than before. Restoration methods shall conform to the Department standard specifications and/or special provisions in permits and use and occupancy agreements. Restoration work must be approved by the Department's District personnel.
16. Work on any buried utility line crossing under highway bridges shall not be started until all material and equipment are available for immediate use. When the work is started, it must be completed as soon as possible. Trenches under highway bridges shall not be left open when work is not being performed. Where work under a bridge involves disturbing existing rip rap, (specific approval required) the rip rap must be restored to equal or better condition and is subject to the approval of the Department's District or Bridge Engineer.

SECTION 3

UNDERGROUND UTILITY INSTALLATIONS

301. CROSSINGS

Crossings may be ENCASED or UNCASED as determined by specific conditions of the Utility, the Department, or type of highway facility.

1. ENCASED:

- (a) Casings shall be designed to support the load of the highway and superimposed loads thereon and, as a minimum, shall equal the structural requirements for highway drainage facilities. Casings should be composed of materials of satisfactory durability under conditions to which they may be subjected.
- (b) Casings shall have a minimum of 36 inches of cover to the top of the pipe below the parallel ditch lines or 42 inches below the top of the highway subgrade, whichever gives the greater cover. Casing should extend as a minimum 36 inches beyond the flowline of parallel ditches, toe of the foreslope, foreslope, or back of curbs as applicable for the highway section. Casing/encasement pipe shall extend a minimum of six (6) feet beyond the toe of slope of embankment sections and a minimum of six (6) feet beyond the bottom of existing ditches (flowline) or back of curb in curbed sections. The Department encourages casing to extend from right-of-way line to right-of-way line where practical, and may be required in certain instances. (See Figure 9 , page 41)

2. UNCASSED:

- (a) Uncased carrier pipe shall provide sufficient strength to withstand the internal design pressure and the dead and live loads of the pavement structure and traffic. Additional protective measures should include:
 - (1) Greater depth of cover (minimum of four (4) feet).
 - (2) Increased wall thickness/higher strength steel.
 - (3) Adequate coating and wrapping.
 - (4) Radiograph testing of welds.
 - (5) Hydrostatic testing.
 - (6) Cathodic protection
 - (7) Other measures as required by Title 49 CFR, Part 192, or Part 195.
- (b) Length of additional protection should extend the full width of the right-of-way but as a minimum 36 inches beyond the flowline of parallel ditches, toe of foreslope or back of the curb as applicable for the highway section. (See Figure 10, Page 42).

3. ALLIED MECHANICAL PROTECTION

When existing underground utility facilities are permitted to remain in place, suitable bridging, concrete slabs, or other appropriate measures may be used for protection, when by reason of shallow bury the facility may be vulnerable to damage from highway construction or maintenance operations. (See Figure 12, Page 44 and Figure 13, Page 45).

4. CROSSING METHODS

- (a) The angle of crossing should be as near to normal to the highway alignment as practical.
- (b) Crossings may be made by boring, jacking, (if less than three (3) inches) tunneling, or open cut.
- (c) Boring shall be by the Dry Bore method or directional bore. Wet boring is not permitted.
 - (1) Dry bores should be augered progressively ahead of the leading edge of the advancing pipe as spoil is augered or mucked back through the pipe. Annular void and over-breaks should be minimized by having cutterhead sized closely to pipe diameter and the pipe advanced with cutterhead in close proximity. Overbore should not exceed 5 percent of the pipe diameter.
 - (2). Wet Boring as defined for the purpose of this policy is the use of water, under high pressure, to jet a hole ahead of the bit.
- (d) Bore pits should be placed outside the highway right-of-way when practical, otherwise bore pits should be placed on the edge of the highway right-of-way as far from the outer edge of the shoulder as possible. Bore pits shall be located and constructed in such a manner, as to not interfere with footings of highway structures safe roadside clearance or traffic operations. If necessary, shoring will be utilized.
- (e) Crossings of the highway through drainage structures (box or pipe culverts) are not permitted.

5. OPEN CUT

- (a) Cutting of paved highways is not permitted except under certain circumstances. Conditions where open cuts of the pavement may be permitted are:
 - (1) Utility adjustments made for a highway reconstruction project.
 - (2) Urban highways where longitudinal lines are located under the pavement.
 - (3) When it is determined by the Department that boring is not possible.

- (b) Cutting of gravel highways may be permitted.
6. BEDDING AND BACKFILL (Under existing or proposed roadway)
- (a) Bedding shall be placed to a depth of six (6) inches or half the diameter of the pipe whichever is the least.
 - (b) Backfill shall be placed in four (4) inches layers, loose measurement, each compacted by mechanical tamping with controlled moisture. (See Figure 8, Page 40)
 - (c) Bedding and backfill shall consist of fine granular material free of lumps, clods, stones or other debris.
 - (d) Consolidation of backfill by saturation or ponding with water shall not be permitted.
 - (e) Backfill for bore pits shall be placed in eight (8) inch layers, loose measurement, thoroughly compacted to match grade and density equal to or exceeding the surrounding undisturbed soil.

302. LONGITUDINAL TRENCHING AND BACKFILL

1. Utility locations parallel to the pavement should be placed at/or adjacent to the right-of-way line to minimize interference with highway operations. As a maximum lateral location shall be no more than five (5) feet from right-of-way line unless otherwise approved by the Utilities Section. The locations of all longitudinal installations shall be reviewed by the Department to ensure that the proposed utility facilities will not interfere with existing or planned highway facilities or with highway maintenance and operation. (See Figure 2, page 34)
2. Trenches normally should have vertical sides where soil and depth conditions permit, and should have a maximum width of outside diameter of pipe plus two (2) feet. Adequate measures must be taken to prevent cave-ins in accordance with OSHA regulations.
3. Backfill of longitudinal trenching shall be placed in eight (8) inch layers, loose measurement, and compacted to densities equal to that of the surrounding soil. (See Figure 11, page 43)
4. Grade on all highway drainage ditches must be maintained and erosion control provided where necessary as specified by the Department's District personnel. Aggregate, sod or surfacing shall be replaced or restored to its original or equivalent condition to the satisfaction of the District personnel.

303. GAS AND LIQUID PETROLEUM PIPELINES

1. DEPTH OF COVER

Only distribution lines providing natural gas service will be permitted longitudinally within the highway right-of-way and shall have a minimum depth of cover of 30 inches. Longitudinal installations of transmission type facilities will not be permitted.

2. CROSSINGS

- (a) Encased pipeline crossings shall have a minimum depth of cover of 36 inches below the ditches or 42 inches below the top of highway subgrade whichever gives the greater cover. Casing encasement pipe shall extend a minimum of six (6) feet beyond the toe of slope of embankment sections and a minimum of six (6) feet beyond the bottom of existing ditches (flowline) or back of curb in curbed sections. The Department encourages casings to extend from right-of-way line to right-of-way line where practical, and may be required in certain instances. (See Figure 9 , page 41)
- (b) Uncased pipeline crossings shall have a minimum depth of cover of 48 inches below the ditches or the top of highway subgrade whichever gives the greater cover. (See Figure 10, Page 42)
- (c) All gas service lines installed on highway right-of-way (crossings included) must be owned and maintained by the utility owner; therefore, all meters must be set on the same side of the highway as the customer.

3. VENTS

One or more vents shall be provided for each casing or series of casings. For casings longer than 150 feet vents should be provided at both ends. On shorter casing a vent should be located at the higher end with a marker placed at the lower end. Vents shall be placed at the right-of-way line immediately above the pipeline, situated to not interfere with highway maintenance or be concealed by vegetation. Ownership of the lines shall be clearly shown on a sign attached to the vent pipe.

4. MARKERS

The utility company shall place a readily identifiable and suitable marker at each right-of-way line where it is crossed by any gas or liquid

petroleum line except where marked by a vent. Ownership of lines shall be clearly shown on a sign attached to the marker.

5. APPURTENANCES

Above ground appurtenances such as regulators, etc. must be located outside the highway right-of-way.

6. VALVE BOXES

Valve box covers must be flush with the ground or pavement surface as applicable.

7. METERS

Customer meter settings must be located outside the highway right-of-way, and must be set on the same side of the highway as the customer.

304. WATERLINES

1. DEPTH OF COVER

Longitudinal waterline installations on highway right-of-way shall have a minimum depth of cover of 30 inches.

2. CROSSINGS

- (a) Encasement is required on all waterlines (including services) crossing the highway and shall have a minimum depth of cover of 36 inches below the ditches or 42 inches below the top of highway subgrade, whichever gives the greater cover. Casing/encasement pipe shall extend a minimum of six (6) feet beyond the toe of slope of embankment sections and a minimum of six (6) feet beyond the bottom of existing ditches (flowline) or back of curb in curbed sections. The Department encourages casings to extend from right-of-way line to right-of-way line where practical, and may be required in certain instances. (See Figure 9 , page 41)
- (b) All water service lines installed on highway right-of-way (crossings included) must be owned and maintained by the utility owner; therefore, all meters must be set on the same side of the highway as the customer.

3. MARKERS

A marker bearing the name of the utility owner shall be placed at each

right-of-way line where it is crossed by a waterline two (2) inches or larger in diameter. Markers are not required for service line crossings. Markers for longitudinal lines must be located at the right-of-way line.

4. METERS

Customer meter settings must be located outside the highway right-of-way, and must be set on the same side of the highway as the customer.

5. VAULTS

It is preferable that any appurtenances requiring a vault such as master meters, pressure reducers, etc. be located outside the highway right-of-way.

6. FIRE HYDRANTS

In rural areas fire hydrants or blow-off valves shall be placed at right-of-way line, but in no case shall they be placed in the Roadway Cross Section (See Figure 1, Page 33). In urban areas fire hydrants should be placed at the right-of-way line but shall not be placed closer than five (5) feet to the curb . (See Figure 7, Page 39).

7. VALVE BOXES

Valve box covers must be flush with the ground or pavement surface as applicable.

305. SANITARY SEWER LINES

1. DEPTH OF COVER

(a) Longitudinal sewer lines (gravity flow and force mains) installed on highway right-of-way shall have a minimum depth of cover 30 inches.

(b) Gravity flow and force main sewer line crossings shall have a minimum depth of cover of 36 inches below the ditches or 42 inches below the top of highway subgrade, whichever gives the greater cover.

2. CROSSINGS

(a) Lines to be operated under pressure (force mains) and those composed of materials not conforming to material or depth of cover requirements

herein shall be encased. (Casing/encasement pipe shall extend a minimum of six (6) feet beyond the toe of slope of embankment sections and a minimum of six (6) feet beyond the bottom of existing ditches flowline) or back of curb in curbed sections. The Department encourages casings to extend from right-of-way line to right-of-way line where practical, and may be required in certain instances.
(See Figure 9 , page 41)

- (b) Gravity flow lines that can be installed by open trench across proposed highway construction areas, or lines to be bored across existing highways will not require encasement if other conditions herein are met.
(See Figure 10, Page 42)
- (c) All sewer service lines installed on highway right-of-way (crossings included) must be owned and maintained by the utility owners.

3. MANHOLES

- (a) Manholes on sewer line crossings preferably should be placed outside the highway right-of-way. If this is not feasible, manholes may be permitted on highway right-of-way provided they are located at or near the right-of-way line and clear of the drainage ditch.
(See Figure 4, Page 36 and Figure 5, Page 37)
- (b) In no case shall manholes be placed or permitted to remain in the pavement or shoulders of high volume roadways. Exceptions may be allowed at those locations on non-controlled access highways in urban areas where necessary for existing lines which may be permitted to remain in place under existing or proposed roadways. Manholes may remain in place or be installed under traffic lanes of low volume roadways in municipalities provided measures are taken to minimize such installations and to avoid their locations at intersections as much as possible.
- (c) All manhole covers shall be installed flush with the ground and/or pavement surface, whichever is applicable. Manholes shall have sufficient structural capacity to withstand vehicular loading.
(*AHTD Current Standards*)
- (d) Lift stations shall not be permitted on highway right-of-way.

306. UNDERGROUND ELECTRIC LINES

1. DEPTH OF COVER

- (a) Longitudinal electric lines on highway right-of-way shall have a minimum cover of 30 inches.
- (b) Electric lines crossing the highway shall have a minimum cover of 36 inches below the ditches or 42 inches below the top of highway subgrade, whichever gives the greater cover.

2. CROSSINGS

- (a) Encasement shall be provided under center medians and from top of backslope to top of backslope for cut sections or 36 inches beyond the toe of slope for fill sections, or back of curb of all roadways including side streets. When crossing beneath the embankment of an overpass structure the encasement shall extend six (6) feet beyond the toe of slope or the top of backslope whichever is applicable. Encasement may be omitted under center medians where the width is appreciably greater than normal rural standards. Casing/encasement pipe shall extend a minimum of six (6) feet beyond the toe of slope of embankment sections and a minimum of six (6) feet beyond the bottom of existing ditches (flowline) or back of curb in curbed sections. The Department encourages casings to extend from right-of-way line to right-of-way line where practical, and may be required in certain instances. (See Figure 9 , page 41)
- (b) Existing lines under roadways in urban areas and low-volume highways may be permitted to remain in place without encasement or extension of encasement if they are adequately protected either by extra depth or other means. (See Figure 12, page 44 and Figure 13, page 45)

3. MARKERS

- (a) A marker bearing the name of the utility owner shall be placed at each right-of-way line where it is crossed by an underground electric line.
- (b) Markers for longitudinal lines must be located at the right-of-way line.

4. VAULTS

- (a) It is preferable that electric vaults be located outside the highway right-of-way. When conditions warrant, electric vaults may be permitted within highway right-of-way.

- (b) Straight line vaults are the only type normally permitted within the right-of-way. Overall dimensions should be no larger than necessary to hold the equipment involved and for safety standards to be assured for maintenance personnel.
- (c) The top of the vault shall have a minimum cover of four (4) feet below the ground surface. All manhole covers shall be installed flush with the ground or pavement surface, whichever is applicable. Manholes shall have sufficient structural capacity to withstand vehicular loading. (AHTD Current Standards) (See Figure 3, page 35)

5. LONGITUDINAL

Distance from the right-of-way line shall be no more than five (5) feet unless otherwise approved by the Utilities Section. On highways with frontage roads, such installation will be located between the frontage roads and the right-of-way line.

6. APPURTENANCES

- (a) Above ground appurtenances installed as part of an underground electric line shall be located at or near the right-of-way line.
- (b) Electric pad mounted transformers shall not be placed on highway right-of-way.

307. UNDERGROUND COMMUNICATIONS LINES

1. DEPTH OF COVER

- (a) Longitudinal communications lines shall have a minimum depth of cover of 30 inches.
- (b) Communication lines crossing the highway shall have a minimum depth of cover of 36 inches below the ditches or 42 inches below the top of highway subgrade, whichever gives the greater cover.

2. CROSSINGS

- (a) Lines crossing highways do not require encasement except where in the judgment of the Department such encasement is necessary for the protection of the highway facility. Consideration should be given to encasement or other suitable protection for any communication facilities (a) with less than minimum bury, (b) near footings of bridges or other highway structures, or (c) near other locations where there may

be hazards.

- (b) When the installation of the line is to be accomplished by boring a hole the same or about the same diameter as the line and pulling it through, encasement is not necessary. Where such conditions cannot be met, encasement should be provided. The annular void between the drilled hole and the line or casing should be filled with a satisfactory material to prevent settlement of any part of the highway facility over the line or casing.
- (c) Encasement shall be provided under center medians and from top of backslope to top of backslope for cut sections, or 36 inches beyond the toe of slope for fill sections, or back of curb of all roadways including side streets. When crossing beneath the embankment of an overpass structure the encasement shall extend six (6) feet beyond the toe of slope or the top of backslope, whichever is applicable. Encasement may be omitted under center medians where the width is appreciably greater than normal rural standards. Casing/ encasement pipe shall extend a minimum of six (6) feet beyond the toe of slope of embankment sections and a of six (6) feet beyond the bottom of existing ditches (flowline) or back of curb in curbed sections. The Department encourages casings to extend from right-of-way line to right-of-way line where practical, and may be required in certain instances. (See Figure 9 , page 41)
- (d) Existing lines under roadways in urban areas and low-volume highways may be permitted to remain in place without encasement or extension of encasement if they are adequately protected either by extra depth or other means. (See Figure 12 page, 44 and Figure 13, Page 45)

3. MARKERS

- (a) A marker bearing the name of the utility owner shall be placed at each right-of-way line where it is crossed by an underground communication line.
- (b) Markers for longitudinal lines must be located at the right-of-way line.

4. LONGITUDINAL

- (a) Lines may be placed by plowing or open trench method and shall be located on uniform alignment as near as practical to the right-of-way line.
- (b) Distance from the right-of-way line shall be no more than five (5) feet unless otherwise approved by the Utilities Section. On highways

with frontage roads, such installation will be located between the frontage roads and the right-of-way line.

5. APPURTENANCES

Above ground pedestals or other appurtenances installed as part of an underground communication line shall be located at or near the right-of-way line.

6. MANHOLES

(a) Manholes shall be limited to those necessary for maintenance. In no case shall manholes be placed or permitted to remain in the pavement or shoulders of high volume roadways. Exceptions may be allowed at those locations on noncontrolled access highways in urban areas where necessary for existing lines which may be permitted to remain in place under an existing or proposed roadway. Manholes may remain in place or be installed under traffic lanes of low volume roadways in municipalities, provided measures are taken to minimize such installations and to avoid their locations at intersections as much as possible. Manholes shall have sufficient structural capacity to withstand vehicular loading (AHTD Current Standards).

(b) To conserve space within the right-of-way for highway and other utility services manhole dimensions should be the minimum acceptable for good engineering and safety standards. Manhole covers shall be installed flush with the ground and/or pavement surface whichever is applicable. The top of the roof of the manhole should be four (4) feet below ground level. If this depth cannot be achieved, sufficient data must be submitted to the Utilities Section for review and special consideration. (See Figure 3, page 35)

SECTION 4

OVERHEAD UTILITY INSTALLATIONS

401. POWER AND COMMUNICATIONS LINES

1. TYPE OF CONSTRUCTION

- (a) Longitudinal lines on the right-of-way shall be limited to single pole construction. Joint use single pole construction is suggested and is required where practical.
- (b) When an existing or proposed utility crossing is supported by "H" frames, towers, etc., the same type structures may be utilized for the crossing provided all other requirements herein are met.

2. VERTICAL CLEARANCE

The minimum vertical clearance for overhead communication and power lines above the highway shall not be less than 18 feet. Greater height may be required by the National Electric Safety Code or any other regulatory agencies having jurisdiction.

3. LOCATION

- (a) In rural areas and at uncurbed sections in urban areas, poles supporting longitudinal lines shall be located at/or near the right-of-way line. (See Figure 2, page 31). At the option of the Department this distance may be varied at short breaks in the right-of-way. At curbed sections in urban areas, poles shall be located a minimum of five (5) feet behind the roadway curbs and preferably adjacent to the right-of-way line. (See Figure 6, page 38.)
- (b) Guy wires placed within the right-of-way shall be held to a minimum and should normally be in alignment with the pole line. Push braces and guy wires shall not be installed from the pole toward the roadway. When special conditions warrant, exceptions may be made by the Department when it is determined that such guying installations do not compromise either the safety of the traveling public or maintenance of the highway right-of-way.
- (c) At crossings, no poles will be permitted in the center median of any highway. Poles may be placed more than one (1) foot inside the right-of-way when necessary to maintain maximum span distances provided the proposed locations would not violate the intent of this policy.
- (d) As a general rule, overhead power and communication line crossings at bridges or grade separation structures should be avoided. If rerouting the line completely around the structure and approaches is not feasible, a minimum horizontal distance and/or minimum vertical clearance should be provided to insure adequate safety for construction and maintenance operations of the structure.

SECTION 5

INSTALLATIONS ON HIGHWAY STRUCTURES

501. HIGHWAY STRUCTURES

1. The attachment of utility lines to bridges and overpass structures is discouraged, as they could materially affect structural characteristics, the safe operation of traffic, the efficiency of maintenance, and the appearance of the structure. Therefore, when it is feasible and reasonable to locate elsewhere, attachment to structures will not be allowed.
2. When other arrangements for utility lines to span an obstruction are not feasible, the Department may consider an attachment. Each attachment will be considered on an individual basis and permission to attach will not be considered as establishing a precedent for granting of subsequent requests. The following guides are established for attachment of utilities to structures:
 - (a) When a pipeline is encased, the casing shall be effectively opened or vented at each end to prevent possible build up of pressure and to detect leakage of gases or fluids.
 - (b) Shut-off valves, preferably automatic, shall be installed in lines at or near the ends of structures unless segments of the lines can be isolated by other sectionalizing devices within a reasonable distance.
 - (c) When a casing is not provided for a pipeline, additional protective measures shall be taken, such as employing a higher factor of safety in the design, construction and testing of the pipeline than would normally be required for cased construction.
 - (d) Communication and electric power lines shall be suitably insulated, grounded and preferably carried in protective conduit or pipe from the point of exit from the ground to re-entry. The cable should preferably be carried to a manhole located beyond the backwall of the structure.
 - (e) Carrier and casing pipe for other utilities should be suitably insulated from electric power line attachments.
 - (f) All attachments will be made in such manner as not to interfere with the stream flow, highway traffic or routine maintenance.
 - (g) Electrical transmission lines (35 KV or higher) will not be permitted on any bridge or highway structure.
 - (h) The utility owner shall provide for the lineal expansion and contraction of its facility due to temperature differentials

between the utility facility and the structure.

- (l) The utility owner shall be required to provide for restoration; (i.e. insurance) or repair any portion of a bridge, structure, or other highway facility disturbed or damaged by utility installation, maintenance or use.
 - (j) Utility mountings shall be of a type, design, and material which will effectively muffle vibration noise.
 - (k) Any maintenance, servicing or repair of utility lines shall be the responsibility of the utility owner.
3. When a utility tunnel within a bridge structure is utilized, mutually hazardous transmittants, such as fuels and electric energy, must be isolated by compartments or separate encasements.
 4. When a utility owner requests permission to attach a pipeline to a proposed bridge and the added load is sufficient to require an increase in the strength of the structure, or use of more costly materials or type of construction, the utility owner is required to pay for the increase in cost.
 5. When a utility owner requests permission to attach a pipeline to an existing bridge, sufficient information must be furnished to allow a stress analysis to determine the effect of the added load on the structure. Other details of the proposed attachment as they affect safety and maintenance should also be presented. If the bridge structure is not of adequate strength to carry the increase weight or forces with safety, permission will not be granted.
 6. The Department assumes no responsibility to or for the utility owner in any respect in connection with a bridge attachment. The Department may cancel any permit for bridge or highway structure attachment for cause, allowing the utility owner a reasonable time to make arrangements to continue utility service. The utility owner shall assume all costs associated with such relocation and/or removal.
 7. The utility owner may discontinue the use of the highway structure at any time.
 8. Any utility line so abandoned must be removed by the utility owner. If the owner fails to remove the abandoned utility facilities the Department may do so at the expense of the utility owner.
 9. The Department must be notified prior to the abandonment and removal of the utility line.

SECTION 6

IRRIGATION AND DRAINAGE FACILITIES

601. GENERAL

1. Irrigation and drainage facilities installed across any highway right-of-way shall be designed and constructed in accordance with Departmental standards for highway culverts or bridges. All such crossings shall extend the full width of the right-of-way and have a minimum of 36 inches of cover below the flowline of the highway drainage ditches.
2. Longitudinal ditches and canals which would closely parallel the highway shall not be permitted nor will any appurtenances be permitted within the clear recovery area which would constitute a hazard to traffic.
3. Extreme care shall be exercised in the location of levee roads or ditch rider roads where they intersect the highway to avoid establishing any hazards at points of critical sight distance.

SECTION 7

PERMIT PROCEDURES

701. APPLICATION FOR PERMITS

1. Under Arkansas Statutes utility owners are required to secure a permit for any construction, maintenance or related work on State Highway rights-of-way or property.
2. Utility permit applications must be submitted to the appropriate Highway District Permit Officer. The written application must include the following:
 - (a) Four (4) sets of plans with crossing profile, when applicable.

- (b) Type and description of the facility.
 - (c) Location with reference to highway stationing, or well known permanent landmarks, (i.e. road or street intersection, bridge, etc.)
 - (d) The measured distance from the right-of-way line, the centerline and the edge of pavement of the highway.
 - (e) A traffic control plan.
 - (f) See Figures 1 - 18, Pages 33 - 50
3. All permits shall constitute a binding contract; therefore, proxy applications, verbal, or unsigned requests will not be valid.

702. DEPOSIT OR BOND

A deposit or bond to guarantee restoration of highway rights-of-way property is required prior to the issuance of permit. The bond will be used by the Commission in restoring the highway to its former condition if the utility who disturbs the highway fails to do so.

703. ACCEPTANCE OF PERMIT

Work performed under a permit shall constitute full acceptance of all applicable requirements, laws, rules, regulations and the specific terms and provisions as set forth in or attached to the permit.

704. TRANSFER OF OWNERSHIP

If a change in ownership takes place, the new owners shall give written notice of such change to the Utilities Section as soon as possible.

705. RIGHT TO REVOKE

The Director of Highways is hereby authorized to revoke or annul a permit or agreement, subject to giving the utility owner reasonable notice, for the following:

- (a). Failure to comply with the provisions of this policy.
- (b). Failure to comply with the terms and conditions of the permit or agreement.
- (c). If the utility occupancy becomes an interference to the use of the highway right-of-way for highway purposes.

706. EMERGENCY CONDITIONS

In the event of conditions where immediate action by the utility owner is necessary for the protection of persons or property, or to minimize damage to or loss of utility or highway property, the utility, at its own responsibility and risk, may make necessary repairs and shall notify the Highway District Permit Officer or Utilities Section of such work as soon as practicable.

707. UTILITY OWNERS RESPONSIBILITY

1. To notify the District Permit Office three (3) days prior to beginning work.
2. To maintain a copy of the Utility Permit on the job site throughout the work period. Violation of this requirements may cause work stoppage.
3. To make sure that work is done in accordance with the approved permit and, unless prior approval is given by the Utilities Section, any installation which deviates from the approved permit is subject to removal from the highway right-of-way.
4. To notify the Department's District Permit Officer upon completion of the installation for a final inspection and release of the bond.
5. If at any time a change or improvement in the highway necessitates an adjustment or removal of the facility installed under a permit, it shall be at the expense of the owner.

708. DEPARTMENTAL RESPONSIBILITY

1. It is the responsibility of the Utilities Section, Right of Way Division, to make all arrangements, written or verbal, for the accommodation of utility facilities on state highway rights-of-way.
2. Verbal approvals will be made only for emergency or extreme hardship situations.
3. It is the responsibility of the Department's District Permit Officer to:
 - (a) Recommend permits for approval.
 - (b) Set bond amounts.
 - (c) Provide inspections as needed to assure that utility installations are done in accordance with approved permits.
 - (d) Make final inspection of the work area restoration and recommend release of the bond.

SECTION 8

MISCELLANEOUS

801. PRIVATE UTILITY FACILITIES

Permits will be issued to private owners for highway crossings only. Longitudinal installations within the highway right-of-way are not permitted.

802. HIGHWAY LIGHTING

Requests for permits to install or renovate highway lighting systems by electric utilities or municipalities shall be treated as special cases. Each request shall be referred to the Department's Roadway Design Division for review and recommendations as to acceptability of the design, adequacy of lighting, and safety factors. In addition the permit must meet the other applicable provisions of this policy.

803. CORRECTION OF HAZARDOUS INSTALLATIONS

When it becomes evident that an existing utility facility has become a hazard to the safe operation of a highway facility, the Department shall require the utility owner to correct the condition.

804. GENERAL

Various types of utilities not specifically covered herein shall be considered within the provisions of this policy in accordance with the nature of the utility. It shall be a general practice to consider all lines carrying caustic, flammable, or explosive materials under the provisions for high pressure gas and liquid fuel lines.

ARKANSAS STATE HIGHWAY COMMISSION

UTILITY
ACCOMMODATION
POLICY

PART II
REIMBURSEMENT
FOR
UTILITY RELOCATIONS AND ADJUSTMENTS

DISTRIBUTED BY
UTILITIES SECTION - RIGHT OF WAY DIVISION

PART II
REIMBURSEMENTS FOR
UTILITY RELOCATIONS AND ADJUSTMENTS

101. PURPOSE

To prescribe the policies and procedures for reimbursement of eligible utility costs associated with the relocation and adjustment of utility facilities on state highway construction projects. To authorize the Utilities Section to make all contractual arrangements with Utility Owners.

102. AUTHORITY

Federal-Aid Policy Guide 23 CFR 645A, as amended and supplemented, adopted by reference herein with the same force and affect as if recited at length. Determination of

reimbursement eligibility pursuant to applicable State Law, Statutory, and Case is generally interpreted by the Highway Department's Legal Counsel.

103. APPLICABILITY

This applies to all utility owners with facilities affected by a highway construction project.

104. DEFINITIONS

1. UTILITY (Public)

A privately, publicly, or cooperatively owned facility which directly or indirectly serves the general public. The term utility shall also mean the utility company inclusive of any wholly owned or controlled subsidiary.

2. UTILITY (Private)

A privately owned facility devoted solely to private use and not directly or indirectly serving the general public.

3. RELOCATION

The adjustment of utility facilities required by a highway project. It shall also mean the construction of a functionally equivalent replacement facility necessary for continuing operation of the utility service, the project economy, or sequence of highway construction.

105. ELIGIBILITY

A utility owner having the right of occupancy in the existing location because of holding the fee, an easement, or other real property interest the damaging or taking of which is compensable in eminent domain, is considered eligible for reimbursement. The general criteria for determining eligibility for reimbursement for relocation costs shall be applied on the basis of the factual location of the existing utility facility in relation to existing highway right-of-way.

1. *REIMBURSABLE*

Existing utility facilities located on private property, street right-of-way of any incorporated Town or City, or County Road, dedicated urban development road, and/or private road rights-of-way which were not a part of or on the State Highway System at the time the facilities were installed, shall be considered eligible for reimbursement.

2. *NON-REIMBURSABLE*

Utility facilities presently located on existing state highway right-of-way by

permit or unwritten consent of the Highway Department shall be considered as not eligible for reimbursement.

106. PRELIMINARY ENGINEERING

Initial authorization on highway projects is for preliminary engineering by the utility owner's personnel (force account), the cost of which will be included in the subsequent relocation agreement.

When the utility is not adequately staffed with technical personnel or the present work load would be prohibitive to perform the necessary preliminary engineering, a consulting engineer may be employed by the utility owner. If any part or all of the consultant's fee is eligible for reimbursement, the utility owner must submit a written request to the Utilities Section requesting approval for the use of a Consultant.

Preliminary engineering costs are reimbursable to the utility owner only to the extent that the existing utility facilities required to be adjusted are eligible for reimbursement.

See "UTILITY ENGINEERING BY CONSULTANT". (See Pages 54, 55 and 56)

107. RIGHT OF WAY

A utility facility located on private right-of-way or easement (outside the existing highway right-of-way) is considered to be eligible for reimbursement of the cost of replacement right-of-way. Copies of an easement or affidavit verifying the utility owner's right of occupancy must be submitted with the request for reimbursement. There will be no charge to the Highway Department for that portion of the utility owner's existing right-of-way being transferred to the Department for highway purposes.

108. AGREEMENTS AND AUTHORIZATIONS

After notification by the Utilities Section of an impending highway project, the utility owner is obligated to make the necessary arrangements for planning and accomplishing the relocation work required by the highway construction. The utility owner is responsible for the design and integrity of the utility facilities to be installed within highway right-of-way, in accordance with PART I "Utility Accommodation Policy".

The utility owner's responsibilities include but are not limited to the following functions:

1. Determination of any and all conflicts the existing utility facilities have with the proposed highway construction.

2. Preparation of detailed cost estimates and plans providing for the adjustment or relocation work required to clear the highway construction. This information shall include sufficient detail to provide the Utilities Section a reasonable basis for analysis.
3. Determination of whether the work will be accomplished by force account or let to contract to the lowest qualified bidder.
 - a. FORCE ACCOUNT WORK
All work would be done by the Utility's own personnel.
 - b. CONTRACT WORK
A contract would be awarded to the lowest qualified bidder based on an appropriate solicitation.

In some instances a combination of force account and contract labor may be required. Work normally done for a utility owner by a contractor under an existing continuing contract may be acceptable, provided the established rates are reasonable.

See - "PREPARATION OF COST ESTIMATES AND ADJUSTMENT PLANS" (See Pages 59 - 61)

After the Utilities Section has reviewed and approved the plan information and cost estimate (if applicable), work authorization will be given by one of the following methods:

1. Nonreimbursable adjustment work request issued when the utility's adjustment work is 100% nonreimbursable.
2. Work Order letter with agreement. If the utility's adjustment work is reimbursable, or partially reimbursable, an agreement will be prepared by the Utilities Section. The agreement may be lump sum method (confirmation by audit is not required) or the actual cost method (subject to audit because billing will be for actual expenditures).

109. CONSTRUCTION

After issuance of work authorization by the Utilities Section, the utility owner is expected to begin the adjustment work within a reasonable time and to exercise due diligence to complete the work without delay or interference to the highway contractor's operation.

All utility work shall be done in accordance with the approved plans, specifications, and agreement (if applicable). Any deviation in the scope of the work must have written

authorization from the Utilities Section prior to the implementation of the change in order for the cost to be eligible for reimbursement.

In cases where undue delays to the highway project might be caused, verbal authorization for such changes may be given by the Utilities Section subject to submission and approval of revised plans and estimate as needed to prepare a written authorization.

Utility Owners shall notify the designated Resident Engineer not less than three (3) days prior to starting work in order that observation and inspection of the work may be provided and shall periodically inform him of the progress of the work. *The utility owner shall notify the Resident Engineer on the date the work is completed so that a final inspection by the Resident Engineer may be scheduled.*

110. INSPECTION

The inspection process is the responsibility of the Resident Engineer assigned to a project under the jurisdiction of the District Engineer. Both reimbursable and nonreimbursable adjustment work should be inspected on a daily basis to ensure proper installations as approved in each utility's work order.

The Resident Engineer will advise the Construction Engineer by memorandum with copies to the District Engineer and Utilities Section when the utility starts adjustment work.

The Resident Engineer is required to keep daily inspection records (diary) verifying materials, labor, and major items of equipment used for work performed under actual cost agreements. This information is not required for lump sum agreements, or for nonreimbursable work.

The Resident Engineer will notify the Construction Engineer by memorandum with copies to the District Engineer and Utilities Section when the utility company has completed the adjustment work. The memo should state that the work was completed as approved in the agreement, or it should list any changes from the original adjustment plans that are a part of the agreement. Two (2) assembled copies of the Resident Engineer's diary will accompany the Utilities Section copy of the memo if the agreement was prepared on the actual cost payment procedure.

The Utilities Section will hold this data until the utility forwards its billing. When the bill is checked by the Utilities Section the Resident Engineer's data will be attached and it will immediately be forwarded to FISCAL SERVICES for audit and payment.

111. BILLING

Upon completion of the adjustments the utility owner shall provide, in accordance with the terms of the agreement, one final and complete billing of the actual costs incurred, or

the agreed-to lump sum amount, at the earliest practicable date, but not later than twelve (12) months after the work is completed.

1. ACTUAL COST AGREEMENT

- a. Written certification by the utility owner that the work has been done in accordance with the provisions of the approved agreement.
- b. Three (3) copies of the final billing invoice complete with supporting detail.
- c. One (1) set of the as-built plans.

If requested by the utility owner, intermediate progress payments of 90% of eligible billed costs may be made, provided the billed amount is \$5,000.00 or more. Such payments shall be made at no more than monthly intervals and shall cover only work completed to date, but may include payments for materials on hand.

2. LUMP SUM AGREEMENT

- a. Written certification by the utility owner that the work has been done in accordance with the provisions of the approved agreement.
- b. Three (3) copies of the final billing invoice in the exact amount of the agreed lump sum.
- c. One (1) set of as-built plans.

See - "ACCOUNTING INSTRUCTIONS AND RECORD REQUIREMENTS". (See Pages 62 - 70)

UTILITY ENGINEERING BY CONSULTANT

Under certain circumstances when a utility is unable to perform the engineering work because it is not adequately staffed with technical personal or the present work load would be prohibitive to perform the engineering services with its own forces, a consulting engineer may be employed by the utility.

If any part or all of the consultant's fee is eligible for reimbursement, the utility owner must submit a written request to the Utilities Section requesting approval for the use of a consultant.

Consultant engineering costs are reimbursable only to the extent that the existing facilities are determined to be eligible.

Consultant engineering fees must be based on actual cost, with a fixed amount for profit, and having a fixed upper limit for the total fee.

Preliminary Phase Engineering fees may be handled by lump sum reimbursement when the work is clearly defined and the fee relatively small. However, a breakdown of the fee is required.

Construction Phase Engineering fees must be handled on the actual cost basis.

It is recommended that consultant fees for reimbursement be based on the hourly base rate for each job classification with current percentages for payroll expense and general overhead expense being applied to the total direct labor cost.

PRELIMINARY ENGINEERING PHASE PROCEDURES

1. The utility owner will be authorized to have the consultant proceed with preparing a preliminary engineering fee estimate, and contract with the utility owner. The Engineer's fee shall not be based on a percentage of the cost of relocation.
2. These documents plus the consulting engineer's certification will need to be submitted in five (5) copies for approval by the Utilities Section.
3. The Utilities Section will then prepare a Preliminary Engineering Agreement with the utility owner. The consultant will be required to begin and complete the Preliminary Engineering contractual obligations within a specified time.
4. Following proper execution of the Highway Department/Utility Owner Preliminary Engineering Agreement, the Utilities Section will issue a Preliminary Engineering Work Order to the utility owner authorizing the consultant to begin the preliminary engineering phase of the work

encompassing the following:

- a. Field surveys and investigations; including any and all work to secure the proper information to prepare plans, specifications, cost estimates and necessary easements.
- b. Preparation of complete and detailed plans of the existing and proposed facilities with an itemized cost estimate for the relocation work.
- c. Preparation of contract documents and specifications incident to the advertisement of bids. One (1) copy of the specifications form approval only are required in the initial submittal.
- d. Submission of all necessary documents through the Utility Owner to the Utilities Section and to other agencies having jurisdiction when required, e.g. (Arkansas State Health Department).

After approval of the cost estimate and plans, a Highway/Utility Relocation Agreement will be prepared and submitted to the utility owner for execution.

After receiving the fully executed agreement, the Utilities Section will authorize the utility owner to proceed with advertising for bids and acquisition of necessary right-of-way.

After the bids have been opened, the utility owner will submit one copy of each bid received and the bid tabulation sheet to the Utilities Section with a request for the Department's concurrence in award of the contract to the lowest qualified bidder.

After concurrence, the utility owner shall submit five (5) copies of the executed contract and five (5) sets of the completed specifications to the Utilities Section.

After these documents have been received, the Utilities Section will issue a contract work order to the utility owner.

This completes the Preliminary Engineering Phase.

NOTE: If the utility construction work is to be performed by the utility owner's personnel, the construction work order will be issued to the utility owner following execution of the Highway/Utility Relocation Agreement and the contract letting process dispensed with.

CONSTRUCTION ENGINEERING PHASE PROCEDURES

Supervision and inspection by the Consultant during the construction work will be considered as a part of the Highway/Utility Relocation Agreement and reimbursed separately from the Preliminary Engineering Agreement; and will consist of but not be limited to the following:

1. Field staking for locations and grades of the relocated work.
2. Supervision and inspection of the construction work.
3. Preparation and calculation of periodic estimates (if requested).
4. Preparation and submission of change orders (if required).
5. Coordination with Department and Utility Owner representatives.
6. Preparation and submission of final billing and one (1) complete set of as-built plans.

PREPARATION OF COST ESTIMATES AND ADJUSTMENT PLANS TO SUPPORT HIGHWAY/UTILITY AGREEMENTS

When all or part of the cost of required adjustments of a utility owner's facilities is determined to be reimbursable, the Utilities Section shall be furnished the following:

1. Five (5) copies of a detailed cost estimate.
2. Five (5) sets of detailed adjustment plans.
3. A letter transmitting the cost estimate and plans which includes statements to indicate:
 - a. How many days, after being authorized, it will take to begin the work.
 - b. The number of working days required to complete the adjustment work.
 - c. That "no arbitrary percentages or amounts have been added

to cover assumed costs.”

MINIMUM REQUIREMENTS FOR A COST ESTIMATE

The estimate of cost should be detailed in accordance with Utility Work Order Procedures and Policies of the applicable Federal, State, or Local regulatory body setting up the accounting system or the utility's own accounting procedure approved in advance by the Department.

The elements or components of a cost estimate should comprise:

- a. Preliminary Engineering costs
- b. Utility Right-of-Way Cost
- c. Cost of Replacement Facility, with Betterment's
- d. Cost of Removal of replaced facility
- e. Cost of restoring removed material to usable condition (if applicable).
- f. Credit for material returned to stores or salvageable material.
- g. Credit for Plant Betterment's (improvements in the utility facility not necessitated by the highway construction).

In the respective components, all items of labor, material, and equipment should be itemized to show quantity, type, unit cost, and extended cost, and be summarized by the various categories and recapitulated to produce the net estimated cost of the adjustment.

Preliminary Engineering costs, utility right-of-way costs (including clearing), and construction supervision and inspection costs are to be shown as separate items.

If overhead cost amounts are determined by using percentage factors, labor loadings, or some other similar method, an analysis of the basis for overhead cost computations setting forth the elements of overhead costs accumulated in the computations must be furnished.

Generally, the adjustment in the facilities of a utility will be accomplished by company forces (force account). When certain items of the adjustment are to be performed by contract forces, costs covering these items shall be shown separately in their respective categories.

The reimbursement eligibility ratio, if adjustment costs are less than 100% eligible for reimbursement, should be developed, explained, and then applied in the estimate to show the proportionate costs of the adjustment to be borne by the utility and the Highway Department.

MINIMUM INFORMATION NEEDED ON ADJUSTMENT PLANS

1. Be drawn to scale: (In this connection most utility owners tract or reproduce the applicable portions of the plans and profile print furnished by the Department and add the necessary detail and notations to portray accurately the proposed adjustment in the facilities as directly oriented with the highway construction plans).
2. Show the existing and proposed highway right-of-way and distances from the centerline of survey.
3. Show highway centerline stations at 100 foot intervals and station number designations at 500 foot intervals. If plans are in metric measurements, centerline stations should be shown at 100 meter intervals and station number designations at 500 meter intervals.
4. Show the existing and proposed facilities clearly referenced to the highway survey centerline stations.
5. Show quantity, size, class, and dimensions of all major items of material.
6. Show, in appropriate symbol and plan location, all major facilities existing, relocated and retired, and indicate reimbursement eligibility status of each existing facility.
7. Have legend indicating the symbol used for the various types of facilities, work to be done, and reimbursable status.
8. Show proposed plant betterment's to be made for the convenience of utility either by work or symbol at the appropriate locations.
9. Show control of access lines as well as right-of-way lines on fully controlled access facility projects.
10. Show a "North Arrow" to indicate true cardinal directions, and show in a title block the utility's name, the highway project designation by Job No., FAP No., and Job Name as indicated on the Title Sheet of the Highway Project Plans.
11. Show, where facilities are jointly used such as power and telephone poles, the ownership of the structures as well as the "joint user".
12. Show, where an adjustment is to be made in a pipeline crossing, a profile of the crossing and, in the case of power or telephone line crossings, the minimum clearance after adjustment above the road surface.

13. Describe by narrative work to be done.

14. Traffic control plan as appropriate.

When the cost of a required adjustment is to be solely at the utility owner's expense (non-reimbursable), the utility owner shall submit five (5) sets of the detailed adjustment plans. Also, advise the time required to begin and complete the adjustment work.

Accounting Instructions and Record Requirements For Utility Adjustment Reimbursement

A utility must use an accounting system prescribed by the Federal or State Regulatory Body under which it operates, or in cases where a utility does not use a prescribed accounting system, it must use its established system of accumulating specific work order costs or establish a system of accounts which will provide for accumulating direct and related costs of the utility adjustment. In any case, the system of accounts used must be in form and detail as will identify each claimed item of cost with the particular project. Costs for which all or partial reimbursement will be claimed must be completely documented and clearly identified with the specific highway job.

To facilitate the formulation of rules and regulations for agreement and payment of the costs incurred for adjusting the facilities of all privately, publicly, or cooperatively owned utilities, the provisions of the Federal Agency directives must be observed. These directives require that the preliminary estimate of cost and the actual final bill be prepared in conformity with the same accounting procedure and in each instance use comparable unit quantities and prices by cost categories such as labor, equipment, overheads, materials used and recovered, etc.

The following is a substantial but not all inclusive outline of the basic bookkeeping and related records required for utility relocations cost accounting.

The primary purpose of the records will be to support and document the utility's invoice and to assure that it is in accord with the executed and approved Highway-Utility Agreement between the State and the Utility; and that the bill includes only those costs actually incurred as direct or related costs in the relocation or removal of the utility's facilities because of a specific highway construction project.

It will be necessary for the Utility and the Highway Department's auditor to be completely familiar with the terms, conditions, and limitations contained in the above memorandum and the contents of the specific agreement. This is necessary in order for the auditor to properly verify that all charges or reimbursements claimed are eligible for State and/or Federal reimbursement; and in order that the utility be properly informed of State and Federal requirements.

Controlling Dates (of Authorization to Incur Reimbursable Costs)

1. Date of the State's written request to the utility to begin preparation of its preliminary plans and estimate of cost.
2. Date of written notice from the State to the utility to begin the adjustment work.

Preliminary engineering costs incurred prior to the date established by Step 1 above will not be reimbursed. Construction costs incurred prior to the date established in Step 2 above will not be reimbursed.

A comparison of the actual costs as billed to the estimated costs as approved will be made by the auditor to see that the utility has billed in the same manner as the estimate, and that all factors of cost are similarly itemized.

All cost records of the utility (such as those listed below) must be identified in the utilities records with the specific utility relocation job.

Vendor's Invoices
Material Issue Tickets
Material Returned to Stores Tickets
Mileage Reports
Equipment Usage Records
Expense Accounts, signed by employee and approving superior
Payroll Records, including time books, rate cards, etc.
Any other written records of the utility which identify the costs incurred with the specific Highway construction job, e.g.; Freight tickets, rental equipment invoices, etc.

Utilities shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred and make such materials available at their respective offices at all reasonable times during the contract period and for three (3) years from the date of final payment under the contract for inspection by the State, Federal Agency or any authorized representatives of the Federal Government and copies thereof shall be furnished if requested.

Salaries and Wages

Direct Labor Charges

When supported by adequate records, salaries and wages billed at actual rates for productive labor hours; retroactive pay adjustments; and expenses paid by a utility to individuals during the period of time they are directly or incidentally engaged in the utility relocations are reimbursable. Rates charges must be those paid employees by the utility in its normal operations.

Indirect Labor Charges

Costs to the utility for vacation, holidays, sick leave, company-sponsored benefits and similar costs incident to labor employment will be reimbursed when supported by adequate records.

Such indirect labor costs should be distributed as a percentage of the direct labor charged to the project. The proper percentage to be applied to direct labor charges for indirect labor costs can be established by dividing the actual expense to the utility for ordinary labor fringe benefits during the most recent twelve (12) month period prior to the relocation work is performed by the total productive payroll expense of the utility during the period.

Indirect labor charges normally include items of expense or costs which vary in direct ratio to the amount of the labor charges. Based on experience of the utility company, the following items are usually included in the calculation of a variable percentage figure which is applied to the total labor cost of the project in order to arrive at a cost item to be charged to capitalized or reimbursable projects, or as an expense item currently charged to operations.

Payroll Taxes
Vacation Pay
Retirement Reserve
Sick Leave Reserve
Hospitalization Insurance
Workmen's Compensation Insurance
Other expenses normally attributable to payrolls

Direct charges to the job for non-productive time such as vacation, sick leave, etc., will not be reimbursed. Example: A utility charges vacation time to the highway job on the basis that the employee would have engaged in this work had he been on the job. Although this may be the regular policy of the utility, this method is not acceptable and such charges will not be reimbursed.

Consultant and Contract Technical or Professional Services

Where a utility is not adequately staffed to perform the relocation, the amounts paid to engineers, architects, and others for required technical services (when approved in advance of any such work by the Utilities Section) will be reimbursed. Approval will not be given to fees for such technical services which are determined on the basis of a percentage of the total actual or estimated cost of the relocation.

Equipment

Where a utility does not have the necessary equipment available to perform the required work, reimbursement will be limited to the amount of rental paid to the lowest bidder following appropriate solicitations for quotations. In the event of any emergency, such as breakdown of Utility's own equipment, reimbursement will be allowed for rental of equipment at the lowest rates available. Existing continuing contracts for rental of transportation and heavy equipment, which the utility determines to be the most advantageous in its normal operations, shall be considered to comply with these requirements. Arbitrary or otherwise unsupported use charges, whether or not the equipment is owned by the Utility, will not be reimbursed.

Where a utility uses its own equipment on a reimbursable relocation project a rental rate must be developed for each specific class of equipment (auto, pickup, trucks, backhoes, dozers, etc.). Costs used in developing the rental rate may be depreciation, fuel, oil, repairs and tires, insurance, licenses and taxes. The rental rate for each class of equipment can be established by dividing the total operating costs for each class of equipment during the twelve (12) month period in which the relocation work was performed by the actual miles or hours used during the same twelve (12) month period. The utility may also develop the rate on a semi-annual, quarterly or monthly basis.

When the utility does not have adequate records to support the cost distribution rates charged for its equipment, a rate must be negotiated for each type of equipment used for which payment will be requested. Such rates must be negotiated and approved by the Department prior to the work being done in order to be reimbursable.

In lieu of a negotiated rate for its equipment (when the utility does not have adequate records to support a cost distribution rate), the fuel, lubricants, minor repairs, and other direct costs of operation incurred while the equipment is used on the job may be reimbursed; however, the utility must maintain a record of the expenditures identifying them with the piece of equipment and identifying its use with the project. An acceptable

basis for distribution of any operating expenses that are allocatable to the cost of the relocation must be determined and approved by the Department prior to using the item of equipment. Thus, an approved basis would be required to claim reimbursement for depreciation, tires, batteries, licenses, insurance, painting, and like expenses that are applicable to more than one job or operating function, or to a period of use longer than the duration of the highway utility relocation project.

Materials Installed

Materials installed and supplies used shall be billed at inventory prices when furnished from the Utility's stocks, and at actual cost to the Utility when the materials and supplies are not available from the utility stocks and must be purchased for the relocation. Major material used in construction but not shown in the initial estimate, or supplemental change authorization, or by letter approval of the State, will not be reimbursed.

Materials Removed

Materials recovered from temporary use in connection with a highway project, and which are in suitable condition for reuse by the utility, shall be credited to the cost of the project at stock prices charged to the job, less ten per cent (10%) for loss in service life, if claimed by the utility. The State shall have the right to inspect all recovered materials not classified reusable by the utility. (See last paragraph in this section).

Materials recovered in suitable condition for reuse by the utility in connection with construction or retirement of existing facilities shall be credited to the cost of the project at current stock prices. When the utility returns recovered material to its Materials and Supply Account at original cost, or at a percentage of current price new, as a consistent practice in its normal operations, the work order shall receive credit accordingly. The foregoing shall not preclude any additional credits when such credits are required by law or regulations.

Items of materials recovered, both from the existing facility and from temporary use, in condition or lengths unsuited for acceptance for reuse by the utility, and which are determined to have a sale value, shall be disposed of as follows:

1. Sold following an appropriate solicitation for bids to the highest bidder.
2. When the utility regularly practices a system of disposal by sale (which it has determined to be the most advantageous in its normal operations), credit shall be given at the going prices for such used scrap materials as are supported by the records of the utility.

The State's pre-designated engineer on the project, or other authorized State Highway employee, shall have the right to inspect recovered materials classified non-

reusable prior to disposal by sale or junked as scrap without sale or use value. This requirement will be satisfied by the Utility giving written notice to the State of the time and place the materials will be available for inspection. This notice is the responsibility of the utility, and it will be held accountable for the full value of materials disposed of without such notice.

Stores Handling

The costs of supervision, labor and expenses incurred in the operation and maintenance of storerooms and material yards, including storage, handling and distribution of materials and supplies are reimbursable. A rate or other equitable method of distributing these costs is acceptable as long as it is representative of actual cost to the utility. In no event will a combination of a billing of actual and direct costs and a rate representative of actual and direct costs on a highway project be reimbursed. Expenses which may be used in developing a rate for stores expense are storeroom labor, freight and express, storeroom office expense, salaries of storeroom maintenance expense, storeroom material handling equipment expense and other expenses connected with material handling. The rate can be established by dividing the total stores expense for a twelve (12) month period in which the relocation work was performed by the total amount of stores issued in the same twelve (12) month period.

Construction Overhead

Construction overhead costs are those overhead costs which would not have been incurred if construction had not been undertaken.

In order that each job or unit shall bear its equitable proportion of Overhead Construction costs, all such costs not chargeable directly to construction accounts, (such as general engineering and supervision, general office salaries and expenses, construction engineering and supervision by others than the accounting utility, legal expenses, insurance, pensions, taxes, and the like) shall be allocated on the basis of the amount of such overheads reasonably applicable thereto. These instructions shall not be interpreted as permitting the addition to utility accounts of arbitrary percentages or amounts to cover assumed overhead costs, but require the assignment to particular jobs of actual and reasonable overhead costs.

The proper percentage to be applied to construction costs can be established by dividing the total construction overhead costs during the twelve (12) month period in which the relocation work is performed by the total direct labor costs for the same twelve (12) month period.

The following is an example of some of the overhead expenses which would have occurred whether or not the relocation work was accomplished and may not be allowed as expenses for relocation cost reimbursement.

Advertising

Bad Debts
Contingency Reserves
Contributions
Salaries and Fees of Board of Directors
Entertainment
Federal and State Income Taxes
Fines and Penalties
Home Office Operations (except direct relationship to relocation cost)
Interest during Construction
Insurance not related Directly to Project
Life Insurance Premiums with Company as Beneficiary
(NOT employee fringe benefit)
Specific Legal and Accounting unless it is for the Project
Losses on Sale of Capital Assets
Losses from Other Projects
Resource Planning
Research Programs
Sales Promotion
Special Bonuses not Part of General Conditions of Employment
Stock and Stockholders Expense
Special Management Studies
Taxes and Expenses in Connection with Financing

The records supporting the entries for overhead costs shall be so kept as to show the total amount, rate, and allocations basis of each additive and be subject to audit by representatives of the State and the Federal Agency.

Insurance

Premiums paid to an insurance company for Workmen's Compensation, Public Liability and Property Damage Insurance will be reimbursed where, and to the extent it is determined that the amounts of the premiums are the products of the proper rates applied to the amounts of paid salaries and wages, exclusive of vacation pay or allowances, and are acceptable to the State and Federal Agency.

Contracts

Contracts may be entered into by the utility for facility relocation when a clear showing is made that it is to the best interest of the State, or that the utility is not adequately staffed or equipped to perform the work with its own forces. Such contracts must have the prior approval of the Utilities Section of the Department before they are executed.

If reimbursement is to be requested, any contract to perform work in connection with the utility relocation should be awarded to the lowest qualified bidder who

submitted a proposal in conformity with the requirements and specifications as set forth in an appropriate solicitation for bids. Federal and State regulations relating to (CONFLICT of INTEREST) require low bid contracts awarded to related parties or parties with a financial interest to be for ACTUAL COST only (without profit). (For the permissible exception, see last paragraph under Contracts).

Subject to prior approval by the Department, existing written continuing contracts may be used for relocation work where it is demonstrated that such work is regularly performed for the utility under such contracts at reasonable costs. This may include existing continuing contracts with another utility. Where such other Utility has an ownership interest in the facility to be relocated, the inter company profit will not be reimbursed.

When work is to be done by both company forces and by contract, the attachments to the utility agreement should specifically describe the portion of the work to be done by each. For example: Where right of way clearing is to be performed by contract forces, the name of the contractor and the items of work covered by the contract should be clearly set forth in the utility agreement or attachments thereto.

Where the utility proposes to contract outside the foregoing requirements for work of relatively minor cost or nature, the Utility will be reimbursed provided it is demonstrated that such requirements are impractical and the utility's action did not result in an expenditure in excess of that justified by the prevailing conditions.

Easements

Costs for utility easements located outside publicly owned lands or highway rights of way and costs of acquisition incident thereto incurred by a utility subsequent to authorization by the Highway Department may be reimbursed.

To properly document its records as to justification for the amounts paid for easements, the utility shall determine and record its valuations of the easements to be acquired prior to negotiations therefor. These costs should not exceed the reasonable and customary cost for utility easements in the area.

Improvements

Plant Betterment's (Specific Items)

Any increases in the functional capacity of, or service improvements in, the replacement facility over the replaced facility, either through the use of materials, techniques or methods, will be considered a betterment; and except where such betterment's are required and made necessary by highway construction, credit for the in place cost of the betterment will be allowed against the total cost of the adjustment.

Extended Service Life (Expired Service Life Credit)

In any instance where the relocation involves the substitution of a replacement facility for an existing facility, a determination shall be made whether a credit is due to the project for the value of the expired service life of the facility being replaced, except where such facility involves only utility line crossings of the highway or segments of a utility line other than utility line crossings of the highway, less than one mile in length, provided the replacement facility for such a segment is not of greater functional capacity or capability than the one it replaces, and includes no betterment's.

The following shall constitute prima facie evidence that a credit is due to the project for the value of the expired service life of the facility being replaced:

- (1) Where the replacement facility is functionally equal to the existing facility which it replaces.
- (2) Where the replacement facility is other than a segment of the utility's service, distribution or transmission lines.
- (3) Where the replacement facility involves betterment's, or is of greater functional capacity or capability than the one it replaces, except for utility line crossings of the highway.

The credit to be given shall be in an amount bearing the same proportion to the original cost of the facility being replaced as its existing age bears to its estimated total life expectancy.

$$\frac{\text{Existing Age}}{\text{Estimated Total Life Expectancy}} \times \text{Original Cost} = \text{Expired Service Life Credit}$$

Field Change, Extra Work Order or Agreement Modification

When a "substantial" change from the work authorized in the approved Agreement is required, reimbursement shall be limited to the costs incurred for work described in a Utility Change Order, Extra Work Order, or by a Modification of the Approved Agreement that has written authorization of the State. When there is any doubt as to the necessity for obtaining formal and prior approval of the proposed change, the Utilities Section of the Department should be contacted before such work is performed.