



**OHIO DEPARTMENT OF TRANSPORTATION
OFFICE OF REAL ESTATE**

DATE: January 16, 2007

TO: Users of the Real Estate Manual

FROM: Ray Lorello, Manager, Utilities Section

RE: Changes and Updates to the Real Estate Manual

The only current and accurate source of ODOT's Real Estate Manual is on the Office of Real Estate's website. This site is located at: <http://www.dot.state.oh.us/real>. Desired information can be accessed by scrolling down the left column and selecting "Manuals and Booklets." Specific information can be selected by clicking on the desired section.

The Real Estate Manual is a "living document" as procedures will evolve and change. Individuals or firms providing various services to the Office of Real Estate (e.g. negotiations, titles, appraisal, appraisal review, relocation, relocation review, closing, property management, railroad coordination and utility relocation) must perform these services in compliance with current published policies and procedures. Individuals utilizing a hard copy version of the manual, without accessing the website for updates, risk providing non-compliant services to the Office of Real Estate. Therefore, all users must be aware of the changes as various sections of the manual are updated.

ODOT will provide notice of manual changes on the Design Reference Resource Center (DRRC) web page. Users of the manual can access this page and subscribe to be made aware of manual changes via e-mail notification. Then, when changes to the manual occur, ODOT will provide direct notice to the subscriber. This page can be accessed at <http://www.dot.state.oh.us/DRRC>. Scroll down to "Real Estate Policies and Procedures Manual" and select the desired section for updates, or enter your e-mail address to subscribe for changes. It is the user's responsibility to maintain their most current e-mail address on the DRRC notification system. The DRRC web site is updated four times a year.

The Office of Real Estate may also provide additional guidance to its procedures by Inter-Office Communications (IOC's). These communications will be made a part of the Real Estate Manual and will be found in the Addenda of each section of the manual. Individuals having questions pertaining specifically to the 8100 section may contact me at 614-466-2279.

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POLICY FOR ACCOMMODATION OF UTILITIES

8100 POLICY FOR ACCOMMODATION OF UTILITIES

8101 INTRODUCTION

The Ohio Department of Transportation (ODOT) has the responsibility to maintain the rights of way of highways under its jurisdiction to preserve the integrity, operational safety and function of the highway facility. Since the manner in which utilities cross or otherwise occupy highway rights of way can materially affect the appearance, safe operations and maintenance of the highway, it is necessary that such use and occupancy be reasonably regulated. Authority to implement the above is Chapter 5515 ORC.

The purpose of this policy is to set forth the conditions under which utility facilities may be accommodated on State Highway rights of way. It is the intent of this policy to permit use of State Highway rights of way consistent with preservation of the highway investment, safety to the highway user, highway maintenance requirements, proposed future highway improvements and environmental considerations. This policy provides for uniform practices throughout the State for the accommodation of utilities and recognizes the need for special consideration of unusual or hardship situations.

Design of the several elements in utility crossings or occupancies shall conform to the requirements contained herein, but where such State, Local and Industry design standards are higher than the treatments and design requirements specified the higher standards shall be used.

This policy may be modified as conditions dictate for servicing rest areas, weigh stations, or facilities required for operation of the highway.

8102 SCOPE AND APPLICATION

This policy applies to all utilities, as defined in this section, which are constructed, adjusted or relocated on or across rights of way under the jurisdiction of the Department. This policy also applies to privately owned service lines devoted exclusively to supplying the owner and not the public.

This policy does not supersede specific permits or agreements previously issued or entered into by the Department for the occupancy of highway rights of way by specific facilities nor does it supersede specific requirements of other governmental agencies or bodies.

The provisions of this policy are based on the current editions of the American Association of State Highway and Transportation Officials publication entitled "A Policy

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on the Accommodation of Utilities Within Freeway Right-of-Way” and 23 CFR 645B-Accommodation of Utilities. (Refer to the FHWA web site at www.fhwa.dot.gov)

8103 ABBREVIATIONS AND DEFINITIONS

AASHTO - American Association of State Highway and Transportation Officials.

AESTHETIC QUALITY - Those desirable characteristics in the appearance of the highway and its environment, such as: harmony between natural and manufactured objects in the environment, continuity of visual form without distracting interruptions and simplicity of functional designs.

ANSI - American National Standards Institute.

ASTM - American Society of Testing and Materials.

AUGERING - The procedure of making a hole below the surface by the use of an earth auger.

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.

AWWA - American Water Works Association.

BACKFILL - Replacement of excavation with suitable material per CMS, compacted as specified around and over a pipe, conduit, casing, or gallery.

BEDDING - Organization of soil or other suitable material to support an underground facility.

BORDER AREA - The area between the traveled way and the right of way line.

BORING - The procedure of making a hole below the ground by drilling.

CAP - Rigid structural element surmounting a pipe, conduit, casing, or gallery.

CARRIER - A pipe directly enclosing a transmitted fluid (liquid, gas or slurry). Also an electric or communication cable, wire or line.

CASING - A larger pipe enclosing a carrier.

CFR - Code of Federal Regulations.

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CLEAR ZONE - The roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. The desired width is dependent upon traffic volume, speed and roadside geometry. The ODOT Location and Design Manual should be used as a guide for establishing clear zones for various types of highways and operating conditions.

CLEAR ROADSIDE POLICY - That policy employed by a transportation department to provide a clear zone in order to increase safety, improve traffic operations and enhance the aesthetic quality of highways by designing, constructing and maintaining highway roadsides as wide, flat and rounded as practical, and as free as practical from natural or manufactured hazards such as trees, drainage structures, non-yielding sign supports, highway lighting supports, utility poles and other ground-mounted structures.

The policy should address the removal of roadside obstacles which are likely to be associated with accident or injury to the highway user, or when such obstacles are essential, the policy should provide for appropriate countermeasures to reduce hazards. Countermeasures include placing utility facilities at locations which protect out-of-control vehicles, using breakaway features, using impact attenuation devices or shielding. In all cases, full considerations shall be given to sound engineering principles and economic factors.

CMS - Construction and Material Specification of the Ohio Department of Transportation (including supplemental specifications).

COATING - Material applied to or wrapped around a pipe.

CONDUIT OR DUCT - An enclosed casing for protecting wires, cables or lines.

CONTROL OF ACCESS (Limited 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 - Means that 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 - Means that 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.

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COVER - Depth to top of facility below grade of roadway, ditch, or other surface.

CRADLE - Rigid structural element under and supporting a carrier or casing.

DDD - District Deputy Director, Ohio Department of Transportation

DIRECT BURIAL - Installing a utility facility underground, without encasement, by plowing or trenching.

DIRECTIONAL BORE - A bore using a guiding device which enables the bore to change direction to avoid conflicts and obstructions.

DRIVING - The procedure of placing pipe or casing below the surface by applying force in intermittent blows.

ENCASEMENT - Poured concrete completely surrounding a carrier or casing.

ENCROACHMENT - Unauthorized use of highway rights of way or easements by such items as signs, fences, buildings, utilities, parking, storage, etc.

FHWA - Federal Highway Administration, United States Department of Transportation.

GALLERY - A structure large enough to house, inspect, repair or replace one or more utility lines.

HIGHWAY, STREET OR ROAD - A general term denoting a public way for the transportation of people, materials, goods and services; but is primarily for vehicular travel. The term refers to the entire area within the right of way.

- Arterial Highway - A general term denoting a highway primarily for through traffic, usually on a continuous route.
- Bypass - An arterial highway that permits traffic to avoid part or all of an urban area.
- Divided Highway - A highway with separated roadways for traffic traveling in opposite directions.
- Expressway - A divided arterial highway with full or partial control of access generally having grade separations at major intersections.

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- **Freeway** - A divided arterial highway with full control of access.
- **Frontage Road** - A local street or road, auxiliary to and located along the side of an arterial highway, for service to abutting property or adjacent areas and to provide control of access.
- **Major Highway** - An arterial highway with intersections at grade and direct access to abutting property; and on which, geometric design and traffic control measures are used to expedite the safe movement of through traffic.

JACKING - The procedure of installing pipe below the surface by the application of force to the trailing end of the capped conduit or pipe.

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

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

NESC - National Electrical Safety Code.

NORMAL - Crossing at a right angle.

OAC - Ohio Administrative Code.

ODOT - Ohio Department of Transportation.

OMUTCD - Ohio Manual on Uniform Traffic Control Devices.

ORC - Ohio Revised Code.

PERMIT - An agreement by which the highway authority regulates and/or gives approval of the use and/or occupancy of highway rights of way by utility facilities or private lines. (A Non-Standard Permit is one in which the application contains a feature in variance with applicable policies contained in this section or minimum standards for design). This document does not convey any estate in the land.

PIPELINE - A continuous carrier used primarily for the transportation of fluids (liquid or gas) from one point to another using either gravity or pressure flow.

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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 in a pipe (expressed in psi - pounds per square inch).

PRIVATE UTILITY - A utility whose ownership and operation is under the control and direction of private sector officials.

PUBLIC UTILITY - A utility whose ownership and operation is under the control and direction of an elected public body. (i.e. City Council, County Commission, etc.)

PUBLICLY HELD UTILITY - A utility whose ownership and operation is under the control and direction of private sector officials and public stock holders.

QAR - Quality Assurance Review.

RIGHT OF WAY - A general term denoting land, property, or interest therein, which is acquired, dedicated or reserved for transportation purposes. Lands acquired under the Highway Beautification Program (23 USC 319) shall be considered highway right of way.

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.

SAFETY REST AREAS - 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 beyond the shoulder which is provided for motorists to stop their vehicles and safely view the scenery.

SERVICE DROPS OR LINES - Any line supplying utility service to individual consumers from a main line.

SHOULDER - The portion of the roadway contiguous with the traveled way, outside of

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the edge of pavement, for accommodation of stopped vehicles, emergency use and lateral support of base and surface courses.

SLEEVE - Short casing through a pier or abutment of a highway structure.

SP - Standard Procedure.

TRAVELED WAY - The portion of the roadway for the movement of through traffic.

TRENCHED - Installed in a narrow open excavation.

TUNNEL - Enclosed excavation through which a utility is to be installed.

USE AND OCCUPANCY AGREEMENT - The document by which the highway authority regulates and/or gives approval of the use and occupancy of highway rights of way by utility facilities or private lines. At ODOT, the highway use permit.

USC - United States Code.

UTILITY - "utility" shall mean and include a privately, publicly, or publicly held cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity, including any fire and police signal system or street lighting system, which directly or indirectly serves the public. The term "utility" shall also mean the utility company inclusive of any substantially owned or controlled subsidiary. For the purpose of this part, the term includes those utility-type facilities which are owned or leased by a governmental agency for its own use, or otherwise dedicated solely to government use. The term utility includes those facilities used solely by the utility which are a part of its operating plant. Service lines privately owned and devoted exclusively to supplying the various commodities to the owner, and not directly or indirectly serving the public, are not considered to be a utility.

VENT - Appurtenances to discharge gaseous contaminants from a casing.

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8104 UTILITY PERMITS

8104.01 General

Ohio Revised Code sections 5515.01 and 5515.02, as well as Standard Procedure No. 123-001(SP), govern the use and occupancy of highway rights of way under the jurisdiction of the Ohio Department of Transportation. ORC 5515.01 address permit authority, where ORC 5515.02 is the counterpart covering removal of obstructions. These two sections of the code have been designed to be complimentary in nature regarding the use and management of highway rights of way. Utilities must obtain permits to use, cross or occupy existing highway rights of way; including the providing of service to ODOT facilities (rest areas or weigh stations) or other permitted facilities (cellular towers or environmental monitoring/mitigation equipment). In addition, utilities must annually apply and receive a permit to perform spraying, cutting, trimming or removal of brush or trees on State highway rights of way. Permits should also be issued for utility relocation work on active highway projects where local jurisdiction over the roadway does not take precedence. Refer to the ODOT web site www.dot.state.oh.us, Office of Roadway Engineering, Standard Procedure No. 123-001(SP).

Denial of permits is based upon state law and state policy. If a permit denial involves an agricultural area where the utility would be required to locate on agricultural land and 23 CFR 645B is cited as a basis for the permit denial, an evaluation will be done in accordance with the criteria stated in 23 CFR.

8104.02 Municipalities

Issuance of permits by ODOT shall apply only to State and Federal highways outside municipal corporations, unless the State and municipality have agreed that the State will issue permits on the State highways within a municipal corporation.

Before a municipality issues a permit for any use or occupancy of a State or Federal highway involving limited access rights of way, the application must be reviewed and approved by the appropriate ODOT District Office. The District Office will forward to Central Office Utilities permits to use or occupy the rights of way of all Interstate highways and non-standard permits of other limited access highways. Central Office review of these requests will take place prior to issuance of the permit. When required, Central Office Utilities will submit permit applications to the Federal Highway Administration for review and approval.

On all Federal aid and State highway construction projects involving the State highway

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system within municipalities, the municipality shall conform to one of the following methods of controlling the accommodation of utilities both during and following completion of the active project.

1. The policies of the municipality for accommodating utilities on streets and highways shall be approved by ODOT and the FHWA.
2. The municipality shall formally adopt the ODOT "Policy for Accommodation of Utilities" and designate a municipal representative for issuing permits for utility accommodation on the State highway involved.
3. A special provision for the State to regulate the use of the highway rights of way for the accommodation of utilities shall be incorporated into the enabling legislation for the project.

8104.03 Responsibility For Permits

The DDD shall be responsible for: 1) receiving applications for permits; 2) reviewing the application, plan and supplemental information to insure conformity to applicable local, state and federal regulations; 3) issuing of permits; 4) inspecting construction to insure conformity to the permit; and 5) maintaining records of all applications and permits. It will be the responsibility of the utility company to have a copy of the approved permit at the job site at all times and make it available to appropriate ODOT and/or law enforcement personnel upon request.

8104.04 General Provisions Applicable To All Permits

A. Maintenance of Traffic Plan

The utility is responsible for the development and design of a maintenance of traffic plan any time work is proposed on the highway right of way. The utility shall also be responsible for the implementation of the plan and the use of necessary traffic control devices in accordance with the approved plan. Furthermore, the traffic control plan and the use of traffic control devices must be in compliance with the Ohio Manual on Uniform Traffic Control Devices.

In conjunction with the maintenance of traffic plan, the permit request must address other factors which can also have an impact on the flow of traffic and safety within the work zone. Consideration must be given to the applicability of lane closures, maintaining two way traffic at all times and the use of uniformed patrol or other personnel to assist with the control of

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traffic. Also, all open trenches must be plated, temporarily backfilled or protected during hours of no construction in a manner that will not impede the plowing of snow or the safe flow of traffic. Finally, work schedules must be addressed. It may be prudent or necessary to restrict work to off peak traffic hours; taking into consideration such concerns as rush hour traffic, local festivals, shift changes for companies, school schedules and holidays.

B. Conditions

- Except as authorized under the permit, no excavation shall be made or obstacles placed within the limits of the highway in such manner as to interfere with travel over the road.
- If any grading or other work done under the permit interferes with the drainage of the highway in any manner, catch basins and outlets shall be constructed to properly handle the highway drainage.
- If the party to whom the permit is issued does anything contrary to the orders of the DDD and after due notice, fails to correct the work as ordered, ODOT may, with or without notice, correct such work or remove such structure or material, and the party to whom the permit is issued shall reimburse ODOT for any expenses incurred in correcting the work or removing the structure or materials.
- All the work contemplated under the permit shall be done under the supervision and to the satisfaction of ODOT and the entire expense shall be borne by the party to whom the permit is issued.
- Upon completion of the work under the permit, the highway shall be left clear of all rubbish, excess materials, temporary structures and equipment. In addition, all parts of the highway right of way shall be restored to a condition which is equal to or better than that which originally existed.
- The ODOT policy on open cuts of existing pavement is that the installation of underground facilities by open cutting pavement will not be considered unless it is demonstrated that there is no reasonable alternate method available. Casing, pipe or conduit crossings of the highway shall be installed by auguring, driving, boring, jacking or tunneling without disturbing the pavement or paved shoulders. Since

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the open cutting of pavement is primarily a safety issue, any request of this nature must be clearly justified; addressing construction, traffic control and restoration issues. Approval would be issued by Central Office Utilities.

- The applicant will abide by current State and/or local laws pertaining to storm water pollution prevention and/or erosion control.
- The granting of a permit does not in any way abridge the jurisdiction of the Director of Transportation over State highways. If during any future work benefiting the traveling public it becomes necessary for the Director to order the removal, reconstruction, relocation or repair of utility facilities or work performed under the permit, the removal, reconstruction, relocation or repair shall be wholly at the expense of the utility and be made as determined by the Director.
- The right is reserved by the Department to appoint an inspector who shall represent the interests of the State during the installation of the facility. Any compensation arranged for shall be paid wholly by the permit holder.
- At the discretion of the DDD, a performance bond may be a prerequisite to the issuance of a permit.
- The issuance of a permit is not a substitute for satisfying the rights of any other party who may have an interest in the underlying fee.
- Prior to any excavation in the highway right of way, the Ohio Utilities Protection Service (OUPS) and the Oil and Gas Producers Underground Protection Service (OGPUPS) must be contacted.
 - OUPS: 1-800-362-2764 (contact non-members directly)
 - OGPUPS: 1-800-925-0988
- The party to whom the permit is issued shall be responsible for all damages to persons or property due to or resulting from any work performed under the permit.
- The acceptance of a permit or the performance of any work under the permit constitute an agreement between ODOT and the party to whom the permit is granted. Compliance with all the conditions and restrictions included with the permit is mandatory.

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- At any time, a permit may be revoked or annulled by the DDD for noncompliance with any of the conditions, restrictions or regulations.
- When highway improvement contracts are awarded by ODOT at or near the area covered by the permit, the party to whom the permit is issued shall cooperate with the highway contractor.

8104.05 When Permits Are Required

A. Underground Installations

Utilities are required to obtain permits from ODOT for the installation or removal of temporary or permanent pipe lines, conduits or other underground structures crossing or occupying highway rights of way.

B. Overhead Installations

Utilities are required to obtain permits from ODOT for the installation or removal of temporary or permanent poles or other structures, longitudinally occupying right of way.

Utilities are required to obtain permits from ODOT for all temporary or permanent overhead installations or removals crossing highway rights of way as follows:

1. Limited Access Highways
 - a. When there are temporary or permanent overhead conductors or lines supported by poles or structures located either inside or outside highway rights of way.
 - b. When there are temporary guard poles, bucket trucks or structures located within highway rights of way supporting conductors or other lines over the highway or permanent poles or structures located within highway rights of way supporting conductors or other lines over the highway.
2. Non-Limited Access Highways

During installation or removal operations, permits are required for

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the use of temporary guard poles, bucket trucks or structures located within highway rights of way supporting conductors or other lines over the highway or permanent poles or structures located within highway rights of way supporting conductors or other lines over the highway.

3. Service Lines Crossing All Types of State Highways
 - a. Permits are required for all service lines crossing the rights of way of Limited Access Highways.
 - b. During installation or removal operations, permits are required for service lines crossing non-limited access highway rights of way when temporary poles or structures are located within highway rights of way to support the facility or when permanent poles or structures are located within highway rights of way to support the facility.

8104.06 Exception To Normal Permit Requirements

- A. A permit is not required for work considered emergency maintenance of utility facilities when damaged by a vehicle or weather related causes on non-limited access highways. On limited access highways, the emergency work should be performed in a prudent time frame and a permit issued afterwards to address the situation which occurred. For all emergency work performed on highway rights of way by or for the utility, the utility is responsible for installing and maintaining traffic control devices in accordance with the provisions of the Ohio Manual on Uniform Traffic Control Devices and notifying the appropriate District Office, County Manager Office or law enforcement authority as soon as possible.
- B. The utility shall apply for and receive a permit to perform future spraying, cutting, trimming or removal of brush or trees on State highway rights of way. To activate the permit, the utility shall notify the ODOT District Office in advance each time these activities are scheduled to be performed. The work shall be performed in accordance with the provisions incorporated into the permit.

8104.07 Application Procedure

All applications for permits shall be submitted by the utility to the District Office in the form and number as prescribed in Standard Procedure No. 123-001(SP). All plans and

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any supplemental information which are attached to utility permit applications shall be reviewed and approved by the District Utilities Office before issuance of the permit.

The review of the utility permit request must provide assurance that the proposed installation is in conformance with the design, safety and construction requirements of the highway. This review should also address the compatibility of the proposed installation with any future highway project. While the State is responsible for the review and approval of the utility permit plan, the utility is responsible for assuring proper design, installation, operation and maintenance of the proposed facility. Therefore, it is imperative that the permit plan provide sufficient detail in order to properly evaluate the impact of the proposed installation on the highway.

The utility owner shall place permanent markers identifying the location of the underground utilities to avoid damage to the facility during seasonal maintenance (i.e. fluorescent markers, fluorescent pedestals). Non-metallic underground lines shall be accompanied by a trace wire, metallic tape or other method to locate and mark the underground facility.

A review of necessary highway restoration processes must be made. This review should include the restoration of drainage, fence, guardrail, right of way and the pavement/shoulder areas. In conjunction, consideration must also be given to the possible use of specific restoration materials such as permanent sheeting/shoring or control density backfill. Furthermore, an evaluation should be made as to the use of full time inspection and/or the bonding of the applicant or applicant's contractor.

Field reviews and inspections should be performed as needed; either by District or County Manager Office personnel. A site inspection or review prior to issuance of the permit will verify the accuracy of the proposed permit plan in regards to the highway design and existing topographic features. During construction, an inspection can address issues pertaining to maintenance of traffic and unexpected field conditions. From a standpoint of safety and verification of the conditions included in the permit, this is the most critical inspection made.

An inspection made following completion of the construction allows for a final verification of compliance with all permit conditions and timely implementation of any necessary corrective action.

Most utility permits are processed and approved by the District Office. However and prior to the issuance of the permit, the following utility permit requests must be submitted to Central Office Utilities for review and approval.

- Utility permits involving the use or occupancy of Interstate rights of way.

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- Utility permits involving the longitudinal use of Interstate rights of way or other limited access highways.
- Requests for utilities to use or occupy areas of scenic enhancement.
- All requests involving exceptions to approved utility permit policy.

Requests for Central Office review should include the District recommendation for approval or rejection and comments from any District Office which are pertinent to the review. Following Central Office review of the requests, the District will be notified of comments, approval or rejection. When required, Central Office Utilities will submit requests to the Federal Highway Administration for review and approval.

The utility and District shall furnish the following information to Central Office Utilities for processing the permit plans:

1. One copy of the permit plan and permit application.
2. County, Route, and Construction Section of the original highway project.
3. Federal and State project numbers and PID number (if applicable) of original highway project.
4. Right of Way plan or plan/profile sheet of original highway project for the area covering the utility request.
5. Centerline stationing of any crossing.
6. Maintenance of Traffic Plan, including points of access for both the construction phase and future maintenance of the facility.
7. Method of installation to be used.
8. A profile view and/or elevation points covering areas of possible conflict for both aerial/underground installations.

8104.08 Longitudinal Occupancy of Limited Access Highways

It is ODOT policy that the longitudinal use of limited access rights of way by utilities be minimized, not be allowed within the median area of the highway and be limited to transmission or trunk line facilities. In conjunction, the approval/disapproval authority

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rests with Central Office Utilities. The reasons for these restrictions are critical to the Department's responsibilities to the traveling public: to maintain the safety features of the highway, to preserve the integrity of the highway and to safeguard the highway investment. Therefore, a utility request for longitudinal occupancy must be documented to the extent that such installation will not impair the design, construction, operation or maintenance of the highway, interfere with the free and safe flow of traffic and that it is in the public interest to locate the utility facility on limited access highway rights of way. Any permit application for longitudinal occupancy of a limited access highway must be clearly justified. All utility requests to longitudinally occupy limited access rights of way shall include or address the following minimum items as part of the review process by Central Office Utilities.

A. General Information

1. Provide the County, Route and Section for both the original highway project and any subsequent projects encompassing a significant upgrade of the highway (*Include PID if applicable*).
2. Provide the Federal and State project numbers for both the original highway project and any subsequent project encompassing a significant upgrade of the highway.
3. Explain the necessity of the installation, as well as, how this proposed installation fits into the overall needs of the applicant.
4. The type of materials that will be used for the installation must be specified. For underground installations, this will include type of pipe, conduit, cable, etc. Aerial installations shall be limited to self supporting single pole construction.
5. Scenic areas must be addressed in accordance with the ODOT Utilities Manual.

B. Permit Plan and Justification

1. For the area covered by the request, provide right of way plans and/or plan and profile sheets for both the original highway project and any subsequent project encompassing a significant upgrade of the highway.
2. Provide the centerline stationing of any highway crossing.

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3. Provide plans for the proposed installation, including profiles and representative cross sections, relating the installation to the highway stationing. Depending on the proposal, cross sections may not be required for aerial installation.
4. Alternate routes to the proposed installation must be explored. In conjunction with each alternate route, the following must be provided: schematic plan showing the alignment of each alternate route, right of way costs, construction costs, restoration costs and objections to each alternate route from environmental, construction and economic perspectives.
5. Construction costs shall be provided for the proposed installation.
6. If the disapproval of the use of the right of way would result in the permanent loss of productive agricultural land, or the permanent loss of the productivity of agricultural land, the utility must provide information on the direct and indirect economic affects of this loss.
7. For underground installations, a profile should be provided to address points of possible conflict with other subsurface features.
8. The District shall make a determination as to whether the proposed installation will affect the design, construction, integrity or operational characteristics of the highway. The proposed installation should also be reviewed in regards to the possibility of future expansion, relocation or upgrading of the highway, a determination made as to the feasibility of the proposed utility installation and the affect on traffic safety.

C. Construction Information

1. Method of installation to be used must be provided.
2. State the length of time necessary to install the facility.
3. No parking of vehicles nor storage of equipment or materials will be permitted on the limited access right of way.
4. A plan must be provided showing details of any necessary structure foundation for aerial installations.

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5. If applicable, construction details for both excavation and backfilling of trenches shall be provided for all underground installations.
6. If the installation affects any portion of the highway slopes, an explanation will be required as to the method to be used for protecting the slope from erosion. When sheeting is used, the material details and construction method must be provided.
7. If the highway fence will be disturbed during the installation of the facility, two conditions must be met. During the installation of the facility, the applicant will install temporary fence, guardrail and/or median barrier between the work area and the through traffic lanes or ramps. Upon completion of the installation, the highway fence must be restored to the original or better condition.

D. Maintenance of Traffic - Access - Restoration

1. A maintenance of traffic plan, including points of access during the proposed construction, must be provided.
2. Access to the proposed facility during construction will not be permitted from the through traffic lanes or ramps of the limited access highway.
3. All highway right of way which is disturbed by the proposed construction must be restored to the original or better condition.
4. In some instances the proposed installation may affect trees or other types of mature growth. Where this occurs, selective tree removal or necessary tree trimming will be permitted. In these situations, plans must be provided showing the selective removal and/or trimming required along with a schematic plan depicting the necessary replacement plants to be installed. However, it must be shown that neither the facility nor the construction of the facility will be detrimental to the natural growth in the area of the proposed installation.

E. Operational Conditions

1. No service connections will be permitted to the installation where located within the limited access right of way.

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2. Access to the facility for future maintenance will not be permitted from the through traffic lanes or ramps of the limited access facility. In this regard, it may be necessary to restrict future access to the facility to a permit issued by the District which would address maintenance of the facility and the associated points of access.

8105 PRIVATE LINES

8105.01 General

On limited access highways, applications for the longitudinal placement of private lines must conform to the provisions of this manual and provisions of 23 CFR 1.23(C). This section of the CFR reserves the right for such approval to the Administrator of the FHWA if it is determined that such occupancy, use or reservation is in the public interest, will not impair the highway or interfere with the free and safe flow of traffic. All requests of this nature will be submitted to Central Office Utilities for review and processing.

8105.02 Wetlands

Installation of privately owned lines or conduits is prohibited on right of way used for the purpose of draining adjacent wetlands onto highway right of way. This prohibition is consistent with the Federal executive order on Protection of Wetlands.

8106 GENERAL ACCOMMODATION GUIDELINES

The following are general guidelines for the location and design of all utility installation within highway rights of way. When determining right of way requirements for a highway project, utility relocation must be taken into consideration; along with construction requirements, clear roadside policy and other safety matters.

8106.01 Location

- A. Utilities should be located to minimize adjustments due to future highway improvements and to permit servicing or upgrading of facilities with minimum interference to highway traffic.
- B. Longitudinal installations should be located on a uniform alignment near the right of way line in order to provide a safe environment for traffic operations and preserve space for future highway improvements or other utility installations.

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Longitudinal underground utility facilities are prohibited within the area designated for the placement of highway signs and mailboxes unless the utility facility is constructed of material which will withstand penetration by support posts and is installed with a minimum cover of 4 feet (1.2 meters).

- C. To the extent feasible and practicable, utility lines crossing the highway should cross on a line generally normal to the highway alignment.
- D. The horizontal and vertical location of utilities within highway rights of way should conform with the clear roadside policy. The purpose of such policy is to provide drivers of vehicles, which leave the traveled portion of the roadway, a reasonable opportunity to stop safely or otherwise regain control of the vehicle without hitting an obstruction. The clear zone may vary with the type of highway, terrain traversed, road geometrics, and operating conditions. The location of above ground utility facilities shall be consistent with the clearances applicable to all roadside obstacles for the type of highway and prevalent conditions.
- E. Where other locations are not feasible, bridges may be utilized to support utility facilities as provided in Section 8109 of this policy.
- F. In order to preserve and protect the integrity and visual quality of the highway and the utility, consideration shall be given to measures reflecting sound engineering principles, economic factors, maintenance efficiency and safety.

8106.02 Design

- A. The utility is responsible for the design, installation, operation and maintenance of the facility to be installed within the highway rights of way or attached to a highway structure. The Department is responsible for review and approval of the utility relocation plan with respect to the location of the utility to be installed or the manner of attachment. This includes the measures to be taken to preserve the safe and free flow of traffic, structural integrity of the roadway or highway structure, ease of highway maintenance, appearance of the highway and the integrity of the utility facility during highway construction.
- B. Utility installations along, over or under highway rights of way and utility

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attachments to highway structures shall, as a minimum, meet the following requirements and all subsequent amendments or revisions.

1. All utility installations shall be installed and maintained in accordance with current rules and regulations of the Ohio Department of Transportation.
 2. Electric power and communication facilities shall conform to the current provisions of the National Electrical Safety Code and Occupational Safety and Health Administration.
 3. Pressurized water lines and sewer lines shall be encased under Interstates and Interstate look-alikes and shall conform to the currently applicable Ohio Department of Transportation Construction and Material Specifications (Sections 638 and 748) and EPA standards.
 4. Pressure pipe lines shall conform with the currently applicable sections of ANSI Standard Code for Pressure Piping and/or applicable Federal, State, Local or Industry codes.
- C. The design of ground mounted utility facilities should offer desirable characteristics to the appearance of the highway and the environment. Effort should be made to harmonize or blend the natural and manmade objects, insure continuity of visual form without distracting interruptions and strive for simplicity of design. In all cases, full consideration will be given to sound engineering principles and economic factors.
- D. All permanent utility installations along, over or under highway rights of way and attachments to highway structures should be of durable materials designed for long service life and relatively free from routine servicing and maintenance.
- E. On new installations or adjustments of existing utilities, provisions should be made for known or planned expansion, particularly those facilities located underground or attached to bridges. The expansions should be planned to minimize hazards and interference with highway traffic when additional facilities are installed at some future date.
- F. Bedding and backfilling of trenches within highway rights of way shall be in

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accordance with the provisions of ODOT's CMS. However, backfilling of trenches within the pavement or shoulder areas shall be of Low Strength Mortar Backfill Material unless specifically waived by ODOT. The composition of the Low Strength Mortar Backfill Material to be used will be in accordance with ODOT's specifications.

- G. Exceptions to utility relocation policy must be submitted to Central Office Utilities for evaluation and approval.
- H. The ODOT policy on open cuts of existing pavement is that the installation of underground facilities by open cutting pavement will not be considered unless it is demonstrated that there is no reasonable alternate method available. Casing, pipe or conduit crossings of the highway shall be installed by augering, driving, boring, jacking or tunneling without disturbing the pavement or paved shoulder. Since the open cutting of pavement is primarily a safety issue, any request of this nature must be clearly justified; addressing construction, traffic control and restoration issues. Approval would be issued by Central Office Utilities.

8107 UNDERGROUND UTILITY INSTALLATIONS

8107.01 General

The design of underground utility crossings or occupancies of highway rights of way must be varied because of site conditions, type of utility involved, type of highway and degree of access control. Therefore, this policy is considered flexible and may be modified when justified and where special conditions exist. Design of utility facilities shall conform to the requirements contained in this policy. However, local or industry design standards prevail when more stringent. Requests to locate utilities on State highway rights of way must be made in accordance with the provisions of Standard Procedure No. 123-001(SP). Arrangements for emergency maintenance procedures shall be made in accordance with Section 8104.06 A of this manual.

8107.02 Location

A. Limited Access Highways

As a general policy, if private access to a highway has been extinguished or controlled, longitudinal utility installations will not be permitted. However, in extreme hardship cases or where the public interest will be best served, the Department will consider accommodations of longitudinal utility lines within the rights of way of limited access highways. In each case, it must be demonstrated

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that:

1. The accommodation will not adversely affect the design, construction, operation, maintenance or safety features of the highway.
2. Alternate locations are not available or cannot be implemented at a reasonable cost from the standpoint of providing efficient utility service.
3. The installation will not interfere with nor impair the present use or future expansion of the highway.
4. Disapproval of the use of the right of way would result in the permanent loss of productive agricultural land, or permanent loss of productivity of agricultural land. In this case, the utility must provide information on the direct and indirect environmental and economic effects of this loss.
5. The utility facility can be constructed and serviced without access from the through traffic roadways or ramps of the limited access highway.

When available, utilities should be located along frontage or access roads in order to provide service without access from the through traffic roadways or ramps. In addition, all utilities located outside the limited access lines shall not be serviced by access from the through traffic roadways or ramps.

Underground utilities that are approved for longitudinal occupation of limited access highways will conform to the following design location restrictions.

1. No facilities will be permitted within the area between the edge of pavement and the outer limits of highway signing.
2. No facilities will be permitted on slopes which are steeper than a 4 to 1 ratio.
3. No facilities will be permitted within the median.
4. All facilities will have a minimum cover of 4 feet (1.2 meters).

Where utility supports, manholes, other appurtenances are located in medians or interchange areas of limited access highways, in lieu of extremely difficult and costly alternate locations, access from through traffic roadways or ramp will be allowed only by special permits issued by the DDD to the utility owner.

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Where private access to a highway has been extinguished or controlled, underground utility crossings are permitted subject to the conditions of this policy. Utilities crossing or occupying limited access highways shall be designed in a manner that both construction and future maintenance operations can be performed without using the traveled roadways or ramps to gain access.

B. Non-Limited Access Highways

On non-limited access highways, crossings are permitted subject to the conditions of this policy. Longitudinal lines may be permitted as long as the installation is located as close to the right of way line as possible. Exceptions may be considered taking into account the Department's clear roadside policy; with approvals being based upon the merits of the case and the above mentioned policy. In cases of narrow rights of way and severe terrain features, consideration may be given to locating the utility between the ditch and pavement. In this regard, the facility shall be located so that the distance between the edge of the pavement (or paved or stabilized shoulder) and the inside edge of the trench is greater than the depth of the trench (see Section 8106.02 for additional restrictions). Buried cable shall not be installed within the shoulder area where lines for highway lighting, illuminated signs or other installations are typically located.

8107.03 Design

- A. Utilities crossing under a highway shall be of durable materials designed to meet conditions found at the site and shall be installed to preclude disturbing the roadway to perform maintenance or expansion operations.
- B. On non-limited access highways, conduits or casings shall extend beyond either the outer edge of the ditch or the embankment slope if a ditch is not present. On limited access highways, conduits or casing shall extend across the full width of the right of way. When the highway is constructed in deep cut, the conduit or casing may be terminated beyond the shoulders. Generally, open cutting of the median is prohibited. However, in cases of extremely wide medians, traffic lanes at different elevations or other physical conditions that make a continuous bore impractical, opening of the median may be permitted. Since the open cutting of the median is primarily a safety issue, any request must be clearly justified; addressing construction, traffic control and restoration issues. Approval would be issued by Central Office Utilities.
- C. The grade of the crown of conduit, casing or unprotected utility facility

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shall be established so that minimum depth of cover will be as follows:

	Water Lines	Other Facilities
Under pavement surfaces	4 feet (1.2 meter)	3 feet (1.0 meter)
Under sod ditches	3 feet (1.0 meter)	3 feet (1.0 meter)
Under paved ditch	2 feet (0.6 meter)	2 feet (0.6 meter)
Under other surfaces	3 feet (1.0 meter)	3 feet (1.0 meter)

Additional depth of cover may be required to meet existing field conditions. In those instances where less than minimum cover is authorized, additional protection of the utility facility may be required.

- D. Casing is required for non-plastic pipe lines which are less than 16 inches in diameter, crossing the highway and carrying liquid petroleum or gas if the internal pressure of the pipe is in excess of 30% of the specified municipal yield strength of the pipe. Pipe lines 16 inches and over must comply with 49 CFR 192.

Casing is required for plastic pipe crossing the highway and carrying liquid petroleum or gas if the internal pressure of the pipe exceeds 100 psi. The use of plastic pipe on State highway right of way will require that the following information be provided to the State: 1) the name of the manufacturer; 2) the brand name of the pipe; 3) the pipe material designation; 4) pipe size and wall thickness; 5) design working pressure.

Casing is required for pressurized pipelines, regardless of size, when installed within any fill material around Mechanically Stabilized Earth Walls (MSE Walls).

Casing is required for pipelines within 2 feet of any structure foundations (i.e. bridges, culverts, etc.)

Casing may be used at the election of the utility when it is the policy of the utility to case roadway crossings.

The Department reserves the right to require casing or equivalent alternate protection based on conditions involved.

- E. For pipe lines of the extreme importance to public convenience, safety or business operations, galleries may be installed for the purpose of performing repair or replacement of pipe lines. Galleries shall be

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designed so that most repairs or replacement of the pipe line can be made without resorting to pulling the entire facility from the gallery. The gallery design shall include one or more entrance shafts of a size suitable for removal of one pipe section from the gallery. Shafts shall be sealed with a removal cap. Each cap shall have a manhole opening suitable for inspection access.

- F. Casings and galleries may be constructed of any materials permitted by ODOT's CMS for use in roadway culverts, and shall be designed to meet all conditions found at the site.
- G. Tunnels shall be constructed of steel liner plates left in place or other materials acceptable to ODOT. Voids remaining outside of the tunnel lining shall be filled with portland cement grout. After installing the utility, the tunnel lining shall be filled with approved gravel aggregate or concrete rammed into place. Tunnel ends shall be sealed and provisions may be made for tunnel drainage if an outlet is available.
- H. Pipe lines shall be designed to accept internal and external pressure in accordance with the current applicable sections of the Standard Code of Pressure Piping of ANSI 49 CFR 192 (Transportation of Natural and other Gas by Pipe Line Minimum Federal Safety Standards), 49 CFR 193 (Liquefied Natural Gas Facilities Federal Safety Standards), 49 CFR 195 (Transportation of Hazardous Liquids by Pipe Line) and applicable Federal, State, Local or industry codes. The design shall include resistance to external corrosion with provisions for cathodic protection of metal pipe lines crossing or occupying highway rights of way when necessary.

Pipe lines of any type carrying gas or liquid under pressure shall be equipped with valves, which when closed, will isolate the section of line which includes the portion within the highway right of way.

Gravity flow pipe lines, such as sanitary sewers, shall be a type suitable for roadway culverts. Joints shall be compression type or an approved equivalent. Manholes should be located on gravity flow lines outside of limited access boundaries and in a position that the facility can be inspected and cleaned without trespass on the right of way.

- I. When a utility is to remain in the original position beneath a new highway improvement, a determination should be made regarding the need to strengthen or replace the existing facility. The determination shall be

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based on depth, strength and condition of the existing utility, the type of surrounding soil and the foundation soils. If a fill or surcharge is to be placed above an existing utility, a thorough investigation should be made and consideration given to installation of such treatments as a concrete cap, partial encasement, full encasement or replacement of the facility. If the determination indicates that it is feasible to leave an existing utility parallel under the pavement, extensions for future service connections shall be made prior to the pavement being placed.

8107.04 Installations

- A. When pipe lines must cross existing limited access highways, installation shall be made from points outside the limited access right of way. Where extreme cost or hardship exist, areas beyond the backslope of the side ditch may be used. Whenever feasible, installations shall be made without using the mainline or connecting ramps and without interfering with the mainline or ramp traffic. Generally, open cutting the median is prohibited. However, in cases of extra wide medians, grades of traffic lanes at different elevations or other physical conditions that make a continuous bore impractical, open cutting of the median may be considered. Since the open cutting of the median is primarily a safety issue, any request of this nature must be clearly justified; addressing construction, traffic control and restoration issues. Approval would be issued by Central Office Utilities.
- B. When the highway is currently located or is to be constructed on embankment or in a shallow cut, casing or galleries shall extend across the full width of the right of way. If significant savings would result, access is not limited, safety is not compromised and ODOT approves, the casing or gallery may be terminated beyond the outer edge of the ditch flow lines, or the embankment slope if a ditch is not provided.
- C. When the highway is currently located or is to be constructed in a deep cut, casing or galleries shall extend across the roadway to include the effective width of the outside shoulders. Effective width is considered to be the offset distance between the edge of the pavement and the face of the guardrail as provided on the highway project. Overhead structures, either utility or highway, may be considered for the purpose of supporting utilities to span deep cuts when other locations prove difficult and unreasonably costly.

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8108 AERIAL UTILITY INSTALLATIONS

8108.01 General

- A. The guidelines for accommodation of power and communication lines on highway rights of way will vary with the site conditions, type of line involved, type of highway and degree of access control. Therefore, this is to be considered as a flexible policy which may be modified where special conditions exist. Design of the utility facilities shall conform to the guidelines contained herein, but where local or industry standards are higher, those standards shall prevail.
- B. If private access to a highway has been extinguished or controlled, longitudinal lines will not be permitted within the limited access lines, except as provided in Section 8108.02A. Lines crossing or occupying limited access highways shall be designed in a manner that will permit construction and normal maintenance operations to be performed without using the traveled roadways or ramps to gain access.
- C. The vertical clearance of overhead lines crossing limited access or non-limited access highway rights of way shall not be less than the minimum required by the National Electrical Safety Code. Specific cases may arise where the utility will be requested to furnish clearances over and above those specified by the National Electrical Safety Code. The State will determine the location and extent of additional clearance required during highway construction and will make every effort to give ample notification to the utility. A minimum vertical clearance of 16.5 feet (5 meters) will be maintained over all State and Federal highways.
- D. Requests to locate utility facilities on State highway rights of way must be made in accordance with the provisions of Standard Procedure No. 123-001(SP).
- E. Specific provisions apply for work considered emergency maintenance of utility facilities when damaged by a vehicle or weather related causes on non-limited access highways. On limited access highways, the emergency work should be performed in a prudent time frame and a permit issued afterwards to address the situation which occurred. For all emergency work performed on highway rights of way by or for the utility, the utility is responsible for installing and maintaining traffic control devices in accordance with the provisions of the Ohio Manual on Uniform Traffic

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Control Devices and notifying the appropriate District Office, County Manager or law enforcement authority as soon as possible.

8108.02 Location

- A. As a general policy, if private access to a highway has been extinguished or controlled, overhead lines will not be permitted. However, in extreme hardship cases or where the public interest will be best served, the Department will consider accommodation of longitudinal utility lines within the rights of way of limited access highways. In each case, it must be demonstrated that:
1. The accommodation will not adversely affect the design, construction, operation, maintenance or safety features of the highway.
 2. Alternate locations are not available or cannot be implemented at a reasonable cost from the standpoint of providing efficient utility service.
 3. The installation will not interfere with nor impair the present use or future expansion of the highway.
 4. Disapproval of the use of the right of way would result in the permanent loss of productive agriculture land or permanent loss of productivity of agricultural land. In this case, the utility must provide information on the direct and indirect environmental and economic effects of this loss.
 5. The utility facility can be constructed and serviced without access from the through traffic roadways or ramps of the limited access highway.
 6. No longitudinal occupancy of the median area will be permitted.
- B. On non-limited access highways, longitudinal lines may be permitted subject to the conditions of this policy. Locations of such lines shall be as close to the right of way line as possible. Exceptions will be considered taking into account the Department's clear roadside policy; with approvals being based upon the merits of the request. Adequate support for any exception must accompany the request.

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Ground mounted utilities should be placed as far as practical from the traveled way and be of a design which is compatible with the visual quality of the highway. Guy wires and stub poles should not be placed between a pole and the traveled way in a manner that encroaches upon the clear zone. Clear zone specifications can be found in Volume 1 of the ODOT L & D Manual. In addition the following basic clearances apply to ground mounted utilities.

1. The minimum lateral clearance between the face of the guardrail and the face of the utility facility will be 5.5 feet (1.7 meters) for standard post spacing and 3.5 feet (1.1 meters) for reduced post spacing.
 2. Guardrail requirements for fixed objects within the clear zone are waived for speeds less than 40 mph.
 3. Where there are curbed sections, utilities should be located a minimum of 8 feet (2.4 meters) behind the face of the curb. If this offset is not practical, utilities should be located as far back from the face of the curb as feasible; with an absolute minimum clearance of 2 feet (0.6 meters) being maintained. The minimum lateral clearance between a utility facility and the edge of a bikepath shoulder will be 3 feet (1.0 meters).
- C. Longitudinal installations of overhead lines on highway rights of way should be limited to single pole type of construction. Joint-use single pole construction is encouraged at locations where more than one utility or type of facility is involved.

8108.03 Overhead Crossings

- A. Where no crossroad exists, overhead lines crossing a limited access highway should be so designed that support structures are located outside the limited access lines. In cases where such spanning of the roadway is not feasible, consideration can be given to placement of the utility beyond the outer edge of the roadway side slope or a conversion to underground facilities.
- B. At interchange areas, supports for overhead utility lines may be permitted within the limited access lines provided it is demonstrated that any other location is extremely difficult or costly and that all of the following conditions are met.

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1. The clear zone is maintained with respect to the through traffic lanes of the freeway.
 2. The appropriate clear zone from edge of ramp is maintained.
 3. Sight distance is not impaired.
 4. Conditions of Section 8108.04 ACCESS FOR SERVICING UTILITIES are satisfied.
- C. Where lines parallel a crossroad which is carried over or under a limited access highway, provisions should be made for utilities to cross the limited access highway parallel with the crossroad in such manner that the utility can be serviced from the crossroad.
- D. Along non-limited access highways, structures supporting overhead utility lines crossing highway rights of way may be permitted. These structures should be located as close as possible to the right of way line and in a manner that will cause the least interference with the normal maintenance of the highway.

8108.04 Access For Servicing Utilities

- A. Access for servicing a utility, located along or across a limited access highway, shall normally be restricted to private easements, frontage roads or nearby adjacent public roads or streets.
- B. Where utility facilities are located in medians or interchange areas of limited access highways, access from through traffic roadways or ramps will be allowed only by special permits issued by the DDD to the utility owner. The permit will set forth the conditions for traffic control, highway restoration and other restrictions to protect the highway users.

8109 UTILITY INSTALLATIONS ON HIGHWAY BRIDGES

8109.01 General

In many cases, attachment of utility facilities to highway bridges is a practical arrangement and will be permitted where found to be in the public interest and in accordance with ODOT policy. However, attaching utility facilities to a highway bridge can materially affect the bridge, the safe operation of traffic, the efficiency of

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maintenance and the appearance. Therefore, where it is feasible, cost effective and reasonable to locate utility facilities elsewhere, attachments to highway bridges should be discouraged and avoided. Due to the nature of the product being transported, the evaluation of requests for gas line attachments to bridges need to be critically analyzed. When bridge accommodation is a viable course of action, the issues associated with the bridge attachment must be addressed early in the design process. The placement of any utility on a bridge is predicated on justification for the proposed attachment, along with consideration of the disposition of the existing facility during both the bridge demolition and construction phases. In all cases, if a utility is to be installed on a bridge, the request must be reviewed and approved by the District Production Office, the District Utilities Office and the appropriate ODOT bridge office (See Section 8200 for procedure).

8109.02 Conditions

Where other locations for utility facilities to span an obstruction prove to be difficult or unreasonably costly, consideration shall be given for attaching the facility to a bridge structure under the following conditions:

1. The utility installation shall be made in a manner that will not inhibit maintenance, reduce vertical clearance or detract from the appearance of the structure.
2. None of the structural members in the proposed bridge are to be reduced in section, or the cross section of the super structure revised to other than a normal section, solely for the purpose of accommodating utilities.
3. Conduits to be installed in the sidewalk element must be at least 1 inch above the construction joint between the bridge slab and sidewalk and spaced to provide at least 2 inches clearance between the outside of the conduits.
4. Utilities will not be placed inside of prestressed concrete box beams or culverts.
5. Utility attachments to the outside of the bridge will not be permitted unless reasonable alternatives do not exist.
6. All sleeves for utility installations shall extend beyond the approach slab.
7. Gas mains may be supported by bridges provided that the internal operating pressure does not exceed applicable design criteria. In order to isolate the bridge and provide access points for line by-passes, valves

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must be provided at readily accessible locations within reasonable distance from each end of the bridge.

8. Water mains may be supported by bridges if valves are provided at readily accessible locations within reasonable distance from each end of the bridge. The valves should allow for isolation of the bridge and provide access points for line by-passes. If required, insulation or wrapping should be provided to prevent sweating or freezing.
9. Sanitary sewers will not be installed on bridges unless no reasonable alternative exists.
10. The design of pipe line installations on bridges shall provide for a support that will prevent vibration in the pipe line when traffic crosses the bridge.
11. Power and communications conduits installed on bridges will be equipped with access points at readily accessible locations within reasonable distance from each end of the bridge.

8110 SCENIC ENHANCEMENT

8110.01 General

The type and size of utility facilities, along with the manner and extent to which these facilities are permitted within areas of scenic enhancement or natural beauty, can materially alter the visual quality and view of the highway roadside area. This area includes public park and recreational lands, wildlife and water fowl refuges, historic sites, scenic strips, overlooks, rest areas and landscaped rights of way. Utility installations are not permitted within the foregoing described lands unless specific conditions have been met.

A. Underground Utilities

Underground utilities may be permitted where the installations do not require extensive removal or alteration of trees or terrain features visible to the highway user or where the visual quality of the lands to be traversed will not be impaired.

B. Aerial Utilities

Aerial installations are to be avoided unless there is no feasible or prudent alternative to the use of these lands and specific criteria is demonstrated

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to the satisfaction of the State.

1. Other locations are not available or are usually difficult and/or unreasonably costly or other locations are less desirable from the standpoint of aesthetic quality.
 2. Placement underground is not technically feasible or is unreasonably costly.
 3. The proposed installation will be made at a location that will employ suitable designs and materials which give the greatest weight to the aesthetic qualities of the area being traversed. Suitable designs include, but are not limited to, self supporting single pole construction with vertical configuration of conductors and cable.
- C. The foregoing provisions shall also apply to utility installations that are necessary to a highway purpose such as highway lighting to serve a weigh station, rest area or recreational area.
- D. There may be cases of unusual hardship or other extenuating circumstances where some degree of variance with these provisions is warranted. Such cases shall be subject to prior review and concurrence by Central Office Utilities following submission of a proposal and a full report of the circumstances involved.

8111 CORRECTIVE MEASURES

The Office of Roadway Safety & Mobility establishes the goals, scope, and organization of the safety program. The goal is to improve the overall safety of state highways by systematically identifying and correcting high accident locations and locations which have potential accident features. Highway sections with a high incidence of accidents not related to roadway or traffic control deficiencies, such as above ground utility facilities, shall be included in the identification process for appropriate action. In developing highway safety upgrade projects, as well as routine highway projects, utilities with above ground facilities will be requested to relocate facilities as close to the right of way line as possible in uncurbed sections and at least 2 feet (0.6 meters) behind the curb in curbed sections. Likewise, when a utility builds, replaces or upgrades above ground facilities, the same criteria shall be followed.