



Utility Accommodation Manual

February 2010

WWW.NHGOV/DOT
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New Hampshire Department of Transportation

Preface

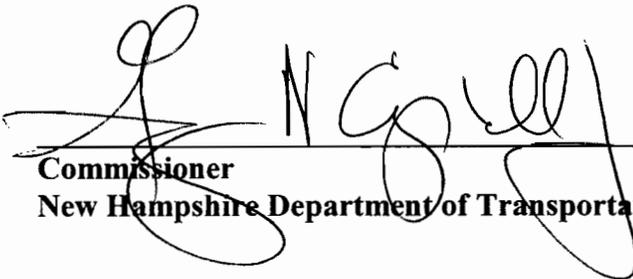
This manual has been prepared to establish a uniform practice for addressing the accommodation of utilities within highway and railroad rights-of-way of the State of New Hampshire.

The New Hampshire Department of Transportation is responsible for constructing, maintaining, and operating State highways and railroad corridors safely and efficiently for the benefit of the public. Use of State highway and railroad rights-of-way by public and private utilities is a privilege extended to utility companies and municipalities by the State. Utilization of such rights-of-way is recognized as being in the public interest provided that such occupancy does not adversely affect highway and railroad safety, operation, and maintenance or otherwise impair the highway or railroad or its aesthetic quality.

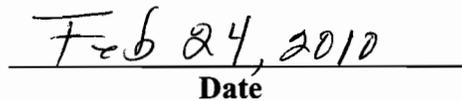
In setting forth policies, rules, and regulations for accommodation of utilities the Department endeavors to minimize the impact that those facilities will have on highway and railroad safety, improvements, maintenance and operations.

This manual in its entirety is hereby approved and declared in effect as of February 2010. All previous utility instructions, written or oral, relative to or in conflict with this manual are hereby superseded.

Comments regarding applicable practices, rules and regulations, and/or changes thereof affecting the contents of this manual should be addressed to the Chief of Design Services, New Hampshire Department of Transportation, PO Box 483, Concord, New Hampshire, 03302-0483. Those wishing to view the contents of this manual may do so at: the NHDOT website and click on Utility Accommodation Manual; <http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/documents.htm>.



Commissioner
New Hampshire Department of Transportation



Date

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I. PURPOSE AND APPLICATION

This manual is established to regulate the accommodation of utilities within highway and railroad rights-of-way. It provides certain administrative procedures and establishes minimum requirements for the location, method of installation, adjustment, and maintenance of utility facilities so accommodated.

The provisions herein establish a practice, which shall apply to new utility installations, additions to or alterations of existing installations, adjustments or relocations of utilities incidental to highway and railroad construction, and to existing utility installations within the rights-of-way of highways and railroads under the jurisdiction of the Commissioner of the New Hampshire Department of Transportation (NHDOT). This includes public or private utility facilities on any State highway or railroad which it is the duty of the Commissioner of the Department of Transportation to construct, reconstruct and/or maintain, either under contract or by State forces, or on any City or Town highway under the Commissioner's jurisdiction for construction or reconstruction purposes.

Class IV highways within urban compact areas and municipally maintained highways which are constructed by the State shall be subject to the provisions of this manual. Although permits and licenses for utilities on these projects are under the jurisdiction of the local government, prior to construction an agreement will be executed between the State and local government which will require compliance with State standards. When Federal monies are participating in the project, Federal Highway Administration (FHWA) authorization of the Agreement will also be obtained prior to work beginning, if applicable.

Due to the high costs of acquiring new right-of-way and the potential for increased environmental impacts, more reliance is being placed on obtaining maximum capacity and usage from existing highway corridors. This requires that emphasis be placed on locating aboveground facilities as far as possible from the traveled way and locating underground facilities where they will not conflict with highway improvements. Utilities locating and operating facilities on right-of-way must accept responsibility to protect the public investment in right-of-way, roadbed, and structures. Utilities must maintain adequate traffic service and safety for the highway user during installation, maintenance and operation of their facilities; and to increase cooperation, coordination, and communication in an effort to expedite project delivery and avoid project delays in both the preliminary engineering, preconstruction and construction phases.

This manual is developed in the interests of safety, protection, utilization, and future development of highways and railroads with due consideration given to the public welfare afforded by adequate and economical utility installations. In the public interest, the highway and railroad rights-of-way may be utilized for utility accommodation provided such use and occupancy does not adversely affect highway and railroad safety, or otherwise impair the highway and railroad or its aesthetic quality, and does not conflict with the provisions of Federal, State, or local laws or regulations. A license or permit is required for all utility facilities within State-owned highway and railroad rights-of-way (see Appendix D, Detail D1, D-1.1 to D-1.3).

II. SCOPE

While this manual governs matters concerning accommodation, location, and methods for the installation, adjustment, relocation and maintenance of utilities on highway and railroad rights-of-way, it does not alter current policies pertaining to authority for their installation, nor determination of financial responsibility for placement or adjustment thereof. Where industry or governmental codes, orders, or laws require utilities to provide a higher degree of protection than provided herein, the higher degree of protection shall prevail.

In many instances this manual will not require adjustment of utility facilities presently located within the rights-of-way of completed highways or railroads. However, facilities that constitute a definite safety hazard to the traveling public, or pose a threat to the structural integrity of the highway, railroad and/or its bridges or other structures, will be required to be adjusted in conformance with this policy. If a utility facility is determined by the Department to constitute a hazard to the traveling public, highway or railroad infrastructure; the utility owner thereof shall remove or relocate this facility to a safe location. Failure of the utility to comply with this provision may result in the revocation of the permit or license for the facility through the office of the Attorney General of New Hampshire.

This manual shall supersede and replace herewith all portions of policies pertaining to the accommodation, location, and methods governing utility installations, adjustments, and maintenance, which are in conflict with material contained herein.

III. EXCEPTIONS

Exceptions to provisions set forth in this manual may be permitted by the Commissioner or authorized representative in an instance where it is shown by the utility that extreme hardship and/or unusual conditions provide justification.

In each case where an exception is requested, there must be documentation that any other utility location is extremely difficult and unreasonably costly to the utility consumer, and the installation will not adversely affect the design, construction, stability, traffic safety, environmental commitments, maintenance, or operation of the highway and railroad.

In addition, all exception requests shall be fully documented with design data, cost comparisons, a plan of traffic control measures to be employed during installation, maintenance access details, and any other pertinent information as may be required by the Department.

For exceptions requested within the right-of-way of existing highways or railroads, the Chief of Design Services and District Engineer or Administrator of Bureau of Rail and Transit shall determine whether sufficient documentation of hardship exists to grant an exception. The Chief of Design Services will review exception requests for utility installations within the right-of-way for a highway or railroad improvement project. The utility has the right to appeal a negative finding to the Commissioner. This shall be done by letter, detailing the circumstances.

Requests for exceptions on Federal aid projects will be subject to Commissioner and FHWA approval if they are in conjunction with construction projects or they involve limited access right-of-way purchased with Federal participation, if applicable.

IV. DEFINITIONS

The following abbreviations, terms and phrases used in this manual shall be interpreted as follows:

Abbreviations:

AASHTO	American Association of State Highway and Transportation Officials
AREA	American Railway Engineering Association
CAROW	Controlled Access Right-of-Way
CFR	Code of Federal Regulations
FAPG	Federal-Aid Policy Guide - United States Department of Transportation (USDOT), Federal Highway Administration. Refer also to CFR.
FHW	Federal Highway Administration
LAROW	Limited Access Right-of-Way
MUTCD	Manual on Uniform Traffic Control Devices
NHDES	New Hampshire Department of Environmental Services
NHDOT	New Hampshire Department of Transportation – “The Department”
PUC	Public Utilities Commission
RSA	Revised Statutes Annotated – State law.
USDOT	United States Department of Transportation

Terms and Phrases:

Accommodation – The installation of utility facilities along or across right-of-way with the intent that they will occupy and jointly use the right-of-way.

Appurtenance - Any manhole, pull box, junction box, vent, pole, tower, riser, anchor, guy wire, push brace, or permanent utility facility above or below ground used in conjunction with utility work.

As-built plans – Certified record drawings by the Utility Owner which depict the actual location of a facility after construction.

Backfill - Replacement of soil around and over a utility facility.

Bedding - Organization of soil to support a utility facility.

Betterment - Any upgrading of a facility, which is made solely for the benefit of and at the election of a utility and is not attributable to impacts associated with a transportation project.

Bond – A surety bond posted to ensure proper and complete construction and/or repair of a facility and the affected rights-of-way pursuant to a permit.

Catenary - The shape assumed by a perfectly flexible cable, wire, or cord hanging freely between two points of support.

Casing - Pipe or other separate structure around and outside the carrier pipe, which is designed to support the dead loads of the highway and superimposed loads thereon, including that of construction machinery.

CFR - Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government. For purposes of this document, refer to applicable rules found in CFR TITLE 23 - HIGHWAYS.

Chief of Design Services - NHDOT Engineer responsible for management of utility involvement of all transportation projects.

Clear Zone - That portion of the roadside preserved to provide drivers of errant vehicles a reasonable opportunity to stop safely or otherwise regain control of the vehicle.

Commissioner - Commissioner of the New Hampshire Department of Transportation.

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

Conflict – A conflict occurs when a utility facility requires relocation or adjustment to avoid damage or disruption or to comply with the regulations and accommodation requirements to facilitate construction, maintenance, operations, or other alterations the Department undertakes.

Contract Administrator - The authorized representative of the Department, assigned to a field construction project.

Controlled Access Right-of-Way (CAROW) or Highway - A form of highway access control with access permitted only at designated points.

Costs of Right-of-Way - The expenses of and incidental to the acquisitions of land or land interest.

Cover - Depth of material between the top of the utility facility and finished grade.

Department - The State of New Hampshire Department of Transportation.

Dig Safe – Dig safe is a system, required by laws and funded by member companies, which allows excavators to notify appropriate utilities with one telephone call.

Direct Burial - Installing a utility underground without conduit, duct, sleeve, or any type of encasement.

Directional Drilling - A steerable system for the installation of pipes, conduits and cables in a shallow arc using a surface mounted drilling rig.

District Engineer - The Highway District Engineer of the Department or the Administrator of Turnpikes in whose area the utility work is situated.

Drive/Entry Shaft/Pit - Excavation from which trenchless technology equipment is launched for the installation of a pipeline, conduit, or cable. The setup may incorporate a thrust wall to spread reaction loads to the ground.

Easement – A right, other than the acquisition of title, acquired to use or control property for a designated purpose.

Edge of Pavement (EP) - The outer edge of the portion of the highway constructed and surfaced for normal travel and any surfaced shoulders excluding sidewalks.

Encasement - Structural element surrounding a facility.

Encroachment Permit – This is a form that is issued by the Bureau of Turnpikes through the (District Engineer) Administrator of Turnpikes that controls and manages installations (excavations) in existing Turnpikes (LAROW) rights-of-way.

Excavation Permit - This is a form which is issued by the Highway Maintenance Bureau through its Districts offices which controls and manages installations (excavations) in existing State highway rights-of-way. This can be a long form or short form permit. The long form is commonly known as a trench permit.

- Force Account Agreement** – A written contract between the Department and a Municipality, Railroad or a Utility defining responsibilities for work to be performed including terms of reimbursement.
- Force Account Projects** - State Highway projects constructed by State forces or by a utility company, municipally owned utility, or municipality on a direct cost basis.
- Freeway, Turnpikes** - An arterial highway for through traffic with full control of access (LAROW) and generally with grade separations at major intersections.
- Frontage Road** – A street or road auxiliary to and located on the side of a freeway for service to abutting property and for control of access.
- Global Positioning System (GPS)** – The Global Positioning System is a global navigation satellite system used as a tool for map-making and land surveying.
- High, Medium and Low Pressure Gas Lines** – High, medium and low pressure gas lines are pipelines which carry a gaseous substance. High pressure lines operate at pressures greater than or equal to 100 psig (680 kPa), medium pressure lines operate between 1 psig (6.80 kPa) and 100 psig (680 kPa) and low pressure lines operate at less than 1 psig (6.80 kPa).
- 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.
- Interstate Highway** - A section of highway on the National System of Interstate and Defense Highways having freeway characteristics.
- Jacking/Boring** - Large carriers or casings pushed/augured through oversized holes carved progressively ahead of the leading edge of the advancing pipe as soil is removed back through the pipe.
- Joint use** – The use of pole-lines, trenches, or other facilities by two or more utilities.
- Limited Access Right-of-Way (LAROW) or Highway** - A right-of-way or highway where the right of ingress or egress is not allowed, except at connections to other public highways.
- Maintenance Engineer** - Administrator of the Bureau of Highway Maintenance of the Department or authorized representative.

Manhole - An opening in an underground system which workers or others may enter for purposes of making installations, inspections, repairs, connections, and tests.

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

Municipality - Any City, Town, Township, Village, Precinct, Grant, Purchase, or any Department or Subdivision thereof.

Normal To - Crossing at a right angle.

Pavement Structure - The combination of specified granular material and bituminous or concrete surfacing courses placed on a subgrade to support and distribute the traffic load (see Appendix A, Figure A1).

Pipeline – Any and all pipelines, hydrants, valve boxes, manholes, conduit, casings, and/or related fixtures authorized in the permit.

Pole line – Any and all poles, wires, guys, anchors, and/or related fixtures authorized in the permit

Preliminary Engineering - The locating, making of surveys, soil and foundation investigations, and the preparation of plans, specifications and estimates in advance of construction operations.

Private Lines – Facilities that are not owned by governmental entities, inclusive of any substantially owned or controlled subsidiary and are generally considered facilities that are devoted exclusively to private use and not directly or indirectly serving the general public.

Public Utility –

- I. (From RSA 362:2) Public Utility. The term "public utility" shall include every corporation, company, association, joint stock association, partnership and person, their lessees, trustees or receivers appointed by any court, except municipal corporations and county corporations operating within their corporate limits, owning, operating or managing any plant or equipment or any part of the same for the conveyance of telephone or telegraph messages or for the manufacture or furnishing of light, heat, sewage disposal, power or water for the public, or in the generation, transmission or sale of electricity ultimately sold to the public, or owning or operating any pipeline, including pumping stations, storage depots and other facilities, for the transportation, distribution or sale of gas, crude petroleum, refined petroleum products, or combinations of petroleum products, rural electric cooperatives organized pursuant to RSA 301 or RSA 301-A, and any other business, except as hereinafter exempted, over which on September 1, 1951, the public utilities commission exercised jurisdiction.

Public utility (cont'd):

- II. For the purposes of this title only, rural electric cooperatives for which a certificate of deregulation is on file with the public utilities commission pursuant to RSA 301:57 shall not be considered public utilities; provided, however, that the provisions of RSA 362-A, 363-B, 371, 374:2-a, 374:26, 374:26-a, 374-A, 374-C, 374-F, and 378:37-39 shall, unless otherwise provided herein, be applicable to rural electric cooperatives, without regard to whether a certificate of regulation or deregulation is on file with the public utilities commission. The provisions of RSA 374-A and the provisions of RSA 374-F:3, V (b) and (f) and RSA 374-F:7 shall be applicable to rural electric cooperatives for which a certificate of deregulation is on file with the public utilities commission to the same extent as municipal utilities.

For the purpose of this Manual, municipal sewers are also included in this definition.

Railroad - Any and all rail carriers, common and private, including steam, diesel and electric railroads, and street railways.

Recovery Area - Generally synonymous with Clear Zone.

Reimbursement - Participation - Where used in this manual shall mean that when applicable project funds may be used to make restitution or compensation to the utility company or municipality for work necessitated by projects undertaken by the Department.

Relocation – The adjustment of utility facilities required for the construction, repair, improvement, maintenance, safe and effective operation, alteration or relocation of all or any portion of the highway. It includes removing and reinstalling the facility, including necessary temporary facilities, acquiring necessary right-of-way on the new location, moving, rearranging or changing the type of existing facilities, and taking any necessary safety and protective measures. It shall also mean constructing a replacement facility that is both functionally equivalent to the existing facility and necessary for continuous operation of the utility service, the project economy, or sequence of highway construction.

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

Right-of-Way (ROW) - Real property or interests therein, acquired, dedicated or reserved for the construction, operation and maintenance of a transportation facility.

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

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

Shoulder - That portion of the roadway contiguous with the traveled way for lateral support of base and surface courses and support of a vehicle. (See Appendix A, Figure A1)

Sleeve - A larger pipe enclosing a utility facility.

Subgrade - The graded portion of a highway upon which specified granular material and bituminous or concrete surfacing courses (pavement structure) are constructed. (See Appendix A, Figure A1)

Sufferance – For purposes herein the term is meant to indicate that the utility has no real property interest in the right-of-way (i.e., fee or easement) and merely uses and occupies the public right-of-way subject to the terms and conditions of this manual and State law.

Subsurface Utility Engineering (SUE) - A branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels (as defined in ASCE standard 38-02), utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design.

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

Traveled Way (TW) - That portion of a roadway designated for the use of vehicular traffic excluding any shoulders, sidewalks or parking spaces.

Trenchless Technology – Techniques for utility and other line installation, replacement, renovation, inspection, location and leak detection with minimum excavation from the ground surface. Trenchless construction refers to such construction methods as **tunneling**, **microtunneling** (MTM), horizontal **directional drilling** (HDD) also known as **directional boring**, **pipe ramming** (PR), **pipe Jacking** (PJ), **moling**, horizontal auger **boring** (HAB) and other methods for the installation of pipelines and cables below the ground with minimal excavation. Large diameter **tunnels** such as those constructed by a **tunnel boring machine** (TBM), and **drill-and-blast** techniques are larger versions of subsurface construction. The difference between trenchless and other subsurface construction techniques depends upon the size of the passage under construction. If a subsurface construction does not permit human entry it is termed as trenchless.

Turnpike Administrator – Is responsible for the daily and long term operation and maintenance of the State of New Hampshire Turnpike System. Duties are similar to the District Engineer.

Undergrounding – The process of converting existing overhead utility facilities to underground construction or installation of new utility facilities underground.

Use and Occupancy Agreement - The document by which the Department approves the use and occupancy of limited access right-of-way (including Controlled Access right of way) by utility facilities. (Appendix H, Detail H, H-1 to H-1.5)

Utility, Utility Company - The owner of any utility facility, public or private, as described herein.

Utilities Engineer - The NHDOT Engineer responsible for coordinating utility relocations in conjunction with transportation projects.

Utility Facility - Any plant, equipment, building, system, or any part of same, privately, publicly, or cooperatively owned, for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, or any other similar commodity, including any Fire, or Police signal system, or highway, street, or area lighting system which directly or indirectly serves the public.

Utility Owner - The individual, company, government agency, etc., having ownership and responsibility for a utility facility.

Vent - Appurtenance to discharge gaseous contaminants from casing.

V. STANDARDS TO PROVIDE TRAFFIC SAFETY

All work performed by any utility or by any party on behalf of a utility within a right-of-way, whether it be new construction, adjustment, or maintenance operations, shall be conducted in a manner to protect the public. A traffic control plan shall be required for any activity within the highway right-of-way. The utility is responsible for implementing a traffic control plan and utilizing traffic control devices as necessary to ensure the safety and expeditious movement of the traveling public. The traffic control plan shall conform to the Department's Construction Sign Standards, the State of New Hampshire Flagger Handbook, and standards set forth in the FHWA "Manual on Uniform Traffic Control Devices" (MUTCD) and 23 CFR Part 630, Subpart J on Federal-aid construction projects.

Should a utility be delinquent in protecting the public as outlined above, the Department reserves the right to suspend the utility's work until the noted deficiency is corrected. When this work is being performed within existing rights-of-way, the District Engineer or authorized representative shall determine when a suspension is warranted. If the work is being performed in a construction zone in conjunction with a highway project, the Contract Administrator assigned to the project will determine when an operation is not in conformance.

VI. LIGHTING POLICY

Effective outdoor lighting benefits everyone. It is used to increase pedestrian and vehicular safety. Appropriately designed, and properly installed, outdoor lighting will contribute to the safety and welfare of the traveling public. Inappropriate outdoor lighting applications however, result in problems of glare, over lighting, light escalation, and energy waste. The cumulative effects of inappropriate outdoor lighting results in light pollution.

The Department utilizes guidance from AASHTO and FHWA when lighting is required on highway projects. On new State highway projects where Department guidelines are met; because of the Department's improvements i.e. a raised island, both installation and operating costs shall be borne by the Department. On new State highway projects, where a municipality requests lighting and Department guidelines are not clearly met, the project may pay for installation costs and the municipality shall be responsible for the operating costs.

On existing State routes where a municipality requests lighting, if approved by the District Engineer and / or the Chief of Design Services, lights may be installed at the expense of the municipality, including all installation and operating costs.

If a Municipality requests that Ornamental Lighting be installed as part of a State highway project, and the Municipality has approved an ordinance or adopted a formal policy that requires installation of ornamental lighting, and the municipality is complying with this ordinance or policy in its construction projects, then the State will participate in costs for installation for said lighting. The Municipality will be required to pay for future maintenance and operating costs.

In 2009 the New Hampshire Legislature modified Chapter 9 of the State Statutes by adding Chapter 9-D:1- 5; Outdoor Lighting Efficiency, which requires the Department to revise its lighting design standards and establish new reporting criteria for all outdoor lighting that is funded by State monies. See Appendix D, Detail D8.

VII. SCENIC AREAS

Certain lands are acquired or set aside for scenic enhancement and natural beauty. Such areas include scenic strips, scenic byways, overlooks, welcome centers, rest areas, recreation areas, recreation trails, wildlife and waterfowl refuges, historic sites, public parks, and landscaped areas.

To protect the aesthetic quality of these areas, new utility installations are not permitted within scenic areas unless the following criteria are met:

- A.** The installation does not require extensive removal or alteration of trees or other natural features visible to the highway user or impair the aesthetic quality of the lands.
- B.** New aerial installations are permitted only if:
 - 1.** Other locations or underground construction are not technically feasible, cost prohibitive, or less desirable from a visual quality standpoint.
 - 2.** The design of the proposed installation gives adequate attention to the protection and preservation of the visual qualities of the area in location, materials, and methods of construction.
- C.** Installations for Highway Purposes - All criteria set forth in Paragraphs A and B shall also apply to utility facilities needed solely for highway purposes, such as continuous highway lighting or services to a safety area, rest or recreational areas.

VIII. GENERAL HIGHWAY STANDARDS

As provided for under State Statute, utilities have utilized highway rights-of-way for transmitting and distributing their services. The effect of such joint use on the traveling public must be carefully considered and utility facilities accommodated within highway rights-of-way will be in accordance with the following general standards:

A. Location

- 1.** Utility lines shall be located to minimize the need for later adjustment to accommodate future highway improvements and to permit servicing such lines with minimum interference to highway traffic.
- 2.** Longitudinal installations shall be located on uniform alignment as near as practicable to the right-of-way line so as to provide a safe environment for traffic operation and preserve space for future highway improvements or other utility installations.
- 3.** To the extent feasible and practicable, utility line crossings of the highway shall cross on a line generally normal to the highway alignment.
- 4.** The horizontal and vertical location of utility lines within highway right-of-way limits shall conform to clear zone policies applicable for the system, type of highway, and specific conditions for the particular highway section involved. The location of above ground utility facilities shall be consistent with the clearances applicable for all roadside obstacles for the type of highway involved.
- 5.** In all cases full consideration shall be given to the measures reflecting sound engineering principles and economic factors necessary to preserve and protect the safety of highway traffic, maintenance efficiency, and the integrity and visual quality of the highway.
- 6.** Locations of utility installations on urban streets with closely abutting improvements are special cases, which must be resolved in a manner consistent with the existing limitations of physical layout and local ordinances.

B. Design

1. The utility owner is responsible for the design of the utility facility to be installed within the highway right-of-way or attached to a highway structure. The Department is responsible to review for approval the utility's proposal with respect to the location of the utility facilities to be installed and the manner of installation or 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.

2. Utility installations on, over, or under the right-of-way of highways and utility attachments to highway structures must, as a minimum, meet the following requirements:
 - a) Electric power and communication facilities shall conform to the currently applicable National Electrical Safety Code.

 - b) Water lines shall conform to the currently applicable specifications of the American Water Works Association and Department of Environmental Services, Water Division, current rules as amended.

 - c) Sewer lines shall conform to Department of Environmental Services, Water Division regulations, latest version thereof.

 - d) Pressure pipelines shall conform to the currently applicable sections of the USDOT Pipeline Safety Regulations Parts 191, 192, 193 and 195, and applicable industry codes.

 - e) Liquid petroleum pipelines shall conform to the currently applicable recommended practice of the American Petroleum Institute for pipeline installations under railroads and highways.

 - f) Any pipeline carrying hazardous materials shall conform to the rules and regulations of the Federal Agency governing the transportation of such materials.

 - g) Must conform to all public laws of the State of New Hampshire, local laws, ordinances, and orders of the Public Utilities Commission.

3. Above ground utility facilities shall be of a design compatible with the visual quality of the specific highway section being traversed (see Scenic Areas, Section VII).
4. All utility installations on, over, or under highway rights-of-way and attachments to highway structures shall be of durable materials designed for long service life expectancy and relatively free from routine servicing and maintenance.
5. On new installations or adjustments of existing utility lines, provisions shall be made for anticipated expansion of the utility facilities; particularly those located underground or attached to bridges. They shall be planned so as to minimize hazards and interference with highway traffic when additional overhead or underground lines are installed at some future date.
6. The utility company is required to secure any necessary environmental permits applicable for the proposed installation except when the relocation of facilities is necessitated by a highway improvement project. This exception is applicable only to facilities existing and relocated within highway rights-of-way or covered by utility easements or property replacement.
7. The utility company is responsible to see that all their facilities within highway rights-of-way are kept in a good state of repair. Any maintenance deficiencies noted by the Department and determined to create a potential hazard to the highway user or maintainer shall be promptly corrected by the utility. Failure to correct a noted condition may result in revocation of the utility's permit or license.

C. Investigation – Subsurface Utility Engineering (SUE)

1. The NHDOT administers a Subsurface Utility Engineering (SUE) program consistent with guidelines established in the American Society of Civil Engineers C1/ASCE 38-02 publication entitled; “Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data” intended to manage the risks associated with existing utility facilities found on active Department projects. NHDOT’s SUE Program employs established engineering technologies that can provide precise horizontal and vertical locations of existing underground utilities to produce an accurate picture of the existing overhead/underground utility infrastructure. The techniques of SUE may be appropriate for certain Department projects where enhanced location information of existing utility information are determined to be essential for the design analysis of road improvement and widening projects. (See Appendix B, Detail B1)

D. Other – Abandoned Facilities, Private Utilities

1. The Utility shall notify the Department in writing of the intention to abandon its facilities in place. Such abandoned installations within the right-of-way shall remain the responsibility of the Utility. The Department may give reasonable notice to require the removal of abandoned utility facilities and restoration of the right-of-way, or the filling of any such facility by an approved method, when necessary to avoid interference with the operation, maintenance or reconstruction of the highway. Any utility facility that the Utility requests to abandon that contains a hazardous material(s) will not be permitted to remain in the right of way and shall be removed at the Utility’s expense. Any utility facility that is proposed to be abandoned and removed by the utility owner must be disposed of consistent with industry standards and State and local laws.
2. Private utilities are not permitted within the ROW.

E. Undergrounding of Utility Facilities - Municipal Requests

If a Municipality requests that utility facilities be installed underground the utility must comply with the terms and conditions for delivery and construction of said facilities consistent with requirements of the NHPUC and associated tariff.

F. Utility Servicing, Maintenance and Repairs

All utility facilities shall be kept in a good state of repair in accordance with the requirements of Federal, State and Local laws, Federal and State regulatory Standards and applicable utility industry codes. It shall be the utility owner's responsibility to replace and stabilize all earth cover and vegetation where it has eroded over an underground utility facility where such erosion is due to or caused by the placement or existence of the underground utility facility. If it is determined by the Utility, District Engineer or others that a utility facility is in need of repair a notice of repair will be issued by the District Engineer. Once notice is issued the Utility has thirty days to repair or prepare a plan to repair said facility.

IX. PIPELINES

A. General

1. Method of Protection

a) Encasement

In general, underground utility line crossings warrant encasement to: facilitate the carrier pipe removal and/or replacement, prevent a spill or mitigate its effects on the highway, protect the line from external loads and/or accidental dig-ups, access the utility, or prevent corrosion. Encasement shall be as specified for each type of line discussed herein. Casings shall consist of a pipe or other separate structure around and outside the carrier line and shall be designed to support the dead loads of the highway and superimposed loads thereon, including that of construction machinery. The strength of the casing shall, as a minimum, equal the structural capacity of drainage culverts in the area and shall be composed of durable materials designed to meet the conditions to which it may be subjected. Encasement is mandatory for bridge approaches, freeways, interchange ramps and railroad crossings. Casing shall be sealed at the ends to prevent debris and moisture from entering the annular space between the casing and carrier pipe.

b) Optional for Gas or Liquid Petroleum Pipelines

It is difficult to provide required cathodic protection for gas or liquid petroleum pipelines inside a casing. Pipeline protective coatings are frequently damaged during the insertion of the carrier pipe into casing pipes. Because of this, utilization of a sleeve must be applied judiciously by the utility and the Department on an individual basis.

These pipelines may be installed without encasement under secondary roads and non-freeways if the pipeline's design provides:

- (1) Increased wall thickness and/or higher strength pipe materials and/or greater cover, and
- (2) Adequate coating and wrapping and cathodic protection.
- (3) Complies with requirements of the USDOT's Pipeline Safety Regulations Parts 190 through 199.

2. Depth of Underground Pipelines and Conduits

The cover shall be as specified herein for each type of utility line. Where placement at such depths results in extreme hardships, the Department may approve other protection designed by the utility company in lieu of the depth specified (see Appendix B, pages B-1 and B-2).

3. Methods of Installation:

a) Trenchless Technology Construction and Controls

In general, underground utility line crossings within existing highways will be installed by jacking or boring (wet boring is not allowed) or by other Trenchless Technology methods as approved by the Chief of Design Services or District Engineer . Minimum cover of Jacking and Boring installations shall be five (5) feet (1.5 m) on secondary roads and ten (10) feet (3 m) under primary and freeway (LAROW) roadways unless approved by the Chief of Design Services.

When installed by jacking or boring, encasement of the line may be required. All jacking or boring pits (temporary access points) shall be located as far from the edge of the traveled way of the highway as possible—and outside the clear zone (unless approved by the Department). All pits shall be located and constructed so as not to compromise the integrity of highway structure footings or traffic operations. Pits shall, at a minimum, be located beyond a line created by a 1.5:1 slope projected down from the shoulder break of the roadway. The District Engineer or Chief of Design Services may require the use of support structures to achieve the proper degree of protection.

Backfilling of boring pits shall be compacted as specified in the NHDOT Standard Specifications for Road and Bridge Construction, Section 203, Part 3.8 - Density Requirements and Tests, latest revision thereof.

Other Trenchless Technologies which may be utilized for installing utilities facilities under a highway without disturbing the surface include: driving, piercing, dry boring, horizontal directional drilling, auger and slurry boring, pipe jacking and tunneling, impact moling and ramming and pipe bursting. These techniques shall follow the manufacturer's requirements and specifications. The Department may require additional special assurances or specifications for installations utilizing these methods.

Controls for Trenchless Technology – Where unstable soil conditions exist, boring or tunneling operations shall be conducted in such a manner as not to be detrimental to the roadside being crossed. Soil coring indicating the type of subsurface material and verifying the absence of rock may be required.

If an obstruction (such as rock) is hit during construction and the bore is to be abandoned, the void shall be grout filled immediately. Abandoned casings shall be backfilled with grout as well.

The use of water under pressure (jetting) or puddling will not be permitted to facilitate boring, pushing, or jacking operations. Horizontal directional drilling using approved drilling fluids, such as bentonite, may be used in accordance with Intelligent Horizontal Directional Drilling guidelines <http://nastt.org/resources.html#5>. No directional boring work will be allowed until approved by the District Engineer, Chief of Design Services or the Turnpike Administrator.

All Directional Drilling methods utilized must include a locatable conduit system, with identification markers on each side of the Department's right-of-way.

b) Open Trench Construction:

Open trench construction within pavement structure limits will only be allowed when approved by the District Engineer and in no case is permitted on freeways. Approvals for open trenching not performed in conjunction with highway improvement projects will normally be limited to low volume roadways, urbanized non-controlled access roadways, or where soil or right-of-way conditions justify such an installation as determined by the Department. In conjunction with construction or reconstruction projects, the Chief of Design Services may allow open trench construction as coordinated with progress schedules of referenced projects.

Where trenching within the right-of-way is permitted, proper backfill compaction and materials will be required. Compaction shall equal that of the surrounding soil and restoration of the area's vegetation will be required. Erosion control measures as defined in the NHDES "Best Management Practices" manual or as determined by the District Engineer or Chief of Design Services are required.

Where open trenching across an existing roadway is permitted, backfill and compaction requirements will be specified by the Department in accordance with the Department's Standard Specifications for Road and Bridge Construction. All pavement trenching edges will be saw cut. Pavement restoration will be designed to prevent both front wheels of vehicles from impacting the patch at the same time and pavement restoration edges shall be at an angle different than the normal snowplow angle to avoid plow conflict.

4. Safety Measures During Construction

a) Traffic Control

The primary function of all temporary traffic control is to provide for the safe and efficient movement of vehicles, bicyclists, and pedestrians through or around construction work zones while reasonably protecting workers and equipment. A concurrent objective of the temporary traffic control is the efficient construction and maintenance of the highway and utilities.

As a minimum, the Utility shall comply with the Manual on Uniform Traffic Control Devices (MUTCD), current edition and State signing standards for all utility work.

The safe passage of vehicular traffic, bicyclists, and pedestrians through and around construction work zone, while minimizing confusion and disruption to traffic flow, shall have priority over all other utility activities. During the initial installation or construction of the facilities authorized by a permit, or during any future repair, removal, or relocation thereof, or during any miscellaneous operations and maintenance activities, the Utility shall at all times, install, maintain, and remove all signs, warning lights, channelization devices, and other safety devices as described in the MUTCD and the temporary traffic control plan. All temporary traffic control devices shall be removed from the Department's right-of-way as soon as practical when they are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer applicable shall be removed or covered.

b) Blasting

If the need arises to utilize blasting during installation or repair of utility facilities all laws, ordinances and regulations, including the State of New Hampshire, Department of Transportation Standard Specifications for Road and Bridge Construction (latest revision), whichever is the most restrictive; shall be followed in the use, handling, loading, transporting and storage of explosives and blasting agents.

Any blasting shall receive prior approval from the District Engineer. The Department may require that detailed plans and procedures prepared by a licensed blaster be submitted by the Utility. Preblast surveys may also be a condition attached to an excavation permit for this work.

5. Locations of Installations

- a)** Conditions that are generally unsuitable or undesirable for conduit pipeline crossings shall be avoided if possible. These include locations such as in deep cuts; near footings of bridges and retaining walls; across at grade intersections or ramp terminals; at cross drains where flow of water, drift, or stream bed flow may be obstructed; within basins of an underpass drained by a pump if a pipeline carries a liquid or liquefied gas; and in wet or rocky terrain where it will be difficult to attain minimum cover.

- b) Vertical and horizontal clearances between a pipeline and a structure, highway, or other utility facility shall be sufficient to permit maintenance of both the pipeline and the other facilities without interference.
- c) The locations of all pipelines will be reviewed by the Chief of Design Services or District Engineer to ensure that the proposed utility installation will not interfere with existing or currently planned highway facilities or with highway maintenance and operation processes.
- d) Highway drainage pipes and structures shall be protected during pipeline installation and maintenance. Utilization of existing drainage pipes as sleeves for pipelines is not permitted.

6. Product Transmission

- a) All applications for pipeline excavation permits must specify the transmittants and the maximum working, test, and design pressures of the carrier and casing (if a casing is required).
- b) Prior to any change in the pipeline's transmittants or increase in the working pressure from that specified in the original permit, the utility must notify the Department and obtain approval. The applicable codes must be specified in the request.

7. Drainage

Where it is necessary for pipelines to cross existing easement drainage flows outside of the right-of-way, the same minimum cover shall be maintained as when crossing drainage ditches within the highway right-of-way. Existing surface and subsurface drainage flows must not be obstructed or altered. In cases where soil conditions are such that erosion might occur or where it is not feasible to obtain specified depths, it shall be the responsibility of the utility owner to take such other measures as needed for safety and to protect the highway and the pipeline. Where grades on the pipelines must be maintained, such as gravity flow sewer lines, each case will be resolved on an individual basis and is subject to Departmental approval.

B. High Pressure Gas and Liquid Petroleum Lines Over 100 psig (680 kPa)

1. Cover

As used herein, depth of lines is the depth to top of carrier (if unencased), or casing, if required (see Appendix B, pages B-1 and B-2).

- a) For encased high-pressure gas or liquid petroleum lines the minimum cover for casing pipe shall be 30" (750 mm). For that portion of the carrier line outside of the casing pipe the minimum cover within the highway right-of-way shall normally be 36" (900 mm) except where crossing ditches where 48" (1200 mm) is required (see Appendix B, pages B-1 and B-2). Exceptions may be authorized to permit existing lines to remain in place with a maximum reduction of 6" (150 mm) in the above-specified cover. All lines normally shall be a minimum of 18" (450 mm) or one-half the diameter of the pipe, whichever is greater, beneath the bottom of the subgrade. Where materials and other conditions justify, such as on existing lines with encasement which are to remain in place, a minimum depth under subgrade of 12" (300 mm) or one-half the diameter of the pipe, whichever is greater, may be permitted.
- b) For unencased high pressure gas or liquid petroleum lines the minimum cover shall be 60" (1500 mm) under the pavement surface or 18" (450 mm) under the subgrade, whichever is greater. Under ditches the minimum cover shall be 48" (1200 mm) . Exceptions may be authorized by the District Engineer or the Chief of Design Services to permit a reduction in the specified depths of cover where the pipeline is protected by a reinforced concrete slab.

2. Encasement

- a) Where encasement is to be employed such encasement shall be provided under center medians and within the limits of pavement structure to a point beyond the ditch line for cut sections, 5' (1.5 m) beyond the toe of slope for fill sections, or 5' (1.5 m) beyond the face of curb of all urban section roadways including side streets and 25' (8 m) beyond any overpass or other structure where the line passes under it. Exceptions for encasement within a portion of the median may be approved when excessive median width or significant changes in the roadway cross-section make a continuous installation impractical (see also Appendix B, page B-3).

All pipelines shall be encased under a bridge approach slab or if they pass closer than 25' (8 m) from a structure footing.

- b) Where encasement is not employed, refer to Section IX.A.1.b (see also Appendix B, pages B-1 and B-2).
- c) Existing lines under rural highways within construction projects may be permitted to remain in place without encasement or extension of encasement if they are protected by a reinforced concrete slab or equivalent protection, or if they are located at a depth of 18" (450 mm) under the pavement subgrade and not less than 36" (900 mm) under the roadway ditch. If a reinforced concrete slab is to be used, it should meet the following standards:
 - (1) Width - three times the diameter of the pipe or 5' (1.5 m), whichever is greater.
 - (2) Thickness - 6" (150 mm) minimum.
 - (3) Reinforcement - 4 (#13) bars at 12" (300 mm) centers each way or equivalent wire mesh.
 - (4) Cover - the cushion between the bottom of slab and top of pipe shall be not less than 6" (150 mm). The area shall be filled with a lightweight, closed-cell material (i.e. Styrofoam).

The concrete slab shall be designed by a Professional Engineer licensed in the State of New Hampshire.

3. Vents

One or more vents shall be provided for each casing or series of casings. For casings longer than 150' (45 m), vents should be provided at both ends. On shorter casings a vent should be located at the high end with a marker placed at the low end. Vents shall be placed at the right-of-way line immediately above the pipeline, situated so as not to interfere with highway maintenance or be concealed by vegetation. Ownership of the lines shall be shown on the vents.

4. Markers

The utility company shall place a readily identifiable and suitable marker at each right-of-way line crossed by any high pressure gas or liquid petroleum line except where marked by a vent. A strip of warning tape shall be placed in the trench in compliance with industry standards for color, size and placement for all lines installed by open cut.

5. Drains

Drains for petroleum pipelines will not be permitted to outfall into roadway drainage ditches, natural watercourses, or highway rights-of-way.

6. Plastic Lines

Not allowed for High Pressure installations.

C. Medium and Low Pressure Gas Lines Under 100 psig (680 kPa)

1. Cover

For medium and low pressure gas lines the minimum cover within the right-of-way and under highway ditches, but outside the pavement structure, shall be 30" (750 mm) for either encased or unencased installations. Exceptions may be authorized to permit existing lines to remain in place with a maximum reduction of 6" (150 mm) in the above-specified depth. Medium and low pressure gas lines shall be a minimum of 18" (450 mm) or one-half the diameter of the pipe; whichever is greater, beneath the subgrade. Where materials and other conditions justify, such as on existing lines to remain in place, a minimum depth below the pavement structure (subgrade) of 6" (150 mm) or one-half the diameter of the pipe, whichever is greater, may be permitted.

As used herein, depth of lines is the depth to the top of carrier pipe or casing as applicable (see Appendix B, pages B-1 and B-2).

2. Encasement

Encasement of low and medium pressure gas lines shall comply with the requirements for high pressure lines as stated in Section IX.B.2.a. Lines placed without encasement shall be plastic or welded steel construction protected by approved coatings or cathodic protective measures.

3. Vents, Markers, Drains

See High Pressure Gas and Liquid Petroleum Lines, Section IX.B.3, B.4 and B.5.

4. Plastic Lines

Plastic lines may be used provided the internal pressure will not exceed State & Federal Regulations, or the manufactures recommendations and the cover is at least 30" (750 mm). The maximum size of plastic lines shall not exceed 12" (300 mm). Where plastic pipe is installed a durable metal wire or magnetic tape shall be concurrently installed just above the pipe or other means shall be provided for detection.

5. Existing Lines

If an existing line is allowed to remain under the pavement of any highway, additional measures may be required to minimize any future need for cutting the pavement to make service connections. (Examples include the use of split sleeves or a reinforced concrete slab.)

D. Water Lines

1. Cover

The cover for water lines shall be a minimum of 60" (1500 mm). In addition, within pavement structure limits, installations shall be a minimum of 18" (450 mm) or one-half the pipe diameter whichever is greater, beneath the subgrade. The utility owner is responsible to assure that all water lines have proper cover or are suitably insulated to protect against freezing.

2. Encasement

All water lines under bridge approach slabs, under or within 25' (8 m) of the footing of any structure shall be encased. Any freeway crossing shall be encased within and beyond the right-of-way, or at a minimum 5' (1.5 m) beyond slope intercept of the original ground in fill sections or the slope ditch intercept in a cut section. Continuous welded ductile iron water lines of 12" (300 mm) diameter or less need not be encased under other (non-freeways) existing highways, provided the pipe is jacked or bored. For water lines installed by open cut, or installed concurrently with a highway improvement project, encasement will not be required if suitable extra heavy pipe is used.

3. Shutoff Valves

Shutoff valves shall be located beyond the limits of a structure, where a water line is accommodated, and on both sides of a structure footing (see Utility Installations on Structures, Section XIV).

4. Markers

a) The utility company shall place a readily identifiable and suitable marker at each right-of-way line crossed by a water line. A strip of warning tape shall be placed in compliance with industry standards for color, size and placement in the trench for all lines installed by open cut.

b) Where plastic pipe is installed a durable metal wire shall be concurrently installed or other means shall be provided for detection.

5. Drains

Water line encasement or drains may be permitted to outfall into roadside ditches at locations approved by the Department.

6. Plastic Lines

Plastic lines may be used provided they have at least 60" (1500 mm) of cover for roadway crossings and longitudinal segments. Crossings shall be encased in accordance with Section IX.A.1.a.

7. Existing Lines

If an existing line is allowed to remain under the pavement of any highway, additional measures may be required to minimize any future need for cutting the pavement to make service connections. (Examples include the use of split sleeves or a reinforced concrete slab.)

E. Sanitary Sewer Lines

1. Cover

The cover for sanitary sewer lines shall be a minimum of 60" (1500 mm). In addition, within pavement structure limits, installations shall be a minimum of 18" (450 mm) or one-half the pipe diameter whichever is greater, beneath the subgrade.

The utility owner is responsible to assure that all sewer lines have proper cover, or are suitably insulated to protect against freezing.

2. Encasement

Encasement requirements as stipulated in Water Lines, Section IX.D.2, shall apply for all pressurized sewer lines and any existing gravity line which does not comply with material or cover requirements.

3. Manholes

Manholes serving sewer lines up to 24" (600 mm) in diameter shall have a minimum inside diameter of 48" (1200 mm). For any increase in line size or number of pipes, the inside diameter of the manhole may be required to be increased a like amount. Manholes for large interceptor sewers should be specially designed, keeping the overall dimensions to a minimum. The outside diameter of the manhole chimney at the ground level shall not exceed 36" (900 mm). Any manholes allowed within the pavement shall be set flush with the pavement and will not be in the vehicular wheel path.

4. Drains

Sanitary sewer line encasement drains shall not outfall into roadway drainage ditches, natural watercourses, or the right-of-way.

5. Plastic Pipe

Where nonmetallic pipe is installed, a durable metal wire shall be installed concurrently or other means shall be provided for detection purposes.

6. Exception for Existing Lines in Urban Areas

The Department may permit existing lines in urban areas to remain in place provided the line is of satisfactory quality and depth, manholes are adjusted in conformance with general requirements herein, and provisions are made to assure that future service lines will not be in violation of access control or disturb any roadway.

X. UNDERGROUND POWER LINES

A. General

1. Cover

The minimum cover for underground power lines along and/or across the highway right-of-way, but outside the pavement structure (subgrade), shall be 30" (750 mm) except where crossing ditches where 48" (1200 mm) are required. A minimum depth of 18" (450 mm) shall be maintained under the pavement structure (subgrade). The District Engineer, or Chief of Design Services may authorize exceptions. Where materials and other conditions justify, exceptions may be authorized to permit existing lines to remain in place with a cover of 6" (150 mm) below subgrade.

2. Roadway Crossings

Underground power lines should be located at approximate right angles to the highway to the extent feasible and practical. Reasonable latitude may be exercised regarding the crossing angle of existing lines that are otherwise qualified to remain in place.

3. Encasement

All underground power lines within the highway right-of-way shall be in conduit. Conduit placed below pavement structure limits shall equal or exceed Schedule 80 PVC-EPC (Electrical Plastic Conduit). Conduit placed beyond horizontal pavement structure limits shall equal or exceed Schedule 40 PVC-EPC.

4. Markers

The utility company shall place a readily identifiable and suitable marker at each right-of-way line crossed by an underground power line. A strip of warning tape shall be placed in the trench in compliance with the American Public Works Association and industry standard for size, color and proper placement for all power lines installed by open cut.

5. Longitudinal

Longitudinal underground power lines, where permitted, shall be located on uniform alignments as near as practical to the right-of-way line with consideration given to provide space for possible future highway construction and/or future utility installations. For those installations that can not comply with the above requirements, the Commissioner may, on a case by case basis, approve the proposed installation as long as the proposed facility design precludes the need to relocate the facilities in the future.

6. Appurtenances

Underground power line installations that include above ground transformers or other utility appurtenances shall be located at or near the right-of-way line, outside the clear zone and maintenance operation area. For those proposed installations that can not comply with the above requirements the Commissioner may, on a case-by-case basis, approve the installation. The Utility shall document that the installation does not present a safety hazard to vehicular travel and that normal highway maintenance operations are not impeded.

7. Manholes

- a) Manholes shall be limited to those necessary for installation and maintenance of underground lines. On non-freeway highways existing manholes may be permitted to remain in place to service existing lines. The elevation of manhole rims and covers shall be set at finished grade. Except within urban type areas, new manholes will not be permitted within the traveled way or shoulder of a highway
- b) To conserve space within the right-of-way for highway and other utility services, manhole vault dimensions should be no larger than is necessary to hold the equipment involved and for safety standards to be assured for maintenance personnel. The outside width should not exceed 7' (2.1 m), with the length held to a reasonable minimum. The outside dimensions of a manhole chimney should not exceed the minimum required to support the manhole frame and cover. Manhole covers (for personnel access) shall be installed flush with finished grade and shall not be in the vehicular wheel path. The top of the roof of the manhole vault should be set to meet the minimum cover stipulated in Appendix B, pages B-1 and B-2
- c) Exceptions may be authorized provided that justification is supplied to the District Engineer or Chief of Design Services and it is found acceptable.

XI. UNDERGROUND COMMUNICATION LINES AND CABLE TELEVISION LINES

A. General

1. Cover

The minimum cover for underground communication lines and cable television lines along and/or across the highway right-of-way including highway ditches, but beyond the pavement structure (subgrade), shall be 30" (750 mm) for either encased or unencased installations. A minimum depth of 18" (450 mm) shall be maintained under the pavement structure (subgrade). The District Engineer or Chief of Design Services may authorize exceptions. Where materials and other conditions justify, exceptions may be authorized to permit existing lines to remain in place with a cover of 6" (150 mm) below subgrade.

2. Roadway Crossings

Underground communication lines and cable television lines should be located at approximate right angles to the highway to the extent feasible and practicable. Reasonable latitude may be exercised regarding the crossing angle of existing lines that are otherwise qualified to remain in place.

3. Encasement

a) Underground communication lines and cable television lines crossing highways do not require conduit except where, in the judgment of the District Engineer or Chief of Design Services, such conduit is necessary for the protection of the highway facility. Conduit or other suitable protection is required for any communication facilities (a) with less than minimum cover, (b) within 25' (8 m) of the footings of bridges or other highway structures, or (c) under the approach slabs of structures.

b) Conduit shall be designed to support the load of the highway and superimposed loads thereon, including that of construction machinery. The strength of the conduit placed within pavement structure limits shall equal or exceed structural requirements for PVC Schedule 80.

4. Markers

The utility company shall place a readily identifiable and suitable marker at each right-of-way line when crossed by an underground communication line. A strip of warning tape shall be placed in the trench in compliance with industry standards for size, color and proper placement for all communication lines.

5. Longitudinal

Longitudinal underground communication and cable television lines, where permitted, shall be located as near as practical to the right-of-way line with consideration given to provide space for possible future highway construction and/or future utility installations.

6. Appurtenances

Above ground pedestals, buildings, or other utility appurtenances installed as a part of an underground communication line shall be located at or near the right-of-way line, outside the clear zone and maintenance operation area. The District Engineer or Chief of Design Services shall approve the site.

7. Manholes

a) Manholes shall be limited to those necessary for installation and maintenance of underground lines. On non-freeway highways, existing manholes may be permitted to remain in place to service existing lines. The elevation of manhole rims and covers shall be set at finished grade. Except within urban type areas, new manholes will not be permitted within the traveled way or shoulder of a highway.

b) To conserve space within the right-of-way for highway and other utility services, manhole dimensions should be no larger than is necessary to hold the equipment involved and for safety standards to be assured for maintenance personnel. The outside width should not exceed 7' (2.1 m), with the length to be held to a reasonable minimum. The outside dimensions of the manhole chimney should not exceed the minimum required to support the manhole frame and cover. Manhole covers (for personnel access) shall be installed flush with finished grade. The top of the roof of the manhole vault should be set to meet the minimum cover stipulated in Appendix B, Figure B1 and Table B1

c) Exceptions may be authorized provided that justification is supplied to the District Engineer or Chief of Design Services and is found acceptable.

XII - OVERHEAD UTILITY FACILITIES

A. General

Overhead lines affect road systems and rights-of-way primarily because exposed locations may represent a safety hazard to highway users or may interfere with highway maintenance operations. The basic intent of criteria set forth in the following sections is to keep overhead lines and supporting structures as far from traffic as possible.

1. Types of Installation

Longitudinal pole lines shall be single pole installation. Other types of installation (“H” frame, towers, etc.) may be utilized for aerial crossings, provided all criteria specified herein are met. Support structures for aerial crossings should be placed outside the right-of-way unless this creates extreme hardship as determined by the Department.

2. Joint Use

In accordance with the National Electrical Safety Code, Rule 222 of Part 2, the Department requires joint use of utility poles. Only one longitudinal pole line will be permitted within a right-of-way. “Stub” poles (for support) and/or services are not considered a separate pole line, but shall conform to all applicable clear roadside criteria.

3. Vertical Clearance

The minimum vertical clearance of new overhead utility lines above highways shall be 18' (5.5 m) under maximum sag conditions unless the National Electrical Safety Code or governing laws require greater clearances, in which case, the greater shall apply. Where existing roadway elevations are increased due to construction, existing overhead utility lines shall be adjusted to meet the 18' (5.5 m) minimum requirement.

B. Location

New pole lines or above ground appurtenances will not be allowed within the clear zone unless appropriate countermeasures to reduce hazards are used. In accordance with the Department's policy to provide for clear zones the **minimum** offset to all ground mounted, non-breakaway, utility poles and appurtenances shall be as follows and as shown in Appendix C:

1. 30' (9 m) from the outside edge of traveled way for highways with posted speeds of 50 mph (80 km/h) or greater.
2. 20' (6 m) from the traveled way for highways with posted speeds under 50 mph (80 km/h).
3. At the right-of-way line or tree line, but never closer than 8' (2.4 m) from the nominal outside edge pavement where there is insufficient right-of-way to obtain minimum offsets as specified in the preceding paragraphs.
4. At the right-of-way line or a minimum of 5' (1.5 m) beyond face of vertical curb where practicable. Exceptions shall be reviewed for urban highways on a case-by-case basis.

Exceptions to (1) and (2) above are:

- a) 8' (2.4 m) beyond face of beam guardrail (see Appendix C, Figure C4).
- b) 12' (4.0 m) beyond face of cable guardrail (see Appendix C, Figure C2).
- c) 5' (1.5 m) beyond the centerline of the roadway ditch line in cut sections, provided the clear zone criteria are met (see Appendix C, Figure C2).
- d) Countermeasures such as breakaway features or impact attenuation devices shall be required if the minimum offsets are not met.

C. Additional Criteria

1. All minimum offsets are measured horizontally to the face of pole and/or appurtenance at ground level.
2. Support structures are not permitted in medians of less than 80' (24 m) in width unless an exception is granted.
3. Longitudinal aerial installation is not permitted within any highway median.
4. No guy wires, push braces, or other non-breakaway appurtenances shall be placed at a lesser offset than the minimum.

D. Exceptions

1. Breakaway poles installed solely for highway lighting purposes are exempt from the offset criteria specified above, but normally shall be set at least 8' (2.4 m) from normal edge of pavement.
2. All requests for exceptions will be considered only where extreme hardship is demonstrated by the utility.
3. Exceptions to the 8' (2.4 m) from edge of pavement criteria will be allowed only in urban section situations where vertical curb is installed.

XIII STANDARDS FOR HIGHWAYS WITH FREEWAY CHARACTERISTICS

A. General

All highways with freeway characteristics are dedicated to allow for optimum mobility and safety of through traffic. The basic element in the design and operation of these highways to achieve this end is the limiting of access to the highway.

1. Basic Principle

Under the full control of access, principle utility use of limited access rights-of-way shall be restricted as specified within the following sections. Highways with such rights-of-way shall be referred to as freeways in this text. These requirements also govern highways defined by Controlled Access Right of Way. The provisions in this section are in addition to all other general standards contained in this policy.

2. Permit Requirements

- a)** All utility accommodations as may be warranted shall only be in accordance with an approved Excavation Permit (issued by Districts) and Encroachment Permit (issued by Turnpikes) and a Use and Occupancy Agreement issued by the Department. A sample copy of a Use and Occupancy Agreement is contained in Appendix H.
- b)** Advance arrangements shall be made between the Utility and the Department for emergency repair procedures as set forth in the Use and Occupancy Agreement.
- c)** All permits shall include adequate provisions for allowing access to the utility work zone, traffic control, and protection of both utility workers and the traveling public.
- d)** Service connections to adjacent properties will not be permitted from longitudinal utility installations located within the limited access lines of a freeway. Service connections to adjacent properties in Controlled Access ROW may be permitted provided they are limited to supplying the service to a single residence or single commercial operation. All other installations will require a Use and Occupancy Agreement.

- e) Privately owned utilities are not allowed within the State's ROW, LAROW, CAROW or other State highways

B. Longitudinal Facilities

1. Existing Aerial Facilities

Existing installations, which would lie longitudinally within the limits of a proposed freeway, shall be relocated beyond the proposed LAROW lines. Service for relocated facilities will not be accomplished from the freeway roadway or ramps.

2. New Aerial Facilities

Longitudinal installations are not permitted within the LAROW lines parallel to either the through roadway or its ramps.

3. Existing Underground Facilities

Existing installations that would lie longitudinally within the limits of a proposed freeway. shall be relocated beyond the proposed LAROW lines.

4. New Underground Facilities

Longitudinal installations are not permitted within the LAROW lines parallel to either the through roadway or its ramps.

5. Existing Longitudinal Facilities

Existing installations within existing LAROW will be allowed to remain until such time that either the utility proposes an upgrading project or the Department proposes or approves a highway improvement project. At that time the utility shall relocate its facilities beyond the LAROW lines.

6. Exceptions

Only the Commissioner or their designee may authorize special case exceptions for longitudinal installations. However, in no instance will utilities be allowed to be installed longitudinally within the median area of freeways.

Any utility which proposes a special case exception for a longitudinal installation shall file a written application describing the facility to the Commissioner including therewith preliminary drawings and any attachments or addendums required to make the application complete. All filings with the Department shall be done through the Commissioner or their designee.

The Utility, in its request, must demonstrate that an extreme hardship would be imposed on the utility and/or the consumer should approval be denied.

The Utility shall present its proposal in both written and plan form, demonstrating to the Commissioner's satisfaction that:

- a) The accommodation will not adversely affect the safety, design, construction, operation, maintenance, or stability of the freeway.
- b) The accommodation will not interfere with or impair the present use or future expansion of the freeway.
- c) Alternate locations are not available or cannot be implemented at reasonable cost from the standpoint of providing efficient utility services in a manner conducive to safety, durability, and economy of maintenance and operations.
- d) Disapproval of the use of the right-of-way would result in the loss of productive agricultural land, or loss of productivity of agricultural land, if any. In this case, the utility must provide information on the direct and indirect environmental and economic effects of such loss, which effects will be evaluated and considered by the Commissioner.
- e) The accommodation satisfies the conditions of "Access for Constructing and/or Servicing Utilities" as follows:

- (1) In general, utilities are to be located and designed in such a manner that they can be constructed and/or serviced without direct access from the through roadways or connecting ramps. Such direct access shall not be permitted except for special cases where alternate locations and/or means of access are unavailable or impractical due to terrain and/or environmental constraints, and such use will not adversely affect safety to the traveling public or damage the State's facility. Where direct access is requested, an access permit must be obtained from the Department.
- (2) Access for construction and/or servicing a utility along or across a freeway should be limited to access from (1) frontage roads where provided, (2) nearby or adjacent public roads and streets, or (3) trails along or near the freeway right-of-way line, connecting only to an outer portion of the freeway right-of-way from any one or a combination of (1) through (3) above. Subject to 23 CFR Section 645.111, a locked gate along the freeway fence may be utilized to meet periodic service access needs. Where a gate is allowed, it will be documented in the Use and Occupancy Agreement, which will include adequate provisions against unauthorized use.
- (3) In those special cases where utility supports, manholes, or other appurtenances are located in medians, interchange areas, or otherwise inaccessible portions of freeway rights-of-way, access to them from through traffic roadways or ramps may be permitted when other alternatives do not exist. Such access shall be by permit setting forth the conditions for policing and other controls to protect highway users. Entry to the median area should be restricted where possible to nearby grade separation structures, stream channel crossings, or other suitable locations not involving direct access from through roadways or ramps.
- (4) Where utilities are located outside the LAROW and where such utilities may require maintenance from within the LAROW, access terms shall be negotiated with and approved by the Department.

C. Crossing Facilities

Crossings will not be allowed if access for servicing is accomplished from the highway or ramps. Exceptions must comply with B.6. above (Exceptions).

1. New Aerial Crossings

Installation of new aerial facilities that cross LAROW lines are permitted provided that the facilities are located approximately at right angles to the highway. Facilities should span the LAROW without placing supporting structures within said limits. Should a clear span be unattainable, all support structures allowed within the LAROW shall:

- a) Be located the required offset, 30' (9 m) beyond the outer edge of existing or planned roadway traveled way and 20' (6 m) from the outer edge of any existing or planned ramp traveled way (see Appendix C, Table C1).
- b) Not be located within a median of 80' (24 m) or less in width.
- c) Not impair sight distance from any point on the through roadway or ramps.

The minimum vertical clearance from the high point of the roadway finished grade to the lowest point of any aerial cable shall be at least 18' (5.5 m) under maximum temperature conditions affecting its catenary unless required to be greater by the current National Electrical Safety Code, the New Hampshire Public Utilities Commission, or other regulations.

2. Existing Aerial Crossings

Existing aerial facilities that cross proposed LAROW lines may remain in their location provided that the conditions in Paragraph C.1 above are satisfied. Reasonable latitude will be exercised regarding the angle of crossing of existing lines, which are otherwise qualified to remain.

3. New Underground Crossings

Installation of new underground facilities that cross LAROW lines are permitted provided that the facilities meet the following criteria.

- a) Facilities shall cross approximately at right angles to the highway.
- b) Manholes and appurtenances shall be located outside LAROW lines.
- c) Facilities shall be designed to preserve and protect the structural integrity, aesthetic quality, safety, maintenance, and operation of the freeway during construction and operation of the facility.
- d) Construction materials and installation shall conform to pertinent sections of this manual dealing with pipelines, underground power, or underground communication lines.

4. Existing Underground Crossings

Existing underground facilities that cross-proposed LAROW lines may remain in their present locations if all conditions listed in Paragraph C.3 above are satisfied. Reasonable latitude may be exercised with regard to the angle of crossing of existing lines, which are otherwise qualified to remain.

D. Utility Facilities Crossing Freeways along Roads or Streets at Grade Separations

At grade separation structures carrying a crossroad or street over or under a freeway, utility facilities are permitted to cross the freeway at that location or in the grade separation structure if the following criteria are met:

- 1. Access for maintenance of the utility installation is not from the through roadway or ramps of the freeway.
- 2. The proposed facility is located within the normal right-of-way of the crossroad or street.
- 3. Crossings over the separation structure shall meet the additional conditions under Section XIII.C regarding crossings facilities.

4. Crossings under the separation structure are permitted if designed such that future bridge rehabilitation and widening projects and maintenance of the structure will not be impaired.
 - a) Also see conditions under “Pipelines” Section IX.A.1.a for encasement requirements.
 - b) Undergrounding is preferred. Aerial line crossings under separation structures will be considered on an individual basis.
5. Relocations required by future widening or rehabilitation work will be accomplished by the utility at their expense.

E. Utilities along Roads or Streets at Freeway Interchanges

1. Aerial facilities are permitted if:
 - a) Access for installation or maintenance is not from the through roadway or ramps.
 - b) There is a lateral clearance of 20' (6 m) from the edge of the ramp traveled way.
 - c) Sight distance from the freeway, roadway, or ramps is not impaired.
 - d) The lateral and vertical clearances from the through roadway set forth in this section are met.
2. Underground facilities are permitted if:
 - a) Access for installation or maintenance is not from the through roadway or ramps of the freeway.
 - b) All applicable conditions pertaining to pipelines, underground power, or underground communication lines in this Manual are met.

XIV. UTILITY INSTALLATIONS ON STRUCTURES

A. General

Where other arrangements for a utility line to span an obstruction are not feasible, the Department will consider the attachment of such line to a bridge structure. Each such 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 for attachment. The following requirements or parameters are established for attachment of utilities to bridges:

- 1.** All proposals for attachment to structures shall be designed by a New Hampshire Licensed Professional Engineer and will be subject to Department of Transportation approval. Plans detailing the attachment shall be submitted in triplicate to the New Hampshire Department of Transportation Bureau of Bridge Design through the NHDOT Design Services Section.
- 2.** All utilities attached to a highway structure shall not be located outside the first girder or beam and will not be allowed to be at an elevation less than the lowest point of the superstructure. This is necessary to permit future maintenance and inspection of the structure to occur unhampered by the utility installation.
- 3.** On existing bridges, the line should be enclosed in conduits and so located on the structures as not to interfere with stream flow, traffic, or routine maintenance operations. When a request is made prior to construction of a bridge, suitable conduits will be permitted on the structure and the Department will allow a reasonable number of spare conduits provided the spares are placed at the time of construction.
- 4.** Communication and electric power lines shall be suitably insulated, grounded, and carried in protective conduit or pipe from the point of attachment to the point of exit per applicable standards. Buried cable should be carried to a manhole located beyond the back wall and/or approach slabs of the structure. Carrier and casing pipe should be suitably insulated from electric power line attachments.
- 5.** Mutually hazardous transmittants, such as fuels and electric energy, shall be isolated by compartmentalizing or by auxiliary encasement of incompatible carriers.

6. Where a pipeline on or in a structure 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.
7. Where a casing is not provided for a pipeline on or in a structure, 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 encased construction.
8. Pipeline shut-offs, preferably automatic, shall be required within close proximity of structure installations unless other sectionalizing devices can isolate segments of the lines.
9. It is agreed by the utility companies that any maintenance, servicing, repair, or relocation of the utility lines will be their responsibility.
10. When a utility company requests permission to attach a pipeline to an existing or proposed bridge, sufficient information should 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, maintenance, and structural integrity must also be presented including hanger details. If the bridge structure is not of adequate strength to carry the increased weight or forces with safety, the attachment will not be permitted.

XV. PROCEDURE FOR ACCOMMODATION APPROVALS – PERMIT REQUIREMENTS

A. Type of Accommodation

This manual recognizes three separate types of utility accommodation within a highway right-of-way: (1) new utility installations on existing highways, (2) adjustment or relocation of utilities for construction or reconstruction projects, and (3) new utility facilities constructed concurrently with highway projects. This section will address the responsibilities and authority for approvals for these three types of accommodations.

1. Installations on Existing Highways

- a)** Under State law (see Appendix D, Detail D1, D-1.1 to D-1.3), all utilities are required to obtain a permit or license for any utility installations within a State highway right-of-way. Permits and licenses will be granted by the District Engineer, provided the utility facilities meet the standards of this policy or an exception is granted, and any special conditions required for maintenance or construction of the utility facilities are met. The permit system for the accommodation of utilities makes known the intent of the utility to carry out work within the right-of-way; stipulates the nature and extent of such right-of-way work; provides an administrative means to coordinate the use of the right-of-way space and to hold the utility responsible for such authorized work; and provides a means to grant approval for the authorized work and establish records of all utility installations, certain maintenance activities and operations within the right-of-way.

- b)** Two (2) sets of plans, or as otherwise may be required along with a complete description of proposed changes to or installation of utility facilities, shall be directed to the District Engineer for approval. The submission should be made a minimum of 30 days in advance of the proposed work (see Appendix E for District boundaries and mailing addresses).

- c) When work proposed would occur within the LAROW (including CAROW) of a highway four (4) sets of plans and a complete description of the proposed work shall be submitted to the District Engineer. The District or the Bureau of Turnpikes will review and send two (2) sets of the complete package along with their comments to the Chief of Design Services for approval. The submission should be made a minimum of 60 days in advance of any proposed work.

- d) All utility permit and license applications shall, at a minimum, contain the following:
 - 1. A description of the size, type, capacity, nature, and extent of the utility installation;
 - 2. Plans, drawings, or dimensioned sketches showing the proposed location with respect to the edge of pavement and the right-of-way lines, and the depth of cover for all underground facilities;
 - 3. Additional requirements under Section IX Pipelines, when applicable;
 - 4. The responsible person within the utility company to be contacted; and
 - 5. A Traffic Control Plan, subject to approval by the Department, for the protection of the traveling public (see Standards to Provide Traffic Safety, Section V).

- e) All permits and licenses issued by the State will, as a minimum, specify the following:
 - 1. Requirements for location, construction, restoration, protection of traffic, maintenance or access restrictions, and any special conditions applicable;
 - 2. A statement defining the liability and responsibility associated with future adjustments or relocations of the utility facility due to highway improvements; and
 - 3. The responsible Department person to be contacted should an emergency arise.

- f) The Department strongly recommends the use of Subsurface Utility Engineering (SUE) when proposing to place a new utility in an existing roadway. This further insures conflicts with other utilities will be identified during the design of the proposed utility and enables resolution prior to commencing construction. The SUE program employs established engineering technologies that can provide precise horizontal and vertical locations of existing underground utilities to produce an accurate picture of the existing utility infrastructure.

2. **Relocations / Adjustments to Utilities Req'd by Hwy. Improvements**

- a) The Utilities Engineer will coordinate and determine required utility relocations for all highway projects.
- b) Proposed utility relocations will be submitted to and approved by the Utilities Engineer and shall conform to the standards of this Manual. The utility company is responsible to see that the proposed design is in conformance with all applicable industry codes, laws, and regulations.
- c) A representative of the Department will review the layout of the proposed locations with the utility company prior to work commencing. Any alterations to the previously approved design will be reviewed by the Utilities Engineer to ensure all standards are met before final approval is given.
- d) If the utility work is to be performed before award of the project's contract, a permit for the work must be obtained from the District Engineer, or Municipality. A representative of the Department will inspect the utility work and **as-built** information will be required from the utility.

- e) When the utility work is accomplished during the highway project's construction, a permit will not be necessary if the Utilities Engineer has given approval. This approval will not replace the license required for poles, structures, conduit and cables, which must be obtained from the District Engineer, or the Municipality upon completion of the project. A license will be issued by the Department for facilities installed at locations approved by the Chief of Design Services or Contract Administrator.

- f) The Department strongly recommends the use of Subsurface Utility Engineering when proposing to place a new utility in an existing roadway. This further insures conflicts with other utilities will be identified during the design of the proposed utility and enables resolution prior to commencing construction.

3. Concurrent Utility and Highway Construction

- a) The Department encourages utility companies to provide for future expansions of their facilities during highway improvement projects. All applicable standards of this policy shall be met in the proposal before the Department's approval is given.

- b) The provisions contained in Paragraphs 2a through 2e of this section will additionally apply to this type of accommodation.

- c) For accommodation on structures, the provisions of Section XIV Utility Installations on Structures, shall apply.

XVI. REIMBURSEMENT

A. Qualifications

A utility, which is affected by highway construction and meets one of the following conditions, is entitled to reimbursement by the highway project for their work.

1. The facility occupies property by rights granted to the utility owner by an easement; or the utility owns the property.
2. A municipally owned utility is located within the right-of-way of a road or street owned by said municipality, provided that the utility is not required by law to relocate its facilities at its own expense.
3. The facility occupies a highway Right-of-Way where the utility had the right of easement prior to the acquisition of the Right-of-Way by the State, City or Town or prior to 1905 when the Department was incorporated, and the utility has not been compensated for easement rights.
4. The facility occupies a highway Right-of-Way and the right of easement was reserved to the utility in the highway return of layout.
5. Municipally owned subterranean facilities located within the ROW of a State owned and maintained roadway requiring relocation will receive reimbursement in accordance with RSA 228:22 (see Appendix D, Detail D7). This consists of trenching and backfill costs plus the book value of any abandoned facilities.
6. The State Attorney General's Office issues an opinion obligating the State to bear any or all of the costs for alterations to and/or protection of utility facilities.
7. The facility is located on US Government land such as Forest Service with a permit or lease. Federal agency may participate – FAPG 23 (3) CFR 667.

B. Sufferance

1. The use and occupancy of the State Highway right-of-way shall be considered to be by sufferance only, unless:
 - a) The utility has a valid right-of-way, either by easement or fee ownership of the property, within the highway right-of-way;
 - b) Easement rights have been reserved for the utility company in the right-of-way acquisition; or
 - c) The utility company has some property interest in the highway right-of-way as determined by the State Attorney General's office.

2. When the utility facility is occupying the State's right-of-way by sufferance, Common law places the obligation of costs associated with installations, alterations, relocations, and/or protection on the utility owner. Opinion of the Justices, 101 N.H. 527,529, (1957)

C. Tree Clearing/Trimming Responsibility

Utilities, by State statute, are responsible for tree clearing and trimming required to install and maintain aerial facilities.

Should utility facilities have to be relocated due to highway improvements, the responsibility for clearing and trimming is an inherent component of that relocation.

The need for relocations varies from direct interference with construction to compliance with safe offset criteria. Relocations are to be undertaken in a timely fashion prior to or concurrently with the project construction as may be required by the Department. On most projects, the Department may allow relocations to be scheduled immediately after completion of the clearing operations required to construct the highway improvement. It is the responsibility of the utility to acquire all necessary permits, easements, and property rights for any additional trimming and clearing for utility accommodation beyond the limits necessary for the project.

Project schedules may require utility relocations to occur prior to project clearing operations. In those instances, all tree clearing and/or trimming required for facility installation or relocation shall be undertaken by the utility immediately upon notice to proceed, and at their own expense. Clearing and/or tree trimming which is performed in advance of the highway improvement project, and which is contained within the scheduled project clearing limits, may be reimbursable by the Department on a project-by-project basis.

D. Procedures for Reimbursement

1. Design Stage

- a) The utility must submit the following along with its relocation plans:
- (1) One (1) copy of its right-of-way document;
 - (2) Three (3) copies of a detailed estimate; and
 - (3) A plan showing the proposed location of the replacement right-of-way, if required.

Preliminary engineering costs are eligible for reimbursement subject to prior approval of the estimated charges.

- b) The Chief of Design Services will review the estimate and relocation plan for concurrence that the work will be accomplished in the most economical manner. Suggested alterations to the utility's proposal will be referred to the utility for consideration and revision.
- c) The necessary agreements prepared by the Utilities Engineer and executed by the State will be forwarded to the utility for execution together with a letter approving the estimate and relocation plans.

- d) If the Federal Government is to participate in the Force Account work, and the project has Federal oversight, the executed Agreement, estimate, and plans conforming to current FHWA standards will be forwarded by the Chief of Design Services to the FHWA for approval, if applicable. If no Federal funds are involved in the Force Account work, responsibility for approving the Agreement rests solely with the State.
- e) Authorization to proceed with the work will be granted upon receipt of the signed and executed Agreement, or, if the Federal Government is participating, after the State receives FHWA approval of the executed Agreement, if applicable

2. Construction Stage

- a) With the exception of minor preliminary engineering charges, reimbursement will not be made for any work performed prior to execution of the Agreement and authorization to proceed with the work.
- b) Approval of proposed locations must be obtained prior to the start of construction. Subsequent changes during construction, which materially affect the property of the utility or the cost of the work, shall be reviewed and approved in writing by the Contract Administrator, Chief of Design Services, and the utility representative.
- c) The utility company will prepare a Utility Report for work performed during the previous week and it shall give it promptly to the Contract Administrator for signature within the following week. The Utility Reports are not the basis for payment, but are needed for verification that the work was performed. The Department will provide utility report forms, original with three copies. A working sample of this form is contained in Appendix I.

- d)** Partial bills for work performed will be accepted, but must be detailed in the same manner as was the original estimate, and be accompanied by a copy of the Utility Reports for the work. Partial bills shall be noted as such.

In the event partial bills are submitted, a summary bill will be required, listing all partial bills by date and number and amount, together with the final bill.

- e)** Final bills shall contain a statement to the effect that “this is a complete and final billing” and also stating the starting and completion dates of the utility work and must be detailed in the same manner as was the original estimate and be accompanied by a copy of the Utility Reports for the work.

XVII. EXCAVATION PERMIT PRACTICE

Under the provisions of RSA 231:184-186 and RSA 236:9-11, excavation or disturbance of the shoulders, ditches, embankments, or the paved surface of a State maintained highway for any purpose shall require written permission to be issued by the Commissioner of Transportation or District Engineer prior to undertaking such work.

Following is the practice established by the Department to process and issue permits for excavation requests.

- A.** The Highway Maintenance Bureau, through its District offices issue Excavation Permits, and the Bureau of Turnpikes, issue Encroachment Permits (see Appendix F) for all installations in existing State highway rights-of-way. Application forms are available from appropriate offices (refer to Appendix E, Department of Transportation Maintenance District Boundary Map and Addresses, for District boundaries and addresses).
 - 1.** A long form or Trench permit (see Appendix F, Detail F1) will be required for extensive excavation projects, or for those involving substantial complications regardless of size, as determined by the District Engineer.
 - 2.** A short form permit (see Appendix F, Detail F2) is used for service connections, minor installations, and/or repairs within State highway rights-of-way.
 - 3.** No permits are required for utility pole installations covered by pole licensing policies or for work performed concurrently with Department of Transportation highway construction projects. However, the Department shall have approved the design and all work must conform to appropriate sections of this Manual.
- B.** Generally, open trenching across paved surfaces is not permitted in areas where the highway section involved has a pavement structure that was constructed or reconstructed within the previous seven (7) years or when the District Engineer determines that traffic and safety considerations take precedence. Jacking and/or boring will be required in these areas unless solid ledge or boulders are known to exist.
- C.** No open excavation is permitted within Interstate, Turnpike, or Freeway(LAROW) Characteristic Roadways unless specifically authorized by the District Engineer, Chief of Design Services, and Federal Highway Administration, as required.

1. Existing Installations - Requirements for performing authorized excavation shall be determined by the District Engineer.
 2. New Installations - Requirements for performing authorized excavation shall be determined by the District Engineer provided that all excavation occurs beyond 30' (9m) from the edge of pavement; or in excess of 12' (3.5m) behind guardrail and beyond a minimum of 1.5:1 slope projected down from the edge of pavement. In cut sections, a minimum of 5' (1.5m) beyond the roadway ditch line is required, provided the clear zone criteria is met (see Appendix C, Figure C2). If these requirements can not be met due to restrictions within the right-of-way or other reasons a written request detailing the issue must be submitted to the District Engineer.
- D.** To accommodate all possible underground utilities within the highway right-of-way, anticipation of future utility installations and coordination of activities with municipal and private utility companies is essential. In both rural and urban areas, the layout of facilities as near to the right-of-way as practical is desired with sewer and water lines being located on opposite sides of the roadway.
- E.** The installation of longitudinal utility facilities under any highway pavement and surfaced or unsurfaced shoulders is discouraged. Where longitudinal facilities must be constructed under pavement, service crossings for future service needs should be installed at the same time to avoid future disruptions of pavement and traffic.
- F.** No trenching is permitted on Saturdays, Sundays, or holidays, and between November 15th and April 15th except in special circumstances with approval of the District Engineer. During the months of July and August and other periods of high traffic volume, including Memorial Day, Labor Day, and Columbus Day weekends, trenching is not permitted except in emergencies or special circumstances as determined by the District Engineer. Conditions for granting excavation permits may include the requirement to conduct the activity at night as approved by the District Engineer.
- G.** When open trenching of highway pavement is permitted, multiple patches of replacement pavement will not be allowed. Whenever non-contiguous excavations of pavement occur with frequency, the Department will require complete resurfacing of the pavement to the limits determined by the District Engineer. Furthermore, if damage to any pavement occurs due to the work involved, complete resurfacing may be required.

- H.** The permit applicant shall provide a continuing surety bond or irrevocable letter of credit guaranteeing the fulfillment of the permit provisions prior to the start of any field installation activity. (see appendix K, Detail K1, K2 & K3).
- I.** When directed by the District Engineer, the permit applicant and/or the excavator shall schedule and attend a pre-work conference with NHDOT personnel, all sub-contractors involved, other utility representatives having facilities in the immediate area of excavation, and municipal agencies such as police and fire, which may be affected by such activity. The excavator's proposed schedule of operations and impacts on affected parties will be reviewed at that time.
- J.** The permit applicant and the excavator shall comply with the provisions of RSA 374:48-56 and all applicable statutes pertaining to the Underground Utility Damage Prevention System otherwise known as "Dig-Safe" (see Appendix D, Detail D6, D-6.1 to D-6.5).
- K.** Alteration of the approved design alignment during construction without written approval of the District Engineer shall require the immediate removal of that portion of any installation improperly located.
- L.** Samples of the Excavation Permits are contained in Appendix F. It is understood that the general conditions stated therein may be amended by the District Engineer to address specific site conditions.
- M.** As-built plans will be required once construction work is completed. These plans must be submitted to the District Engineer.

XVIII. POLE LICENSING PROCEDURE

Under the provisions of RSA 231 (Appendix D, Detail D1), utilities desiring to erect poles or other structures within the limits of a State-maintained highway must petition the Department for a license to erect such facilities within the right-of-way limits. Following is the procedure the Department has established to process such petitions. (See Appendix G, Detail G2 G-3.1 to G-3.2 for Step-by-Step procedure)

- A.** Initially, the utility company shall submit to the NHDOT Highway Maintenance District or Turnpikes office, a transmittal letter of request along with two (2) copies of a preliminary plan. Said plan shall indicate the municipality, route number and/or road name, number of utility poles or facilities, their pole numbers, a list of all utility owners, and ties to existing permanent reference points such as road intersections, town lines, or other landmarks, and include a north arrow for orientation.
- B.** Prior to any poles being set or facilities being constructed, the utility shall stake out the proposed work in the field. The District office shall be notified so that the proposed locations can be field reviewed to confirm that the locations comply with this Manual. The utility may proceed with the installation when the District informs the utility in writing that the sites selected meet manual requirements.
- C.** Upon notice by the utility that the new poles have been installed, and duplicate poles removed (if applicable), the District will again field review to ensure that the locations on the preliminary plan conform to the actual constructed locations. Measurement of the horizontal distance from the face of pole to edge of pavement and traveled way is taken for each pole and recorded on the preliminary plan. Each pole on the preliminary plan is stamped either “Approved” or “Not Approved” (with the reason for disapproval noted).
- D.** The District office will notify the utility of the results of the field review by letter. The utility will be allowed a thirty (30) day period to relocate poles marked “Not Approved.” At the discretion of the District Engineer inaction by the utility within the time frame allowed will be referred to the Attorney General’s office.
- E.** The District office will record the date of final review and “approval” on the plan. This date will be the effective date of the petition and license. One (1) copy of the preliminary plan will be returned to the utility for a formal license request.

- F.** The utility company will prepare and submit a formal petition and request for a license which includes a final plan showing only those poles or facilities shown “Approved” on the returned preliminary plan. GPS locations for each pole shall be provided by the utility owner. Four (4) copies of petition and license forms duly signed by the utility owner(s), are to be forwarded to the appropriate Highway Maintenance District or Turnpikes office at the New Hampshire Department of Transportation,
- G.** Upon receipt of a formal petition and license, the District office will review to verify that the poles shown on the accompanying plan are identical to those approved poles on the preliminary plan and that all offset dimensions, ties and GPS coordinates are the same. If not, said petitions will be returned to the utility through the Maintenance District or Turnpikes office
- Upon verification, the District will prepare all copies of the license by inserting the effective date (approval date of the preliminary plan) as well as filling in other appropriate information as shown on attached sample (see Appendix G, Detail G1).
- After signature of approval by the District Engineer, the District will retain one (1) copy of the petition and license with accompanying plan, and forward remaining copies to the utility company, and one to the Department’s Concord Office
- H.** The utility owner will prepare a copy for the Town or City Clerk in the municipality where poles are situated and to other utility owners if applicable.
- I.** Utility licenses are retained by the District and Turnpike offices as a permanent record.
- J.** A sample of a Pole License is contained in Appendix G, Detail G1.
- K.** Departmental inquiries relative to the license status of any given pole shall be directed to the utility, which shall maintain a file on each individual pole containing the license number as well as a history of the pole. The Department will then refer to the existing license to check the status of pole and other pertinent information that may be required in responding to said inquiries.

XIX. POLE REPLACEMENT PRACTICE

- A. The upgrading, reconstruction, rehabilitation or complete replacement of existing pole lines not performed in conjunction with highway improvement projects shall be subject to prior approval by the District Engineer.

- B. With the exception of emergency pole replacements required due to vehicular accidents and/or acts of God, the replacement of poles shall conform to current policy as follows:

1. Installation and replacement of intermediate poles

In locations where intermediate poles become necessary along a line of previously licensed utility poles, said intermediate pole may be licensed if the adjacent poles are both licensed and the offset to said intermediate pole is no less than offsets to adjacent poles.

2. Replacement of individual licensed pole

The required replacement of an individual utility pole can be made as specified in RSA 231:171 (see Appendix D, Detail D1, D-1.6), provided said replacement pole is located within:

- a) 5' (1.5 m) longitudinally of the original pole; and

- b) Not closer to highway travel lanes than the previously licensed pole location, or the standard offset requirement in effect on the date the original license was issued as described in Chronology of DOT Minimum Requirements for Pole Licensing Offsets, Appendix G, Table G1), whichever is the greater distance.

3. Replacement of licensed pole lines

Current offset requirements for pole replacement shall be met if sufficient highway right-of-way exists. Where insufficient highway right-of-way exists, in no case will the offsets of new poles be any closer to the travel lane than the offset recorded on the original license, or the standard offset requirement in effect on the date the original license was issued as described in Chronology of DOT Minimum Requirements for Pole Licensing Offsets, Appendix G, Table G1, whichever is the greater distance.

4. Replacement of unlicensed poles

Replacement of unlicensed poles, except for emergencies as described previously, shall not be permissible without submittal of a written explanation detailing the necessity and reason the required offset distance to highway travel lanes cannot be achieved, and approval of the District Engineer. Approval will not be granted if deemed inconsistent with public safety or with the Department's maintenance requirements. The replacement poles will not be licensed if they are placed less than the minimum required offset distance.

C. The effect on licensed poles due to highway pavement widening and shoulder construction or surfacing is as follows:

1. Gradual pavement widening resulting from routine highway maintenance operations and resurfacing

A previously licensed pole meeting the offset requirements when licensed is considered to meet current licensing requirements when the gradually increased width of highway travel lanes over time now provides a somewhat lesser offset. The Department reserves the right to require relocation of any pole when public safety is threatened or when Department maintenance requirements cannot be met as determined by the District Engineer.

2. Construction or bituminous surfacing of shoulders

In locations where the Department has surfaced existing shoulders with bituminous material or constructed paved shoulders adjacent to highway pavements after the installation of utility poles, any pole (or subsequent replacement pole) previously licensed shall be considered to meet current standards if said pole is in the same location as the original pole, or further from highway travel lanes, or not any closer than the offset requirement in effect on the date the original license was issued, and as shown in Appendix G, Table G1, Chronology of Department of Transportation Minimum Requirements for Pole Licensing Offsets.

3. **Widening of highway pavement to provide for turn/slip lanes or additional travel lanes without utility pole relocations**

Where poles licensed prior to January 1, 1995 have had offset distances to pavements reduced by highway improvements and were/are not relocated in conjunction therewith because insufficient highway right-of-way was/is available, said poles may be licensed at a less offset distance, but in no case less than 4' (1.2 m) from the edge of pavement providing the utility installs and maintains reflectors on said poles in a manner satisfactory to the Department's District Engineer as prescribed in RSA 231:161, V (see Appendix D, Detail D1, D-1.1). A minimum of 6" by 12" (150 mm by 300 mm) reflectorized material meeting New Hampshire Standard Specification for Road and Bridge Construction [AASHTO M268 (ASTM D 4956) Type III Retroreflective sheeting] shall be affixed to each utility pole at a point 4' (1.2 m) above the adjacent pavement or paved shoulder elevation and facing operators of vehicles approaching in said adjacent lane.

With its petition for license, the utility shall submit to the Department the accident history of the utility pole(s) involved. The Department shall review this data and determine, based on safety, if the replacement pole may be placed in the approximate location of the existing, or must be relocated using current set-back criteria, or replaced in its present location using a breakaway pole or protection as approved by the Department.

XX RAILROADS

The intent of this section is to provide guidance to utilities concerning policies and procedures for the use of State of New Hampshire owned railroad properties. All State owned railroad properties are managed by the Department of Transportation, Bureau of Rail and Transit, “Bureau – R/T”. In this role the Bureau – R/T is required to administer these properties consistent with State law and to assure that occupancy of State owned railroad properties does not adversely affect railroad safety, operation and maintenance or otherwise impair the railroad or its aesthetic quality.

A. General – The following apply to State owned Railroad properties

1. Underground Utility Line Crossings

Underground utility lines that cross railroad tracks or railroad rights-of-way must comply with the Railroad Installation Minimum Cover Depths as listed in the table as shown in Appendix J –1, unless individual railroad requirements are more restrictive, then the more restrictive requirement applies.

Carrier pipes must be encased in a steel sleeve called the casing pipe. Casing pipes are installed to facilitate the removal and/or replacement of the carrier pipe, prevent the spill or mitigate its effects on the railroad, protect the line from external loads and/or accidental excavation, access the utility, or prevent corrosion. Encasement shall be at a minimum as specified in the American Railway Engineering and Maintenance-of-Way Association (AREMA) manual, latest revision thereof.

Underground crossings of other utilities including storm water piping, power and communication facilities must comply with requirements specified in Appendix J –1 for minimum cover depths.

2. Overhead Utility Facilities

Overhead lines affect railroad systems and rights-of-way primarily because exposed locations may represent a safety hazard to railroad systems and users or may interfere with railroad maintenance operations. Existing or proposed overhead utility facilities must comply with as a minimum specifications as detailed in the American Railway Engineering Association (AREA) manual; latest revision thereof unless individual railroad requirements are more restrictive, then the more restrictive requirement applies.

3. Clearances – Bridges and Overhead Structures

In order to provide a margin of safety for railway operations no overhead bridge or other structure shall be constructed across a railroad track with less than 22 feet between the top of the rails and the lowest point of the overhead structure, and in accordance with RSA 373:39.

B. Crossings

Crossing State-Owned Railroad Lands

Those who wish to be granted permission to cross over or under a portion of State-owned railroad property, for utility purposes only may do so if the Department determines that the use will not affect current or future railroad operations or other transportation needs. A written request to cross State owned railroad lands must be made to:

Administrator Bureau of Rail and Transit
New Hampshire Department of Transportation
PO Box 483
Concord, New Hampshire 03302-0483

The written request must include:

- a. A photograph, location map and a plan or sketch of the area showing property lines and copies of the Town's/City's Tax Maps of the area.
- b. Documentation of ownership (i.e., deed and/or assessor's card) of the property adjacent to the State owned railroad property.
- c. A description of the intended use of the land.

If it is determined that a crossing be allowed, a crossing agreement will be prepared which will be specific to the location and type of crossing. All agreements will require Insurance, Indemnification of the State and the Operating Railroad, in a form acceptable to the Bureau R/T.

Crossing Fees:

- a) Private applications for crossings are subject to a \$350.00 (one time) preparation fee and a \$50 annual fee for the term on the agreement.
- b) Municipal applications for crossings are subject to a \$350.00 (one time) preparation fee. The annual fee may be waived for sewer and water crossings.

Note: These fees are subject to change. The developer shall submit a request to the Bureau R/T for the most current fee structure.

If there is a question concerning ownership of railroad property contact the Bureau R/T at 603-271-2468.

C. Other Use of Railroad Property

Requests to utilize railroad property for other purposes must be submitted to the Administrator Bureau of Rail and Transit. These purposes may include:

1. Longitudinal Installations

For proposed utility longitudinal installations on railroad property a Use and Occupancy Agreement will be issued for utility owners that wish to occupy State-owned railroad property. Requests for a Use and Occupancy Agreement follow the same procedures as listed for Crossings, see XX – B.

2. Surplus Property Process

Utilities that propose to use or acquire ancillary parcels of State owned railroad property must submit a written request to the Bureau R/T and follow the procedures of the “State Surplus Property” process as listed below and provide:

- a) A photograph, location map and a plan or sketch of the area showing property lines and copies of the Town’s/City’s Tax Maps of the area.
- b) Documentation of ownership (i.e., deed and/or assessor’s card) of the property adjacent to the State owned railroad property.
- c) A description of the intended use of the land.

The Bureau R/T along with other Department Bureaus and State agencies will review all requests for surplus property use. These agencies will evaluate the potential for transportation purposes or other public uses of the land. If it is determined the railroad land qualifies as surplus (after Federal review if necessary), the following will occur:

- a) Submission of request to the Council of Resources and Development (if required)
- b) Preparation of an appraisal to establish the land's current market value.
- c) A yearly fee, special terms and conditions including a one time administrative fee will be submitted to the Long Range Capital Planning and Utilization Committee for approval.
- d) An agreement will be developed between the Department and the requester and will be submitted to the Governor and Executive Council to authorize the transaction.
- e) The Bureau R/T will process final documentation and fees.

D. Exceptions

Exceptions to provisions set forth in this section may be permitted by the Commissioner or authorized representative in an instance where it is shown by the utility that extreme hardship and/or unusual conditions provide justification. Refer to Section III Exceptions.

XXI. DAMAGES

A. Damages Resulting from Installation:

The occupation of the state's ROW by utility facilities is by sufferance, and from time to time may interfere or conflict with the State's interests. A utility will be liable for injuries resulting from unlicensed facilities or from licensed facilities if negligently maintained. The DOT, however, in no event will be liable for death or damages sustained by any person, or any property resulting from the location, construction, or maintenance of a utility facility.

Indeed, utilities owning lines, strung in a highway ROW shall indemnify the state against any damages, costs and expenses relative to any insufficiency or defect in the highway ROW caused by the presence of the wires and supports.

The Utility shall indemnify the State, NHDOT, United States Department of Transportation (USDOT), FHWA, AREA, and their employees, agents, and representatives against any and all claims, actions, causes of action, demands, liabilities, losses, penalties, damage of any kind, and failure to comply with any utility-type commission's permitting, regulations, and guidelines, including all actions for indemnity and/or contribution, and including reasonable attorney's fees, resulting from or arising out of any Utility or State ownership, use of , and operations within the LAROW/CAROW, or other State highway or railroad ROW including but not limited to inspection, maintenance, cleaning, snow removal, construction, reconstruction, rehabilitation, and repair of either the Utility facility or the highway or railroad facilities. The indemnification provided under this paragraph shall include, but not be limited to, any and all claims or demands for loss of revenue, income, business or economic opportunity, customers, profits, presence of and occupation of, and service resulting from or arising out of any inability or failure of the Utility facilities to provide service as intended by the Utility.

The Utility agrees that the State, its agencies and their employees, agents, and representatives shall not incur any legal liability whatsoever to the Utility for any damage to the Utility facilities or to any other property or employee of the Utility or to any other person or entity hired by or affiliated with the Utility resulting from or arising out of any ownership, use of and operations within the LAROW/CAROW, or other State highway or railroad ROW including but not limited to inspection, maintenance, cleaning, snow removal, construction, reconstruction, rehabilitation, and repair.

The Utility shall at the request of the State and at the expense of the Utility, provide whatever protection of their facility is deemed necessary by the Utility or by the State in the event the State performs any work on the highway or railroad ROW, including but not limited to inspection, maintenance, cleaning, snow removal, construction, reconstruction, rehabilitation, and repair of the highway facilities.

Any damage to the LAROW/CAROW and the highway or railroad facilities contained therein which, as determined by the State, is caused by, results from, or arises out of the installation, maintenance, or presence of the Utility facilities shall be repaired by the State with the Utility fully compensating the State for all costs associated with the repair of any such damage

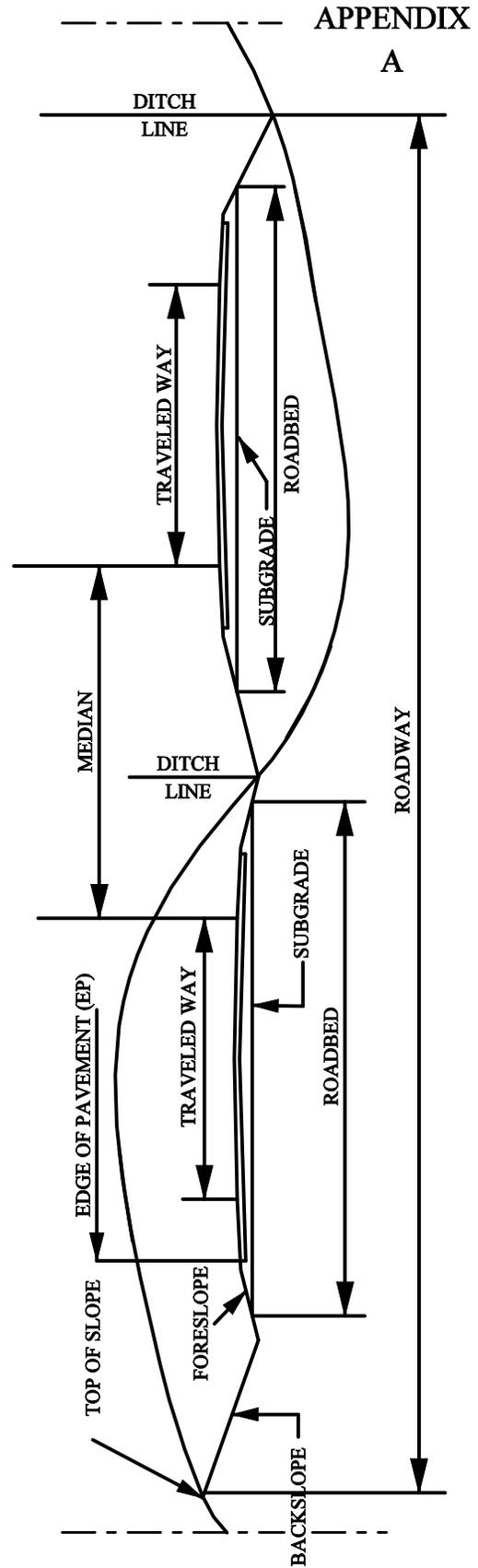
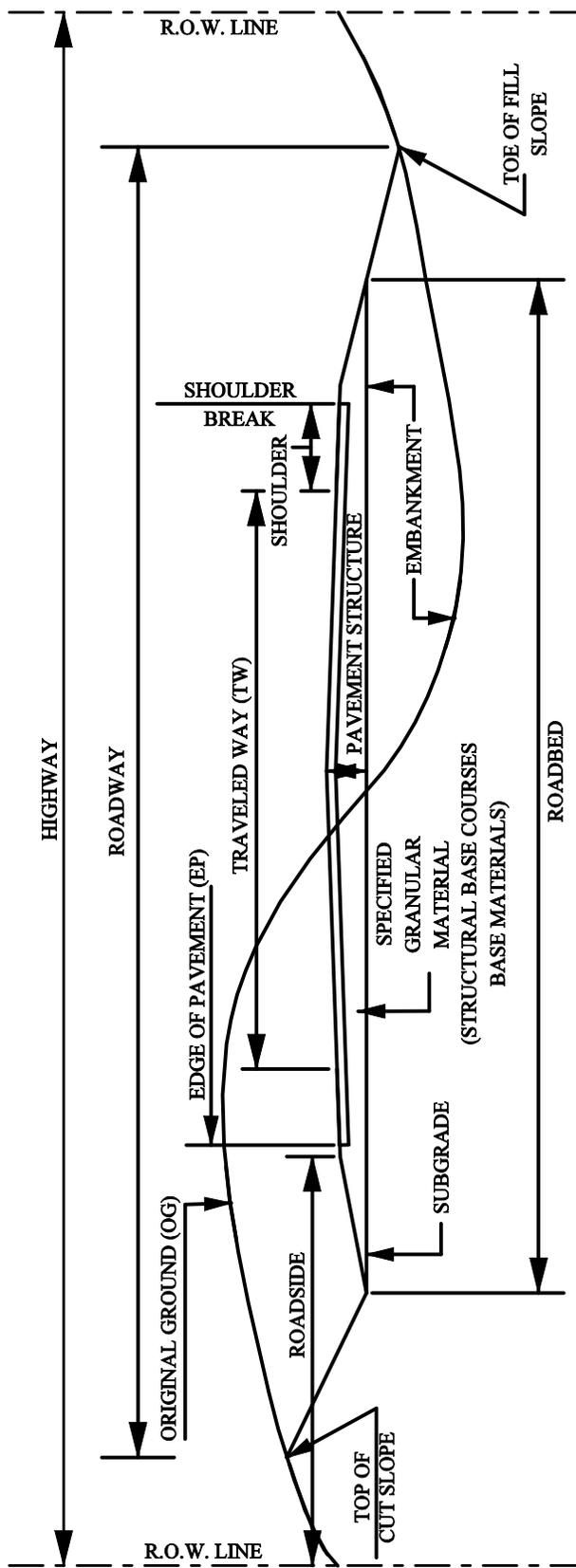
B. Damages Resulting from Untimely Removal

The Utility is responsible for working and coordinating with the NHDOT on construction projects requiring relocation of poles and/or conduit. It is the responsibility of the Utilities to timely remove their facilities. The Commissioner of the DOT or his/her designee has the authority to cause wires, poles and conduit to be removed after giving 10 days notice to the Utility.

Poles and/or conduit not removed by the Utility in accordance with an agreed upon schedule may subject the Utility to damages for the delay of the Construction Project.

APPENDIX A

Figure A1 **TYPICAL ELEMENTS OF A HIGHWAY CROSS SECTION..... A-1**



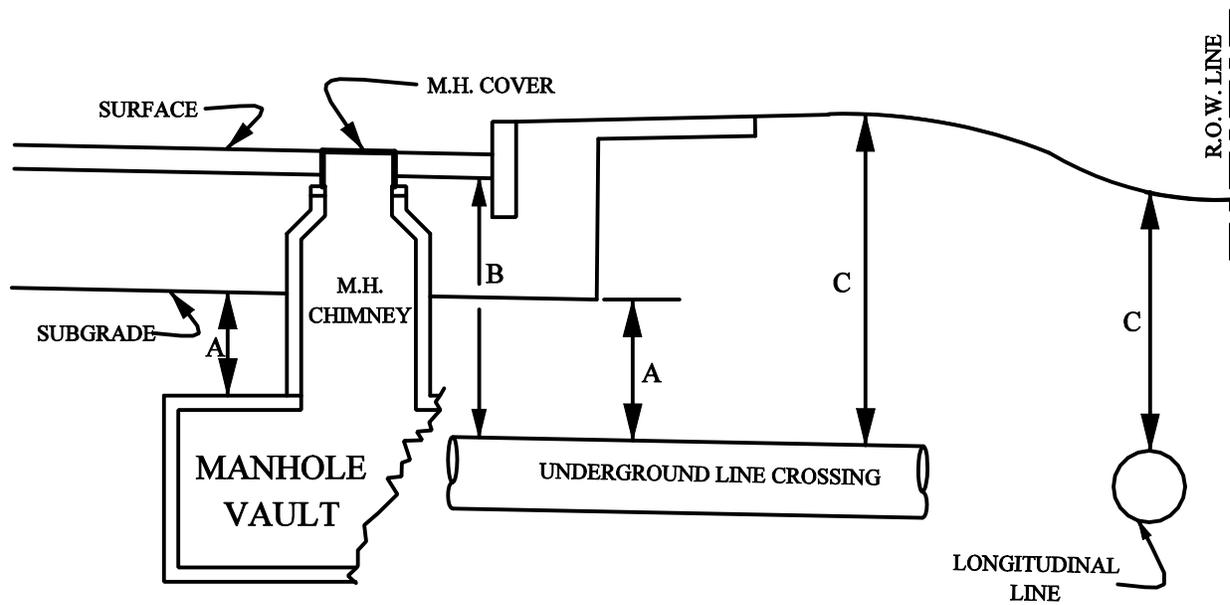
TYPICAL ELEMENTS OF A HIGHWAY CROSS SECTION

APPENDIX B

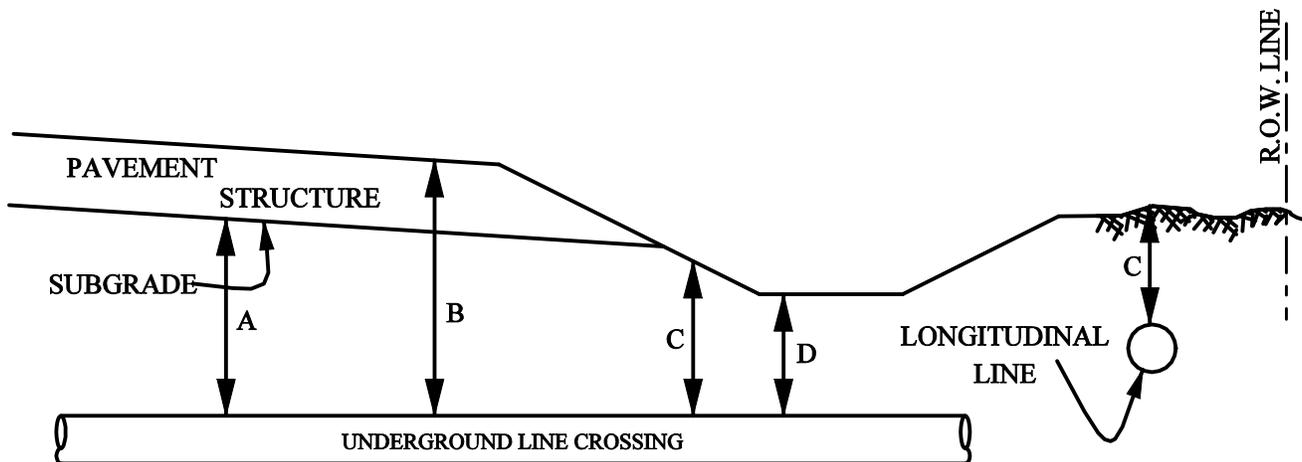
UNDERGROUND UTILITY INSTALLATIONS

Figure B1 – Typical Sections - Minimum Cover for Underground Installations	B-1
Table B1 - Minimum Cover for Underground Installations.....	B-2
Figure B2 - Examples of Features for Pipeline Crossings.....	B-3
Figure B3 - Examples of Encasement and Allied Mechanical Protection	B-4
Figure B4 - Examples of Protection of Existing Pipelines.....	B-5
Detail B1 – Subsurface Utility Engineering.....	B-6

MINIMUM COVER FOR
UNDERGROUND INSTALLATIONS



URBAN SECTION



RURAL SECTION

NOTE: SEE TABLE B1, PAGE B-2 FOR
FACILITY TYPE AND DIMENSION

FIGURE B-1

MINIMUM COVER DEPTHS
INSTALLATIONS MUST MEET ALL CONDITIONS

UTILITY FACILITY TYPE	A	B	C	D
	BELOW PAVEMENT STRUCT. (SUBGRADE)	BELOW PAVE. SURFACE	BELOW GROUND ELEVATION	BELOW DITCH LINE ELEV.
HIGH PRESSURE > 100 PSIG (> 680 KPa) GAS-LIQUID PETROLEUM	1. UNENCASED - EXIST.	18" (450 mm)	36" (900 mm)	36" (900 mm)
	UNENCASED - NEW	18" (450 mm) OR 1/2 Ø PIPE WHICHEVER GREATER	60" (1500 mm)	36" (900 mm)
	2. ENCASED - EXIST.	12" (300 mm)	30" (750 mm)	30" (750 mm)
	ENCASED - NEW	18" (450 mm)	30" (750 mm)	30" (750 mm)
MED AND LOW PRESS < 100 PSIG (<680 KPa) GAS-LIQUID PETROLEUM	1. UNENCASED - EXIST.	18" (450 mm)	24" (600 mm)	24" (600 mm)
	UNENCASED - NEW	18" (450 mm) OR 1/2 Ø PIPE WHICHEVER GREATER	24" (600 mm)*	30" (750 mm)
	2. ENCASED - EXIST.	12" (300 mm)	24" (600 mm)	24" (600 mm)
	ENCASED - NEW	18" (450 mm) OR 1/2 Ø PIPE WHICHEVER GREATER	24" (600 mm)	30" (750 mm)
WATER AND SEWER	EXIST.	18" (450 mm)		
	NEW	18" (450 mm) OR 1/2 Ø PIPE WHICHEVER GREATER	60" (1500 mm)	60" (1500 mm)
POWER (ALL TO BE IN CONDUIT)	EXIST.	12" (300 mm)	24" (600 mm)	24" (600 mm)
	NEW	18" (450 mm)	30" (750 mm)	48" (1200 mm)
COMMUNICATIONS	EXIST.	18" (450 mm)	30" (750 mm)	30" (750 mm)
	NEW	18" (450 mm)	30" (750 mm)	30" (750 mm)

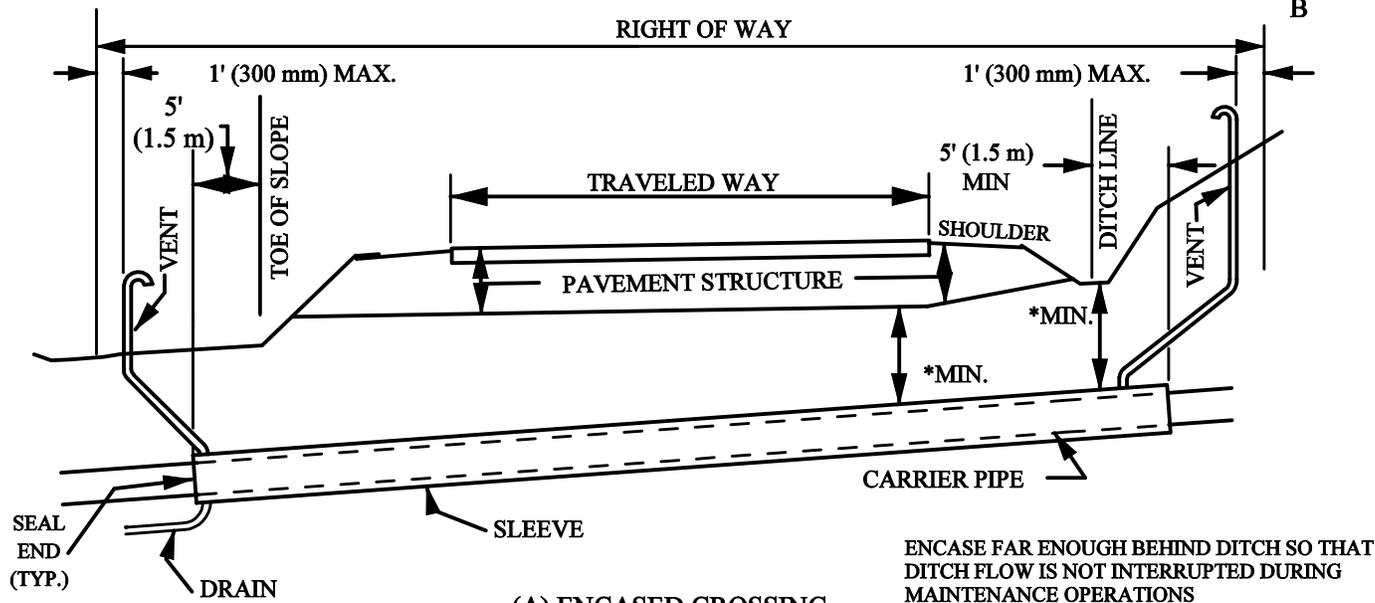
Ø = DIAMETER

* UNENCASED PLASTIC LINES MUST BE 30" (750 mm)

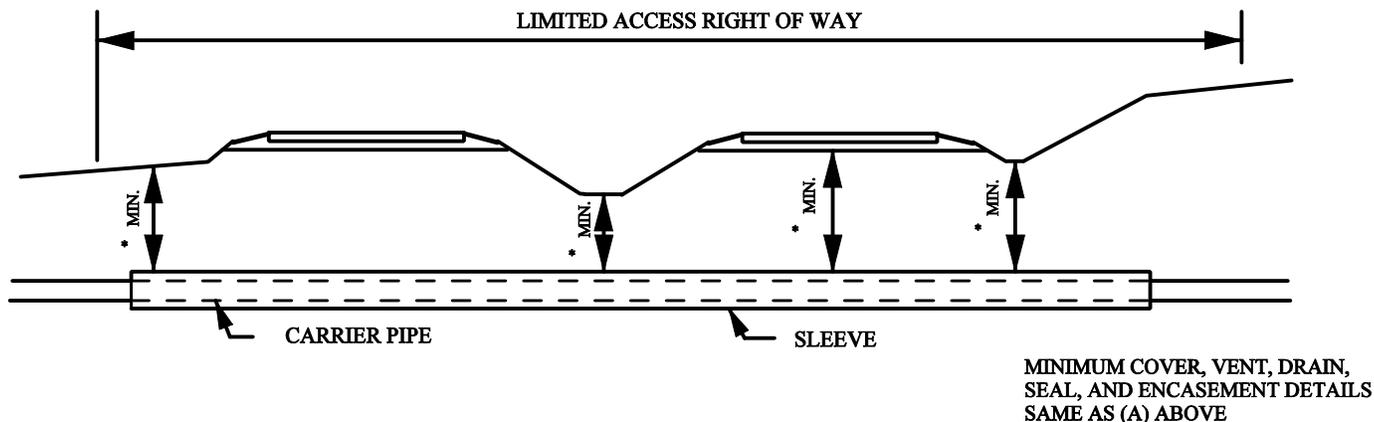
NOTE: EXCEPTIONS TO MINIMUM DEPTHS INDICATED MAY BE GRANTED.
REFER TO THE PERTINENT SECTION OF THE POLICY FOR SPECIFIC REQUIREMENTS.

TABLE B1

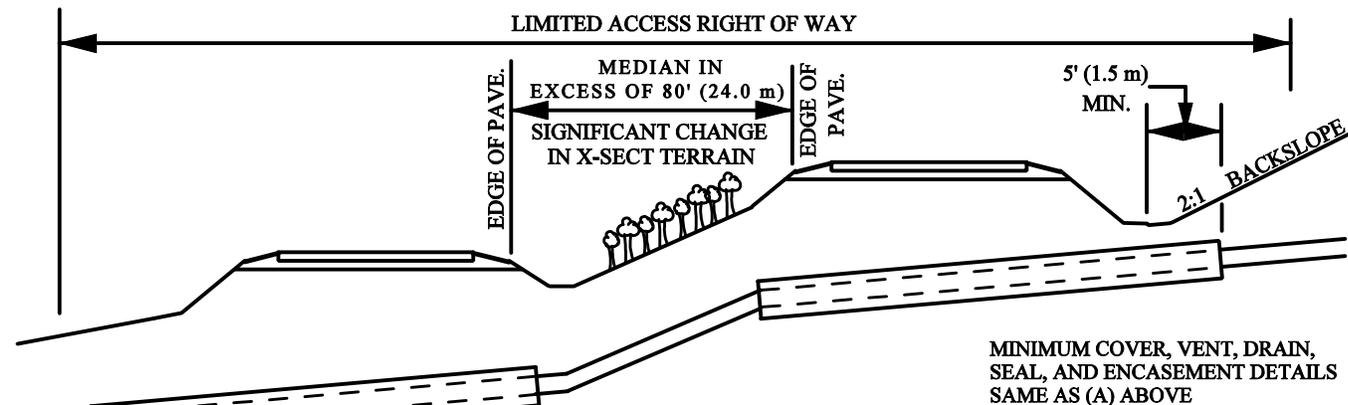
MINIMUM COVER UNDERGROUND INSTALLATIONS



(A) ENCASSED CROSSING



(B) ENCASSED CROSSING



(C) ENCASSED CROSSING EXCEPTION

FOR THE BIFURCATED ROADWAY ABOVE, ENCASUREMENT IS NOT REQUIRED ACROSS THE NATURAL TERRAIN. HOWEVER, ENCASUREMENT IS CONTINUOUS ACROSS A TYPICAL DIVIDED ROADWAY. (SEE (B) ABOVE)

FIGURE B 2

* MINIMUM DEPTH OF COVER IS SPECIFIED IN TABLE B 1, PAGE B-2

EXAMPLES OF FEATURES FOR PIPELINE CROSSINGS

EXAMPLES OF ENCASEMENT AND ALLIED MECHANICAL PROTECTION

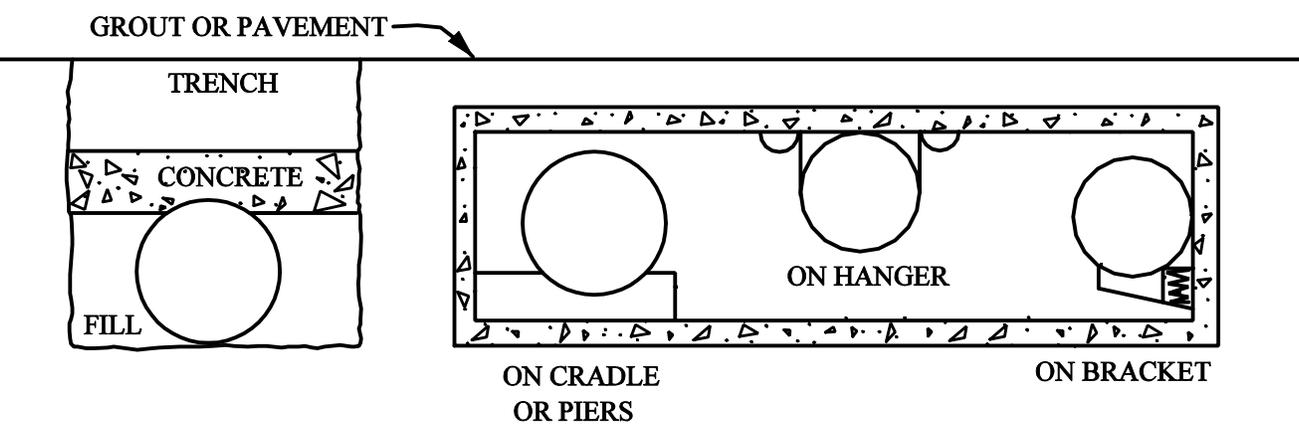
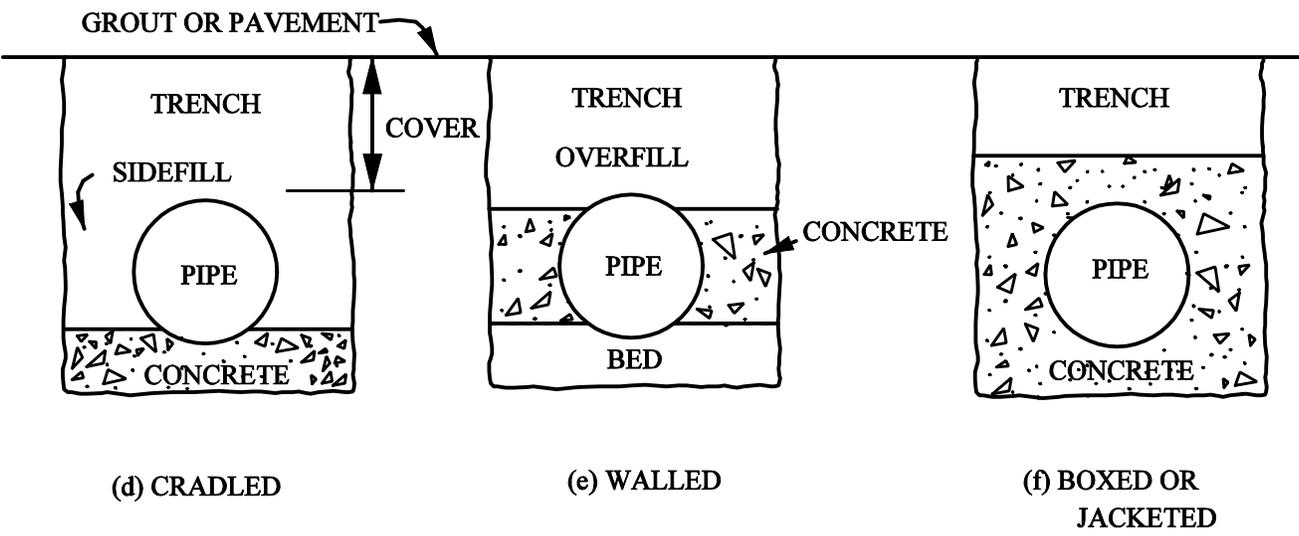
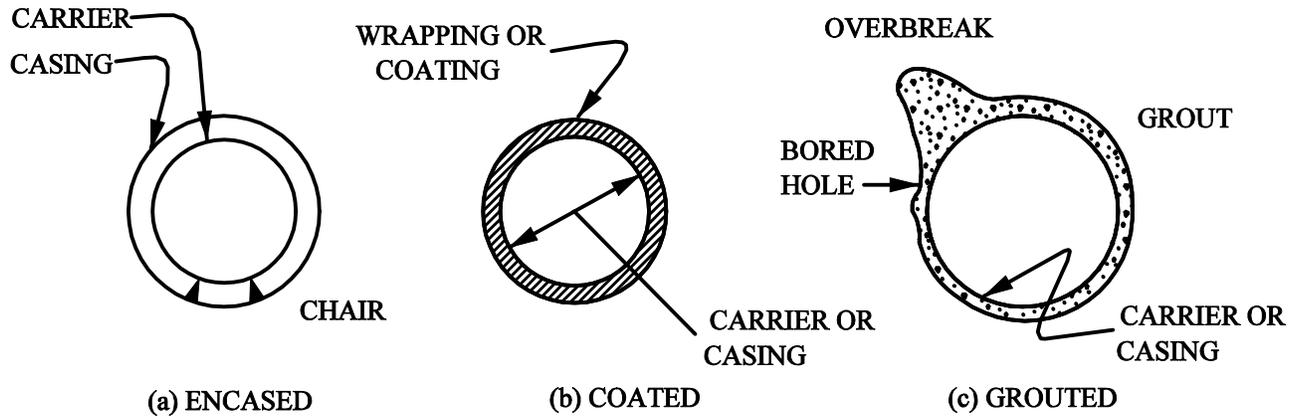
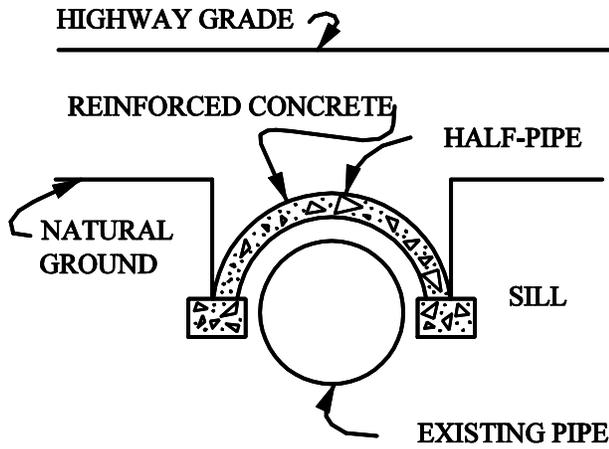
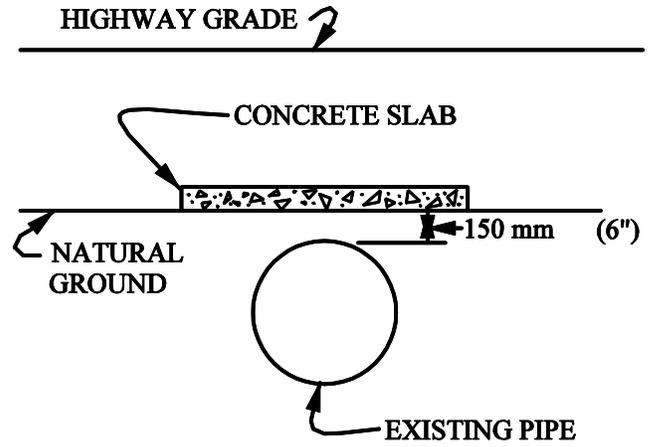


FIGURE B 3

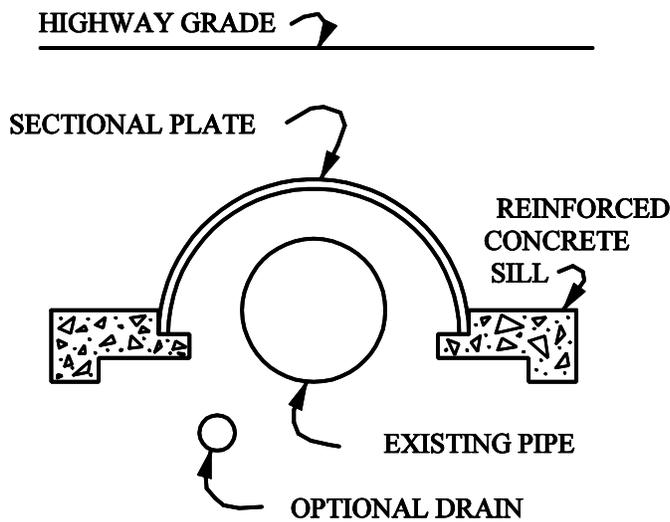
EXAMPLES OF PROTECTION OF EXISTING PIPELINES



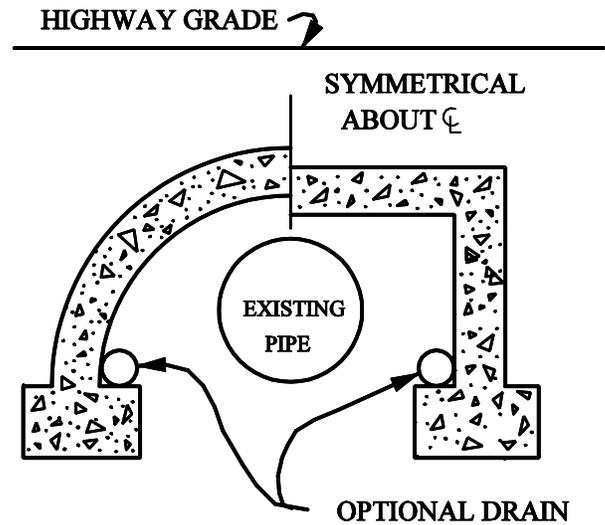
(a) HALF-PIPE PROTECTION



(b) FLOATING SLAB PROTECTION



(c) PLATE ARCH PROTECTION



(d) MONOLITHIC ARCH OR BOX

FIGURE B 4

Detail B1

Subsurface Utility Engineering (SUE) – See Section VIII -C

1. The proper use of SUE during the development of highway projects can eliminate many of the utility problems typically encountered on highway projects, including:
 - a. Delays to projects caused by waiting for utility relocation work to be completed so highway construction can begin;
 - b. Delays to projects caused by redesign when construction cannot follow the original design due to unexpected utility conflicts;
 - c. Delays to contractors during highway construction caused by cutting, damaging, or discovering utility lines that were not known to be there;
 - d. Claims by contractors for delays resulting from unexpected encounters with utilities; and
 - e. Deaths, injuries, property damage, and releases of product into the environment caused by cutting utility lines that were not known to be there.
2. Accurate and comprehensive horizontal and vertical location data for all existing utilities found within a project's limits makes it possible to:
 - a. Design around many utilities, thus avoiding costly and time-consuming relocations AND/OR:
 - b. Accurately depict existing utilities on construction plans so the Utilities, the Department and its contractors will have more accurate locations of existing utilities and will be able to consider any mitigation needs before any excavation takes place.
3. The following Quality Levels of Service for existing utility information can be found on Department project utility plans where SUE has been employed:
 - a. **Quality Level "D" Information** – Information derived through existing records or oral recollections. This also includes an infield visual site inspection to verify credibility of such records. Quality Level "D" is typically applied when it is necessary for the designer to make broad decisions about route selection, purchasing right-of-way, or producing a higher level of data. This level of information is typically recommended during a project's concept development.

B-6.1

- b. **Quality Level "C" Information** – Information obtained to indicate the presence of approximate horizontal location of

Detail B1

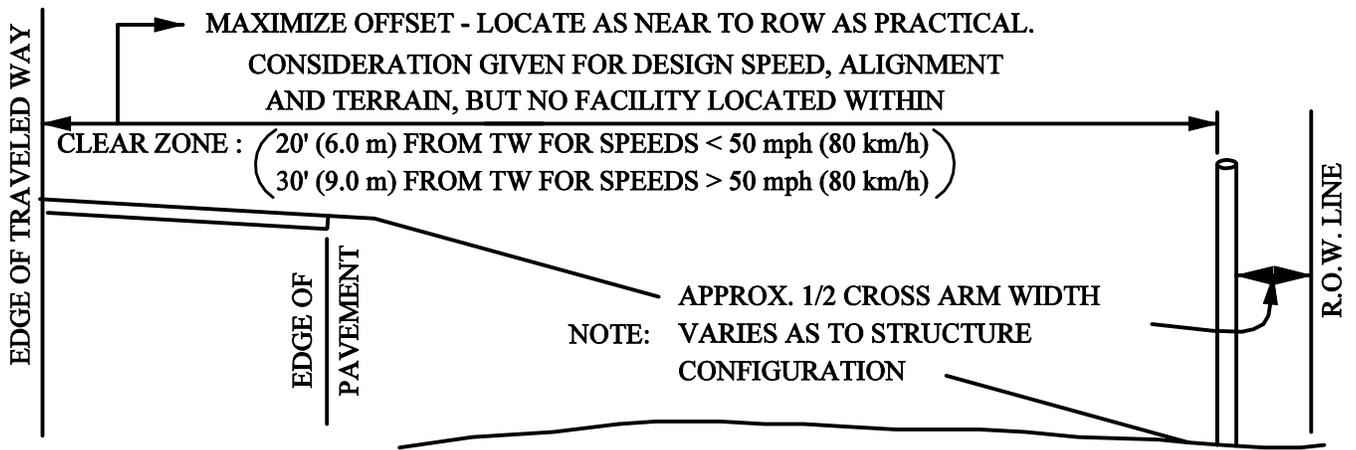
underground utilities by surveying visible above-ground utility features, such as manholes, valve boxes, posts, etc., and by using professional judgment, correlating this information with existing utility records (Quality Level “D”). Quality Level “C” is typically used on rural projects and is recommended when preliminary design begins and project mapping and survey control have been established.

- c. **Quality Level “B” Information** – Information obtained to indicate the presence and approximate horizontal location of underground utilities using geophysical prospecting techniques, including electromagnetic, magnetic, sonic, or other energy fields. The data obtained from these methods should be reproducible by surface geophysics at any point of their depiction. This level of information is used by the designer to make educated decisions on where to place storm drainage systems, footings and foundations to avoid conflicts with existing utility facilities. Quality Level “B” is typically used on urban type projects and is recommended when preliminary design begins and project mapping and survey control have been established.
- d. **Quality Level “A” Information** – Information to obtain the precise horizontal and vertical position of the utility line by excavating a test hole. The test holes shall be done using vacuum excavation or comparable nondestructive equipment in a manner as to cause no damage to the utility line. This level of information provides three-dimensional mapping of specific conflict areas needed for final design and utility placement decisions where drastic cost savings will be incurred for the project. Quality Level “A” is recommended when after Preliminary Field Plan Review ideally following a Utility Impact Analysis.
- e. **Implementation of SUE** – The Department recommends that Utilities and Project Managers consider its use on any project where inaccurate underground utility information would negatively impact the project in a significant way.

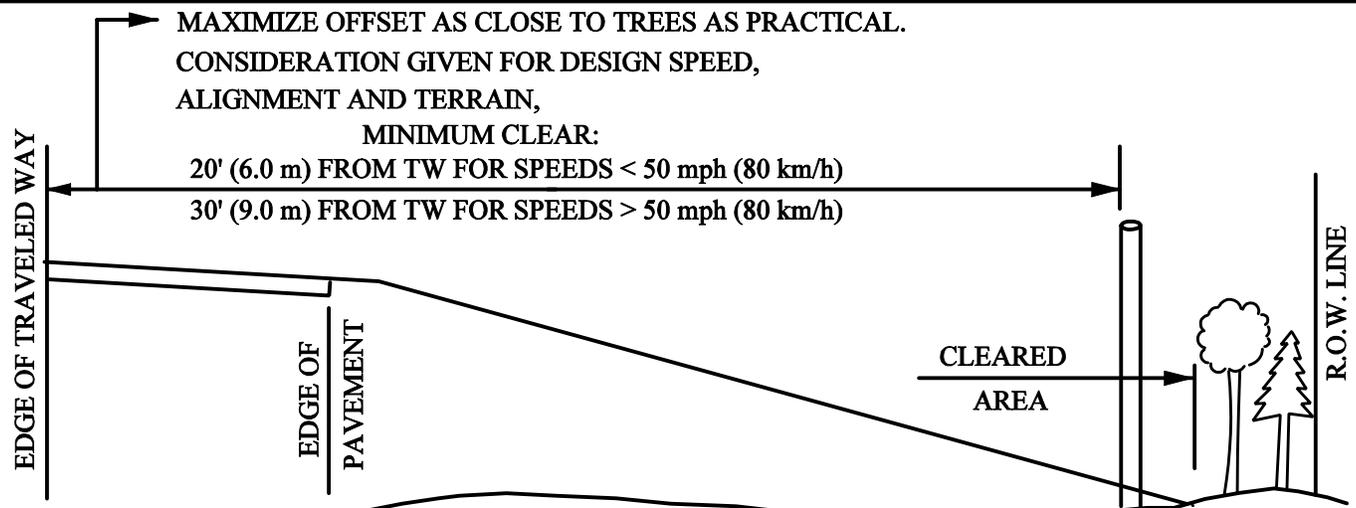
APPENDIX C

TYPICAL POLE INSTALLATION STANDARDS

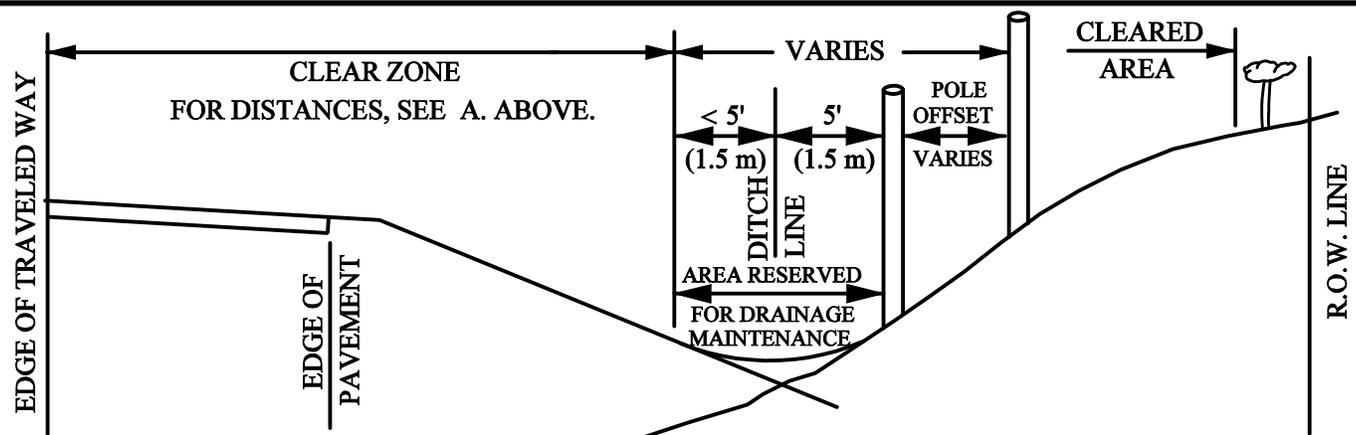
Figure C1 – Rural Type Sections (examples A-C)	C-1
Figure C2 - Rural Type Sections (examples D-G).....	C-2
Figure C3 - Urban Type Sections (examples H-L).....	C-3
Figure C4 - Pole Offsets Behind Beam Guardrail (Approach / Departure – Undivided Highway)	C-4
Figure C5 - Pole Offsets Behind Beam Guardrail (Approach / Departure – Divided Highway)	C-5
Table C1 - Offsets to Above Ground Non-Breakaway Utility Poles and Appurtenances.....	C-6



A. ON D.O.T. OR UTILITY IMPROVEMENT PROJECTS WITH NO TREES IN R.O.W. WHEN R.O.W. OFFSET IS GREATER THAN CLEAR ZONE REQUIREMENT

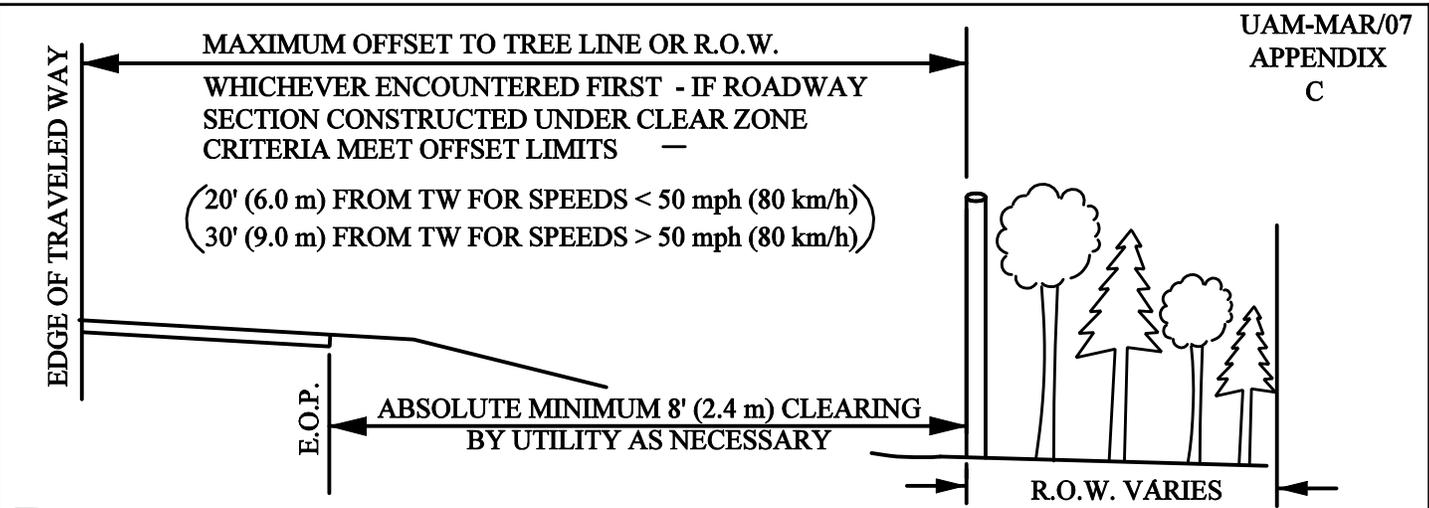


B. ON D.O.T. ROADWAY IMPROVEMENT PROJECTS WITH TREE GROWTH WITHIN R.O.W. LIMITS AND R.O.W. OFFSET IS GREATER THAN CLEAR ZONE REQUIREMENT

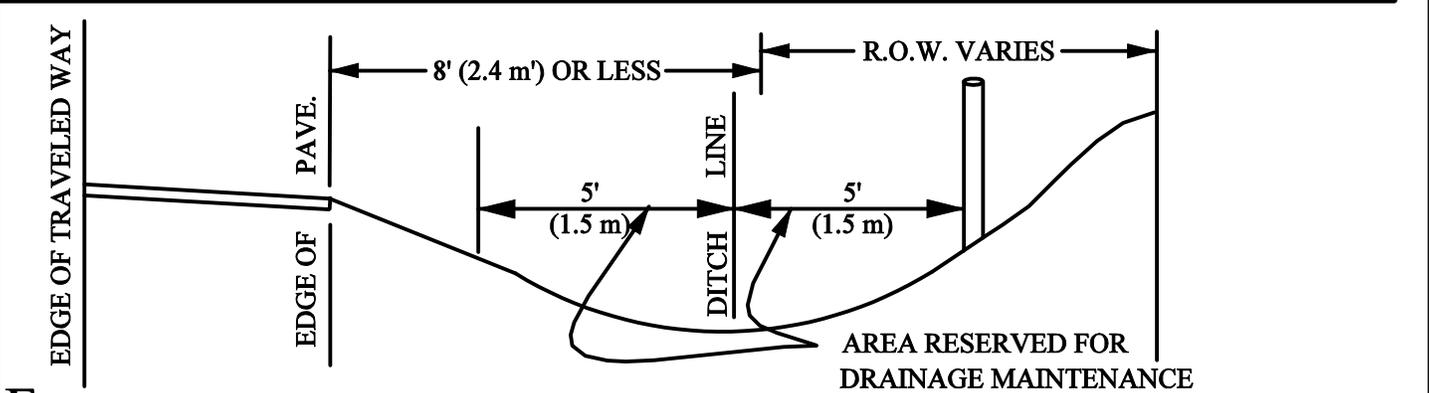


C. ON D.O.T. ROADWAY IMPROVEMENT PROJECTS IN A CUT/EMBANKMENT AREA WITH R.O.W. OFFSET GREATER THAN CLEAR ZONE REQUIREMENT

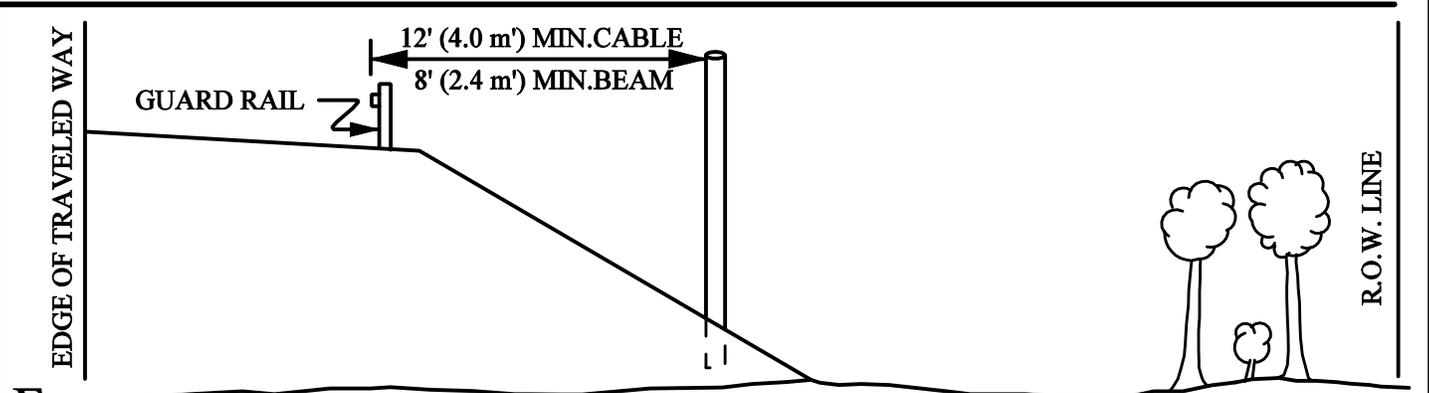
FIGURE C 1



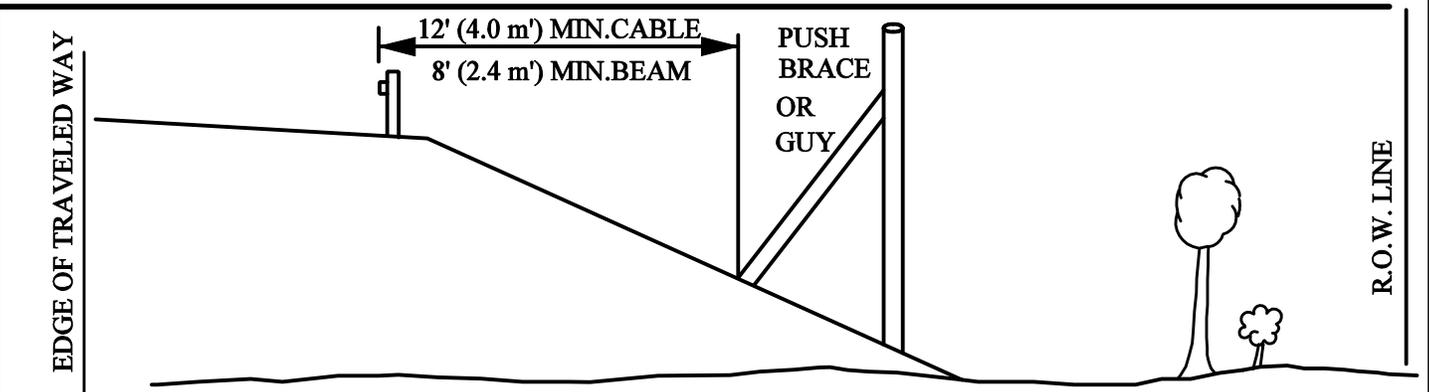
D. EXISTING HIGHWAY SECTION - UTILITY IMPROVEMENT PROJECT



E. EXISTING HIGHWAY SECTION - UTILITY IMPROVEMENT PROJECT



F. EXISTING OR NEW HIGHWAY SECTION WITH GUARD RAIL (SEE ALSO FIGURE C-4)



G. EXISTING OR NEW HIGHWAY SECTION WITH GUARD RAIL (SEE ALSO FIGURE C-4)

FIGURE C 2

URBAN TYPE SECTIONS

SECTIONS SHOWN IN DESCENDING PRIORITY
ACCEPTABLE LOCATIONS FOR POLE SETS

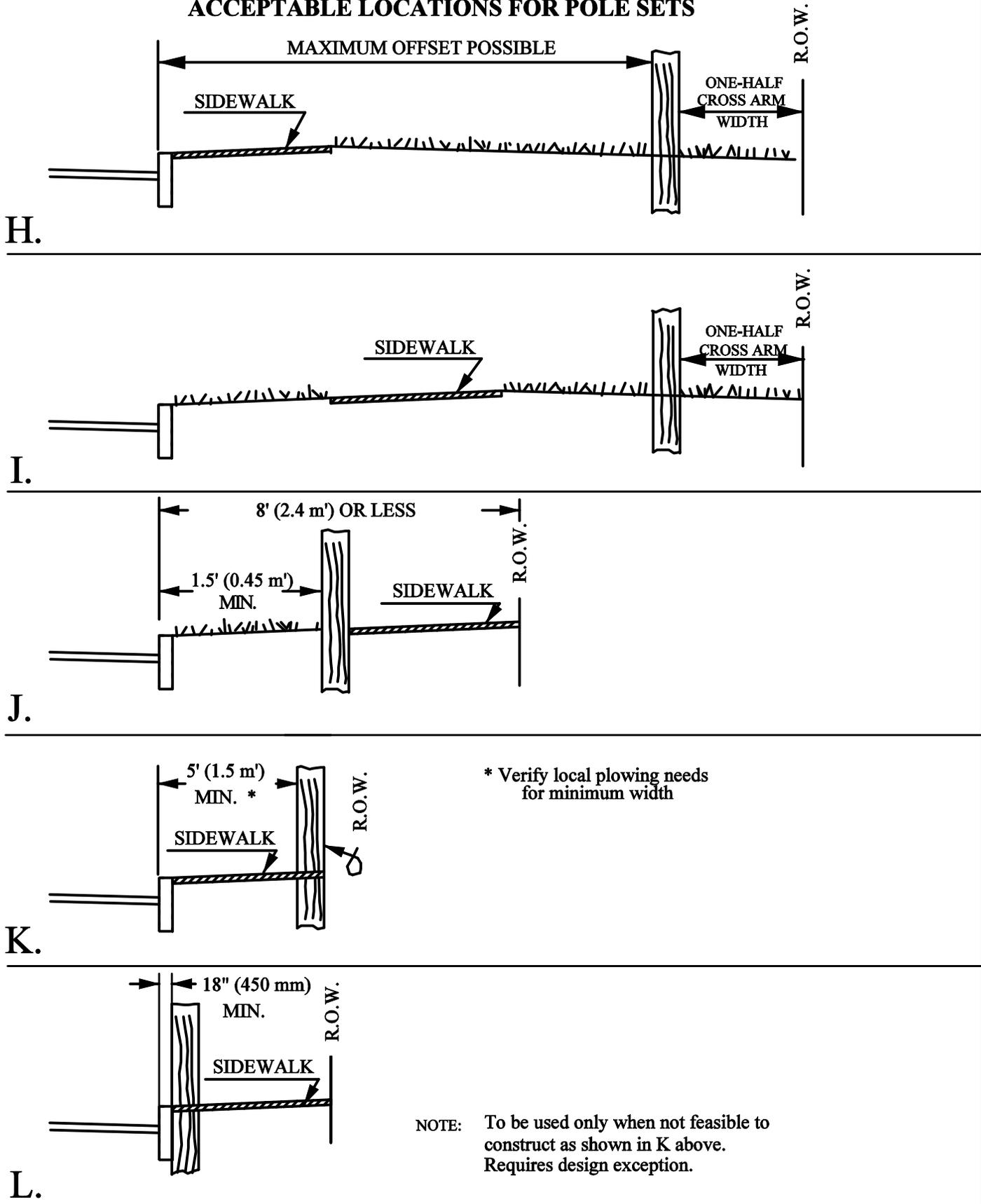
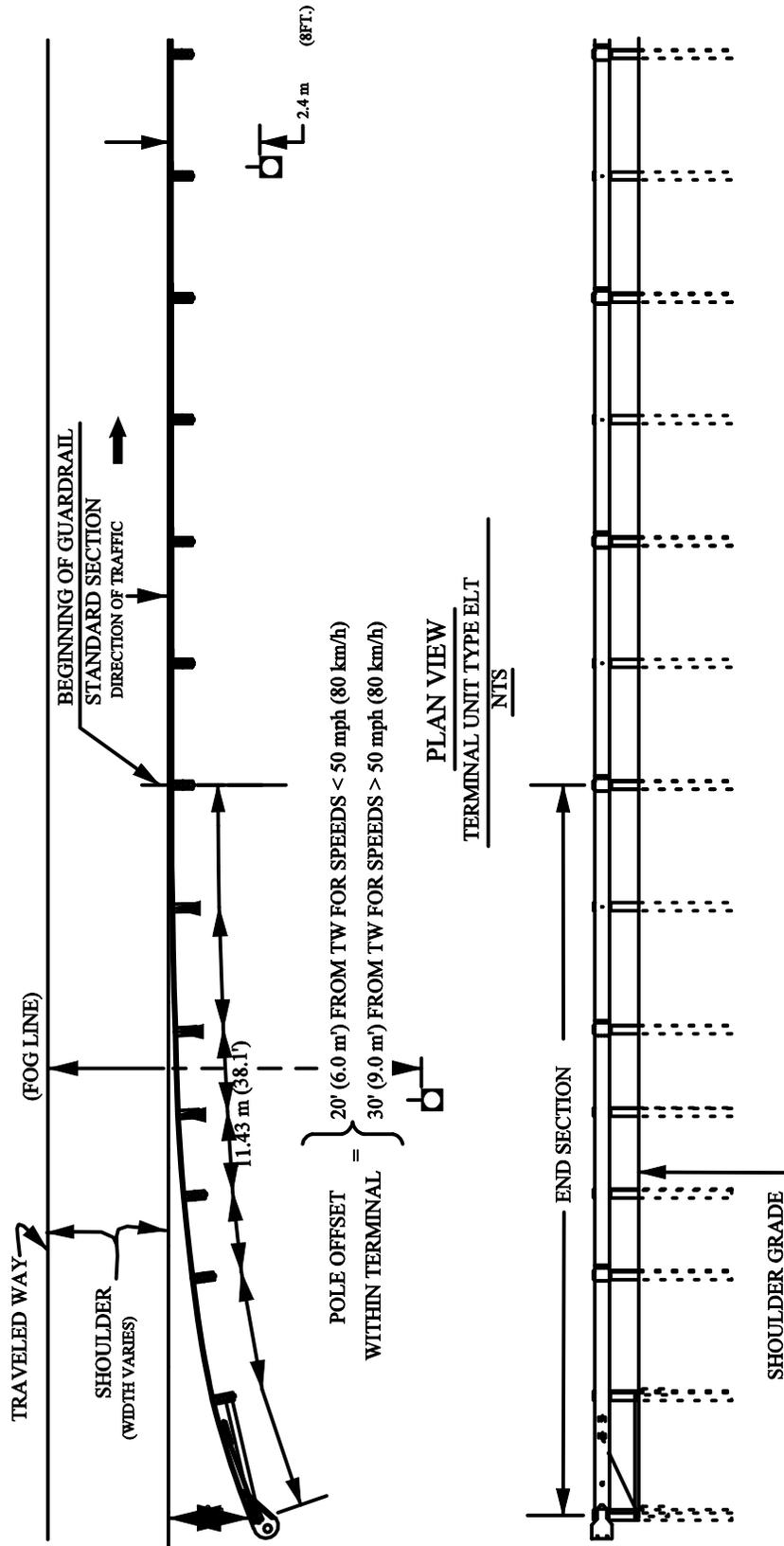


FIGURE C 3

POLE OFFSETS BEHIND FACE OF BEAM GUARDRAIL

(DEPARTURE / DIVIDED HIGHWAY)

"MINIMUM POLE OFFSET WITHIN TERMINAL AREA" IS EQUAL TO NON GUARDRAIL AREAS AND IS INDEPENDENT OF TERMINAL TYPE

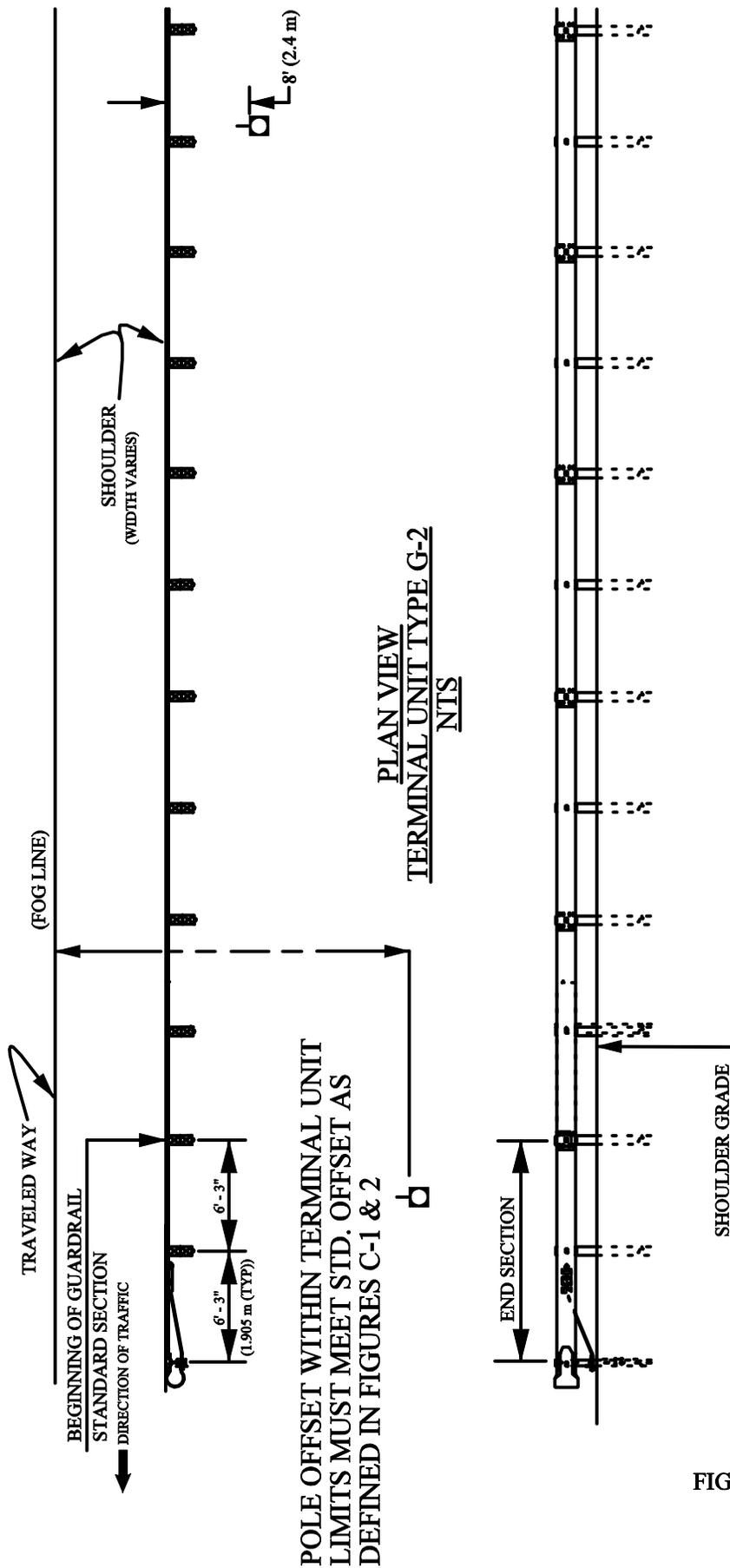


NOTE:
 POLE SETS WITHIN THE FIRST 3.81 m (12.5 FT.) OF THE TERMINAL SECTION WILL NOT BE ALLOWED.
 POLE SETS WITHIN THE LAST 7.62 m (25 FT.) OF THE TERMINAL ARE NOT RECOMMENDED.

FIGURE C 4

POLE OFFSETS BEHIND BEAM GUARDRAIL FACE (DEPARTURE / DIVIDED HIGHWAY)

"POLE OFFSET WITHIN TERMINAL" REMAINS THE SAME REGARDLESS OF THE TERMINAL TYPE



POLE OFFSET WITHIN TERMINAL UNIT LIMITS MUST MEET STD. OFFSET AS DEFINED IN FIGURES C-1 & 2

FIGURE C-5
 C-5

Table C1: Offsets to above ground nonbreakaway utility poles and appurtenances - Appendix C

TABLE C1

		Column 1				Column 2		Column 3	
		Minimum distance from*				Insufficient ROW or tree line than minimum from*		Not permitted closer than *	
Typical Roadway Section		Outside pavement edge	Curb face	Guardrail face	"V" ditch line in cut sections	Right-of-way line	Guardrail face	Pavement edge	Curb face
Posted speed greater than or equal to 80 km/h (50 mph)	10' (3m) Paved shoulder	20' (6 m)	--	Cable: 12' (3.6m) Beam: 8' (2.4m)	5' (1.5 m)	2' (0.6 m) or 1/2 cross arm width	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	8' (2.4 m)	--
	4' (1.2 m) Paved shoulder	26' (7.9 m)	--	Cable: 12' (3.6m) Beam: 8' (2.4m)	5' (1.5 m)	Same	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	8' (2.4 m)	--
	No paved shoulder	30' (9.0 m)	--	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	5' (1.5 m)	Same	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	8' (2.4 m)	--
Posted speed less than 80 km/h (50 mph)	10' (3m) Paved shoulder	10' (3.0 m)	--	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	5' (1.5 m)	Same	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	8' (2.4 m)	--
	4' (1.2 m) Paved shoulder	16' (4.8 m)	--	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	5' (1.5 m)	Same	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	8' (2.4 m)	--
	No paved shoulder	20' (6.0 m)	--	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	5' (1.5 m)	Same	Cable: 12' (3.6 m) Beam: 8' (2.4 m)	8' (2.4 m)	--
Urban -vertical curb posted speed 56 km/h (35 mph) or less	Sidewalk abuts curb	--	Back of sidewalk	--	--	Same	--	--	1.5' (0.45 m)
	Grass panel abuts curb and walk	--	Back of sidewalk	--	--	Same	--	--	1.5' (0.45 m)

Notes:

- **New Construction shall conform to AASHTO roadside design guide where practicable.**

-Criteria shall be applied with desired being column 1, and other columns representing acceptable offsets where desired cannot be achieved due to insufficient ROW approval for less than desired offsets shall be considered where insufficient ROW exists, or where irregular shaped sloped portions of the ROW preclude a reasonably uniform alignment.

-Guying rights, aerial overhang rights, trimming rights and any other work beyond the ROW is the utility's responsibility and will not normally be considered sufficient hardship for approval of locations less than desired.

-Poles not permitted in medians unless an exception has been granted.

* All offset distances are to face of pole and/or appurtenances from nearest Highway placement face.

APPENDIX D

STATE LAWS

Detail D1 Chapter 231:159 to 231:189 - Cities Towns and Village District Highways:

Lines of Telegraph and Other Companies D-1.1 to D-1.9
Use of Highways by Aqueduct and Gas Companies..... D-1.10 to D-1.11

**Detail D2 Chapter 236:9 to 236:18 and 236:29 and 236:30 - Highway Regulation,
Protection and
Control Regulations (with 1985 Revisions):**

Excavations and Driveways D-2.1 to D-2.4
Obstructions and Encroachments..... D-2.5 & D-2.6
General Provisions D-2.7

**Detail D3 Chapter 236:32 to 236:39 - Highway Regulation, Protection and Control
Regulations
(with 1985 Revisions):**

Encumbrances on Highways D-3.1 to D-3.2
Liability for Obstructions or Injury to Highway..... D-3.3

**Detail D4 Chapter 236:55 - Highway Regulation, Protection and Control Regulations
(with 1985 Revisions):**

Lights Along Highways D-4

Detail D5 Chapter 237:5 - Turnpike System:

Further Authority..... D-5.1 to D-5.2

Detail D6 Chapter 374:48 to 374:56:

Underground Utility Damage Prevention System D-6.1 to D-6.5

Detail D7 Chapter 228:22:

Cost of Trenching for Relocation of Underground Utilities D-7

Detail D8 Chapter 9-E Outdoor Lighting Efficiency D-8.1 to D-8.3

CHAPTER 231

CITIES, TOWNS AND VILLAGE DISTRICT HIGHWAYS

Lines of Telegraph and Other Companies

231:159 Applicability of Subdivision.

– The provisions of this subdivision apply to all cities and towns now or hereafter incorporated, except such provisions thereof as may have been or are hereafter specifically amended or repealed in the act of incorporation.

231:160 Authority to Erect.

– Telegraph, television, telephone, electric light and electric power poles and structures and underground conduits and cables, with their respective attachments and appurtenances may be erected, installed and maintained in any public highways and the necessary and proper wires and cables may be supported on such poles and structures or carried across or placed under any such highway by any person, copartnership or corporation as provided in this subdivision and not otherwise.

Source. 1881, 54:1. 1889, 4:1. PS 81:1. PL 97:1. 1935, 100:1. RL 113:1. 1945, 188:1, part 24:1. 1951, 184:1. RSA 254:2. 1981, 87:1, eff. April 20, 1981

231:160-a Exception for Existing Locations.

– Any poles, structures, conduits, cables or wires, the location of which have already been approved by the local land use board as part of a subdivision, site plan, or other development approval, shall, if such location becomes a public highway, be deemed legally permitted or licensed without further proceedings under this subdivision; provided, that copies of the appropriate utilities' easements, work plans, or other data showing locations of such structures, are submitted to the municipality for recording purposes.

Source. 1989, 90:1, eff. June 30, 1989.

231:161 Procedure.

– Any such person, copartnership or corporation desiring to erect or install any such poles, structures, conduits, cables or wires in, under or across any such highway, shall secure a permit or license therefor in accordance with the following procedure:

I. Jurisdiction.

(a) Town Maintained Highways. Petitions for such permits or licenses concerning town maintained highways shall be addressed to the selectmen of the town in which such highway is located; and they are hereby authorized to delegate all or any part of the powers conferred upon them by the provisions of this section to such agents as they may duly appoint.

Detail D1

(b) City Maintained Highways. Petitions for such permits or licenses concerning city maintained highways shall be addressed to the board of mayor and aldermen or board of mayor and council of the city in which such highway is located and they shall exercise the powers and duties prescribed in this subdivision for selectmen; and they are hereby authorized to delegate all or any part of the powers conferred upon them by the provisions of this section to such agents as they may duly appoint.

(c) State Maintained Highways. Petitions for such permits or licenses concerning all class I and class III highways and state maintained portions of class II highways shall be addressed to the commissioner of transportation who shall have exclusive jurisdiction of the disposition of such petitions to the same effect as is provided for selectmen in other cases, and also shall have like jurisdiction for changing the terms of any such license or for assessing damages as provided herein. The commissioner shall also have the same authority as conferred upon the selectmen by RSA 231:163 to revoke or change the terms and conditions of any such license. The commissioner is hereby authorized to delegate all or any part of the powers conferred upon him by the provisions of this section to such agent or agents as he may duly appoint in writing; he shall cause such appointments to be recorded in the office of the secretary of state, who shall keep a record thereof.

(d) The word "selectmen" as used in the following paragraphs of this section shall be construed to include all those having jurisdiction over the issuance of permits or licenses under paragraph I hereof.

II. Permits.

The petitioner may petition such selectmen to grant a permit for such poles, structures, conduits, cables or wires. If the public good requires, the selectmen shall grant a permit for erecting or installing and maintaining such poles, structures, conduits, cables or wires. Such permit shall designate and define in a general way the location of the poles, structures, conduits, cables or wires described in the petition therefor. Such permit shall be effective for such term as they may determine, but not exceeding one year from the date thereof, and may, upon petition, be extended for a further term not exceeding one year. A permit shall not be granted to replace an existing utility pole on any public highway unless such replacement pole is erected at least 20 feet from the surfaced edge or the edge of public easement therein, provided, however, that for good cause shown the selectmen may waive the 20-foot requirement.

III. Effect of Permit.

Except as otherwise provided herein, the holder of such permit shall during the term thereof be entitled to have and exercise all the rights, privileges and immunities and shall be subject to all the duties and liabilities granted or imposed hereby upon the holder of a license hereunder.

IV. Licenses.

The petitioner may petition such selectmen to grant a license for such poles, structures, conduits, cables or wires. If the public good requires, the selectmen shall grant a license for erecting and installing or maintaining the poles, structures, conduits, cables or wires described in the petition.

Detail D1

V. Provision of Licenses.

The selectmen in such license shall designate and define the maximum and minimum length of poles, the maximum and minimum height of structures, the approximate location of such poles and structures and the minimum distance of wires above and of conduits and cables below the surface of the highway, and in their discretion the approximate distance of such poles from the edge of the traveled roadway or of the sidewalk, and may include reasonable requirements concerning the placement of reflectors thereon. Such designation and definition of location may be by reference to a map or plan filed with or attached to the petition or license.

VI. Effect of License.

All licenses granted under the provisions hereof shall be retroactive to the date the petition therefor is filed. The word "license" as hereinafter used herein, except in RSA 231:164 shall be construed to include the word "permit". The holder of such a license, hereinafter referred to as licensee, shall thereupon and thereafter be entitled to exercise the same and to erect or install and maintain any such poles, structures, conduits, cables, and wires in approximately the location designated by such license and to place upon such poles and structures the necessary and proper guys, cross-arms, fixtures, transformers and other attachments and appurtenances which are required in the reasonable and proper operation of the business carried on by such licensee, together with as many wires and cables of proper size and description as such poles and structures are reasonably capable of supporting during their continuance in service; and to place in such underground conduits such number of ducts, wires and cables as they are designed to accommodate, and to supply and install in connection with such underground conduits and cables the necessary and proper manholes, drains, transformers and other accessories which may reasonably be required.

Source. 1881, 54:3, 4. PS 81:2. 1903, 81:1. PL 97:2. 1935, 100:1. 1937, 102:1. RL 113:2. 1943, 126:1. 1945, 188:1, part 24:2. RSA 254:3. 1959, 223:1, 2. 1981, 87:1. 1985, 402:6, I(b)(3).

231:162 Confirming Locations.

– Similar proceedings may be had for locating and licensing poles and structures and underground conduits and cables already constructed with or without license, or for changing the location of any such property constructed with or without license; but nothing contained in this section or this subdivision shall affect the validity of locations heretofore granted.

Source. 1935, 100:1. RL 113:3. 1945, 188:1, part 24:3. RSA 254:4. 1981, 87:1, eff. April 20, 1981

Detail D1

231:163 Changes.

– Any such licensee or any person whose rights or interests are affected by any such license may petition the selectmen for changes in the terms thereof; and after notice to the parties and hearing, the selectmen may make such alterations therein as the public good requires. The selectmen, after notice to any such licensee and hearing, may from time to time revoke or change the terms and conditions of any such license, whenever the public good requires.

Source. 1881, 54:4. PS 81:3. PL 97:3. 1935, 100:1. RL 113:4. 1945, 188:1, part 24:4. RSA 254:5. 1981, 87:1, eff. April 20, 1981.

231:164 Return and Record.

– The selectmen or the board of mayor and aldermen or other board having authority to locate poles and wires in cities, or the commissioner of transportation, within 6 months after any petition authorized by this subdivision has been presented for action, shall make a return of their proceedings and their decision thereon; provided, however, that if a permit is granted upon petition therefor, return and decision upon the petition for license presented in connection with such petition for permit shall be made on or before the expiration of such permit. They shall cause the petition for license and their return to be recorded by the clerk of the city or town in which the poles, structures, conduits, cables or wires are located.

Source. PS 81:8. PL 97:8. 1935, 100:1. 1937, 102:2. RL 113:5. 1943, 126:2. 1945, 188:1, part 24:5. RSA 254:6. 1981, 87:1. 1985, 402:6, I(b)(3).

231:165 Services and Fees. –

I. If the proprietors of the line are the petitioners, they shall pay the town clerk for his services and fees.

II. If a landowner is the petitioner he shall advance the payment for such services and fees, and if his petition is sustained he may recover the same from the proprietors of the line.

III. The town clerk shall be entitled to a fee of \$10, which shall be remitted when the license is recorded.

Source. PS 81:8. PL 97:9. 1935, 100:1. RL 113:6. 1945, 188:1, part 24:6. RSA 254:7. 1981, 87:1; 360:1. 1991, 252:1, eff. Aug. 9, 1991.

Detail D1

231:166 Petition to Court.

– If the selectmen or the board of mayor and aldermen or other board having authority to locate poles and wires in cities, or the commissioner of transportation, shall neglect or refuse to decide and make return of their proceedings upon any petition authorized hereby within the times limited by RSA 231:164, or if any party whose interests are affected by their decision on any such petition or in granting a license, changing the terms thereof, or revoking the same, is dissatisfied therewith, the petitioner or party so dissatisfied may apply to the superior court for relief within 60 days after the expiration of the times limited by RSA 231:164 or after such decision; and like proceedings shall thereupon be had as in the case of appeals from the laying out of highways by selectmen.

Source. 1881, 54:7. PS 81:9. 1897, 16:1. PL 97:10. 1935, 100:1. 1937, 102:3. RL 113:7. 1945, 188:1, part 24:7. RSA 254:8. 1981, 87:1. 1985, 402:6, I(b)(3).

231:167 Damages.

– If any person shall be damaged in his estate by the erection of any such poles or other structures, or by the installation of any such underground conduits or cables or by installing or placing any wire, cable, guy, cross-arm, fixtures, transformers, manhole, drain, or other apparatus in or under the highway by authority of any such license, he may apply to the selectmen to assess his damages. Such proceedings shall thereupon be had as are provided in the case of assessment of damages in laying out highways by the selectmen, and such damages, if any, may be awarded as shall be legally and justly due.

Source. 1881, 54:6. PS 81:6. 1897, 81:1. PL 97:6. 1935, 100:1. RL 113:8. 1945, 188:1, part 24:8. RSA 254:9. 1981, 87:1, eff. April 20, 1981.

231:168 Interference with Travel.

– The location of poles and structures and of underground conduits and cables by the selectmen shall be made so far as reasonably possible so that the same and the attachments and appurtenances thereto will not interfere with the safe, free and convenient use for public travel of the highway or of any private way leading therefrom to adjoining premises or with the use of such premises or of any other similar property of another licensee. The location of any such pole or structure or underground conduit or cable, when designated by the selectmen pursuant to the provisions of this subdivision shall be conclusive as to the right of the licensee to construct and maintain the same in the place located without liability to others except as is expressly provided in RSA 231:175 and 231:176. In no event shall any town or city or any official or employee thereof or of the department of transportation be under liability by reason of the death of or damages sustained by any person or to any property occasioned by or resulting from the location, construction, or maintenance of any pole, structure, conduit, cable, wire, or other apparatus in any highway, pursuant to the provisions of this subdivision.

Source. 1877, 50:1. GL 80:1. 1881, 54:2, 5. PS 81:4. PL 97:4. 1935, 100:1. RL 113:10. 1945, 188:1, part 24:9. RSA 254:10. 1959, 223:3. 1981, 87:1. 1985, 402:6, I(a)(3).

Detail D1

231:169 Joint Licenses.

– Joint licenses for erecting or installing and maintaining any jointly owned poles, structures, conduits, cables and wires may be granted under the provisions hereof to 2 or more petitioners.

Source. 1935, 100:1. 1937, 102:5. RL 113:11. 1945, 188:1, part 24:10. RSA 254:11. 1981, 87:1, eff. April 20, 1981.

231:170 Transfer of License.

– In connection with the transfer of all or any interest in any poles, structures, conduits, cables, or wires, the transferor may by appropriate assignment transfer his or its license to maintain the same and the transferee shall be entitled to have and exercise such license to the extent necessary for his or its use of the transferred property, upon recording such assignment with the clerk of the town in which said property is situated.

Source. 1937, 102:6. RL 113:12. 1945, 188:1, part 24:11. RSA 254:12. 1981, 87:1, eff. April 20, 1981.

231:171 Renewal and Replacement.

– Any pole or structure or underground conduit or cable installed under license as provided herein may be renewed or replaced as occasion requires in approximately the location originally designated therefor; and any variation in location which is reasonably necessary in making such renewal or replacement in the usual or customary manner, shall not affect the rights of the licensee as defined herein.

Source. 1935, 100:1. RL 113:13. 1945, 188:1, part 24:12. RSA 254:13. 1981, 87:1, eff. April 20, 1981.

231:172 Cutting Trees.

– No such licensee shall have the right to cut, mutilate or injure any shade or ornamental tree, for the purpose of erecting or maintaining poles or structures or installing wires or other attachments or appurtenances thereto, without obtaining the consent of the owner of the land on which such tree grows or the payment or tender in full of damages therefore determined as provided in this section. If the consent of such owner cannot be obtained, the selectmen, upon petition, after notice to the owner and hearing, shall determine whether the cutting or mutilation is necessary and if determined to be necessary, they shall assess the damages that will be occasioned to the owner thereby. Upon highways which have been designated scenic roads pursuant to RSA 231:157 and RSA 231:158, cutting shall be further restricted as set forth in those sections or any local provisions adopted thereunder.

Source. 1877, 50:2. GL 80:2. PS 81:5. PL 97:5. 1935, 100:1. RL 113:14. 1945, 188:1, part 24:13. RSA 254:14. 1981, 87:1. 1991, 134:5, eff. July 19, 1991.

Detail D1

231:173 Unlicensed.

– If any such pole, or structure, or underground conduit or cable, or any attachment or appurtenance thereto, is willfully placed or maintained in any highway without valid license therefor, it shall be removed upon demand by the authority having jurisdiction to issue licenses pursuant to this subdivision at the place where such pole, or structure, or underground conduit or cable, or any attachment or appurtenance thereto is located.

Source. PS 81:10. PL 97:11. 1935, 100:1. RL 113:15. 1945, 188:1, part 24:14. RSA 254:15. 1959, 223:4. 1981, 87:1, eff. April 20, 1981.

231:174 No Prescriptive Right.

– No enjoyment by a person, copartnership, or corporation for any length of time of the privilege of having or maintaining wires and their supports and appurtenances in, upon, over, or attached to any building or land of other persons, shall create an easement or raise any presumption of a grant thereof.

Source. 1881, 54:2. PS 81:9. PL 97:12. 1935, 100:1. RL 113:16. 1945, 188:1, part 24:15. RSA 254:16. 1981, 87:1, eff. April 20, 1981.

231:175 To Indemnify Town.

– The proprietors of every line of wire strung in a highway shall indemnify the town against all damages, costs and expenses to which it may be subjected by reason of any insufficiency or defect in the highway occasioned by the presence of the wires and their supports therein.

Source. PS 81:16. PL 97:15. 1935, 100:1. RL 113:17. 1945, 188:1, part 24:16. RSA 254:17. 1981, 87:1, eff. April 20, 1981.

231:176 To Party Injured.

– Any party receiving injury in his person or estate from any pole, or structure, or underground conduit or cable, or any attachment or appurtenance thereto within the highway limits may maintain an action for damages against the proprietor of the object causing such injury if such injury has been caused by the location of the object so as to interfere with the safe, free and convenient use of the highway, or by the negligent construction, operation or maintenance of such object; provided, however, that where a pole is unlicensed, the burden of proving that the object causing injury did not interfere with the safe, free and convenient use of the highway, or that such object was not negligently constructed, operated or maintained shall be upon the proprietor of such object. The provisions of this section shall not apply to actions for damages based upon injuries occurring prior to October 10, 1959.

Source. PS 81:16. PL 97:16. 1935, 100:1. RL 113:18. 1945, 188:1, part 24:17. RSA 254:18. 1959, 223:5. 1981, 87:1, eff. April 20, 1981.

Detail D1

231:177 Removal of Wires and Poles by the State or Town After Notice.

– Poles used by telephone, telegraph or other public utilities including railroads and street railways may be removed after 10 days' notice in writing of the intention to remove the same has been given by the commissioner of transportation or the highway agent of any city or town.

Source. 1945, 188:1, part 24:18. RSA 254:19. 1981, 87:1. 1985, 402:6, I(b)(3)

231:178 Service of Notice.

– Such notice may be served by any agent of the department of transportation or by the highway agent of any city or town on such utility or any agent or officer thereof.

Source. 1945, 188:1, part 24:19. RSA 254:20. 1981, 87:1. 1985, 402:6, I(a)(3).

231:179 Notice; Contents; Record.

– The notice of removal of any such pole shall designate the location in the highway to which the same shall be removed, and such notice, together with affidavit or acceptance of service thereof, shall be recorded in the office of the clerk of the city or town in which such pole is located. The notice shall take effect when the same, with such affidavit or acceptance of service endorsed thereon, shall be thus recorded, and the 10 days shall run from the date of such record.

Source. 1945, 188:1, part 24:20. RSA 254:21. 1981, 87:1, eff. April 20, 1981.

231:180 Defining Location.

– The location defined in such notice of any pole so removed, together with the wires thereon, shall be of the same validity as if made under a permit by the commissioner of transportation in case of state maintained highways or selectmen or mayor and aldermen in case of other highways.

Source. 1945, 188:1, part 24:21. RSA 254:22. 1981, 87:1. 1985, 402:6, I(b)(3).

231:181 Time of Removal.

– All such poles shall be removed within the time designated, and, if not removed by the date stated in such notice, may be forthwith removed by the agency giving notice at the expense of the owner.

Source. 1945, 188:1, part 24:22. RSA 254:23. 1981, 87:1, eff. April 20, 1981.

Detail D1

231:182 Temporary Removal.

– Whenever it shall be necessary for any lawful purpose temporarily to displace, remove, or sever any wire, pole, or structure lawfully maintained in any highway and the proprietor thereof shall neglect or refuse to take such action within 24 hours after request therefor, the person desiring such action may apply to the selectmen for an order requiring such action to be taken by such proprietor. Thereupon the selectmen shall appoint a hearing to be held within 6 days after such petition has been presented to them and shall give such proprietor at least 3 days' notice thereof. After hearing, the selectmen may by order require the proprietor to take the action requested, if in their judgment said action is reasonably necessary, and fix the time within which it shall be completed and specify whether the petitioner shall pay all or any part of the expense thereof; and it shall be the duty of such proprietor to comply with such order within the time stated therein and he shall thereupon be entitled to reimbursement from the petitioner in accordance with said order, within 6 days after demand therefor by the proprietor stating the amount. Such proprietor shall be entitled to recover from the petitioner in an action of debt the petitioner's part of the expense determined in said order. In case such proprietor shall fail to comply with such order, he shall forfeit to the petitioner a sum equivalent to \$10 for each day while such default continues.

Source. 1870, 10:1. GL 80:3. PS 81:14. PL 97:13. 1935, 100:1. RL 113:19. 1945, 188:1, part 24:23. RSA 254:24. 1981, 87:1, eff. April 20, 1981.

CHAPTER 231 CITIES, TOWNS AND VILLAGE DISTRICT HIGHWAYS

Use of Highways by Aqueduct and Gas Companies

231:183 Applicability of Subdivision.

– The provisions of this subdivision shall apply to all cities and towns now or hereafter incorporated, except such provisions thereof as may have been or are hereafter specifically amended or repealed in the act of incorporation.

Source. 1949, 287:1. RSA 255:1. 1981, 87:1, eff. April 20, 1981.

231:184 Excavation in Highway.

– No person or corporation shall dig up any highway or public ground for the purpose of laying water or gas pipes, or other pipes or structures therein, or of repairing the same, without first obtaining the consent of the commissioner of transportation or his division engineer when the excavation is in any state-maintained highway and in all other cases the consent of the selectmen or highway agent of the town or the mayor and aldermen or street commissioner of the city; except, in cases of emergency where the public health or safety is endangered, such action may be taken as provided in RSA 236:9.

Source. 1854, 1527:1. GS 141:1. 1868, 1:40. GL 155:1. PS 82:1. PL 98:1. RL 114:1. 1945, 188:1, part 25:1. RSA 255:2. 1981, 87:1. 1985, 402:6, I(b)(3).

231:185 Restoring Highway.

– Every person and every corporation who shall dig up any highway or public ground for such purpose shall restore the highway or ground to as good condition as it was in before so doing, without unnecessary delay, and shall take all necessary precautions to protect the public from injury by their acts.

Source. 1854, 1527:1. GS 141:1. 1868, 1:40. GL 155:1. PS 82:2. PL 98:2. RL 114:2. 1945, 188:1, part 25:2. RSA 255:3. 1981, 87:1, eff. April 20, 1981.

231:186 Liability for Damages.

– They shall be liable for all damages occasioned to the town or city, or to any person, by an act so done or by any negligence connected therewith.

Source. 1854, 1527:1. GS 141:1. 1868, 1:40. GL 155:1. PS 82:2. PL 98:3. RL 114:3. 1945, 188:1, part 25:3. RSA 255:4. 1981, 87:1, eff. April 20, 1981.

Detail D1

231:187 Petition for Easement.

– Selectmen, upon petition of any aqueduct or gaslight corporation or company, or of any person who supplies water or gas to people for hire, may lay out for the petitioner an easement to place and maintain pipes and other structures for conveying water or gas in any unaccepted street or private way in the town if they find that the public good requires it.

Source. 1877, 55:1, 2. GL 155:2, 3. PS 82:3. PL 98:4. RL 114:4. 1945, 188:1, part 25:4. RSA 255:5. 1981, 87:1, eff. April 20, 1981.

231:188 Procedure. – They shall proceed upon such petition the same as in the laying out of a highway; and the owner of the land in which the easement is taken shall have like remedy by appeal.

Source. 1877, 55:2, 3. GL 155:3, 4. PS 82:4. PL 98:5. RL 114:5. 1945, 188:1, part 25:5. RSA 255:6. 1981, 87:1, eff. April 20, 1981.

231:189 Malicious Injury to Aqueducts or Pipes; Penalty.

– Any person who shall wantonly and maliciously injure any aqueduct, or the pipes, logs or other property of any gaslight company, aqueduct company or person, shall be liable to pay treble damages to such company or person in an action on the case, and shall be guilty of a misdemeanor if a natural person, or guilty of a felony if any other person.

Source. 1854, 1527:2. GS 141:2. 1868, 1:41. GL 155:5. PS 82:5. PL 98:6. RL 114:6. 1945, 188:1, part 25:6. RSA 255:7. 1973, 529:45. 1981, 87:1, eff. April 20, 1981.

CHAPTER 236 HIGHWAY REGULATION, PROTECTION AND CONTROL REGULATIONS

Excavations and Driveways

236:9 Excavation; Permit; Emergency.

– It shall be unlawful to excavate or disturb the shoulders, ditches, embankments or the surface improved for travel of any class I or class III highway or state-maintained portion of any class II highway for any purpose whatever without written permission from the commissioner of transportation or his district engineer, or any other highway without written permission from the selectmen or highway agent of the town, or the mayor and aldermen or street commissioner of the city; provided that in cases of emergency where the public health or safety is endangered such immediate action as may be necessary may be taken without such permission, but in such cases the person directing or taking such action shall at once notify the official empowered to give written permission.

Source. 1917, 96:1. PL 91:1. RL 107:1. 1945, 188:1, part 19:8. 1950, 5:1, part 9:1, par. 2. RSA 249:13. 1981, 87:1. 1985, 402:6, I(b)(7). 1990, 39:1, eff. May 22, 1990.

236:10 Regulations; Bond.

– The person or entity giving such written permission may make rules and regulations to govern the excavation and restoration of such highway and may require that a bond satisfactory to such person or entity be furnished to the state, city, or town providing for the satisfactory restoration of the highway. The person or entity providing the bond shall determine the type of bond furnished and it may be in the form of cash, letter of credit from a bank or lending institution licensed in New Hampshire and acceptable to the person giving written permission, or a bond furnished by an insurance company. The person or entity granting permission shall not arbitrarily withhold funds from any cash bond or letter of credit, but shall first make a good faith effort to resolve any differences with the contractor doing the excavation or restoration.

Source. 1917, 96:2. PL 91:2. RL 107:3. 1945, 188:1, part 19:9. RSA 249:14. 1981, 87:1, eff. April 20, 1981. 2006, 177:1, eff. July 24, 2006.

Detail D2

236:11 Restoration.

– Any person, entity, or corporation who excavates or disturbs the shoulders, ditches, embankments, or the surface improved for travel of any highway shall restore such highway to a condition at least equal to the condition that was present before the excavation or disturbance.

Source. 1945, 188:1, part 19:10. RSA 249:15. 1981, 87:1, eff. April 20, 1981. 2006, 177:2, eff. July 24, 2006.

236:12 Exception.

– The foregoing provisions shall not apply to railroads when making necessary repairs or improvements within their rights-of-way at points where the same are crossed by a highway; but no such repairs or improvements, if they involve excavating or disturbing the surface of any highway, shall be made without written permission from the department of transportation.

Source. 1917, 96:4. PL 91:4. RL 107:6. 1945, 188:1, part 19:11. RSA 249:16. 1981, 87:1. 1990, 39:2, eff. May 22, 1990.

236:13 Driveways and Other Accesses to the Public Way.

I. It shall be unlawful to construct, or alter in any way that substantially affects the size or grade of, any driveway, entrance, exit, or approach within the limits of the right-of-way of any class I or class III highway or the state-maintained portion of a class II highway that does not conform to the terms and specifications of a written permit issued by the commissioner of transportation.

II. Pursuant to this section, a written construction permit application must be obtained from and filed with the department of transportation by any abutter affected by the provisions of paragraph I. Before any construction or alteration work is commenced, said permit application shall have been reviewed, and a construction permit issued by said department. Said permit shall:

(a) Describe the location of the driveway, entrance, exit, or approach. The location shall be selected to most adequately protect the safety of the traveling public.

(b) Describe any drainage structures, traffic control devices, and channelization islands to be installed by the abutter.

(c) Establish grades that adequately protect and promote highway drainage and permit a safe and controlled approach to the highway in all seasons of the year.

(d) Include any other terms and specifications necessary for the safety of the traveling public.

Detail D2

III. For access to a proposed commercial or industrial enterprise, or to a subdivision, all of which for the purposes of this section shall be considered a single parcel of land, even though acquired by more than one conveyance or held nominally by more than one owner:

(a) Said permit application shall be accompanied by engineering drawings showing information as set forth in paragraph II.

(b) Unless all season safe sight distance of 400 feet in both directions along the highway can be obtained, the commissioner shall not permit more than one access to a single parcel of land, and this access shall be at that location which the commissioner determines to be safest. The commissioner shall not give final approval for use of any additional access until it has been proven to him that the 400-foot all season safe sight distance has been provided.

(c) For the purposes of this section, all season safe sight distance is defined as a line which encounters no visual obstruction between 2 points, each at a height of 3 feet 9 inches above the pavement, and so located as to represent the critical line of sight between the operator of a vehicle using the access and the operator of a vehicle approaching from either direction.

IV. No construction permit shall allow:

(a) A driveway, entrance, exit, or approach to be constructed more than 50 feet in width, except that a driveway, entrance, exit, or approach may be flared beyond a width of 50 feet at its junction with the highway to accommodate the turning radius of vehicles expected to use the particular driveway, entrance, exit or approach.

(b) More than 2 driveways, entrances, exits or approaches from any one highway to any one parcel of land unless the frontage along that highway exceeds 500 feet.

V. The same powers concerning highways under their jurisdiction as are conferred upon the commissioner of transportation by paragraphs I, II, III and IV shall be conferred upon the planning board in cities and towns in which the planning board has been granted the power to regulate the subdivision of land as provided in RSA 674:35, and they shall adopt such regulations as are necessary to carry out the provisions of this section. Such regulations may delegate administrative duties, including actual issuance of permits, to a highway agent, board of selectmen, or other qualified official or body. Such regulations, or any permit issued under them, may contain provisions governing the breach, removal, and reconstruction of stone walls or fences within, or at the boundary of, the public right of way, and any landowner or landowner's agent altering a boundary in accordance with such provisions shall be deemed to be acting under a mutual agreement with the city or town pursuant to RSA 472:6, II(a).

Detail D2

VI. The commissioner of transportation or planning board shall retain continuing jurisdiction over the adequacy and safety of every existing driveway, entrance, exit, and approach to a highway, whether or not such access was constructed or installed pursuant to a permit under this section, and, unless the access is a public highway, the owners of property to which the access is appurtenant shall have continuing responsibility for the adequacy of the access and any grades, culverts, or other structures pertaining to such access, whether or not located within the public right of way. If any such access is or becomes a potential threat to the integrity of the highway or its surface, ditches, embankments, bridges, or other structures, or a hazard to the safety of the traveling public, by reason of siltation, flooding, erosion, frost action, vegetative growth, improper grade, or the failure of any culvert, traffic control device, drainage structure, or any other feature, the commissioner of transportation or planning board or their designee may issue an order to the landowner or other party responsible for such access to repair or remove such hazardous condition and to obtain any and all permits required therefor. The order shall describe the hazard, prescribe what corrective action or alteration in the location or configuration of such access shall be required, and set a reasonable time within which the action shall be completed. Such an order shall be sent by certified mail, and shall be enforceable to the same extent as a permit issued under this section. If the order is not complied with within the time prescribed, the commissioner or planning board or their designee may cause to be taken whatever action is necessary to protect the highway and the traveling public, and the owner or other responsible party shall be civilly liable to the state or municipality for its costs in taking such action.

Source. 1939, 109:1. RL 107:4. 1945, 188:1, part 19:12. 1950, 5:1, part 9:1, par. 2. RSA 249:17. 1969, 254:1. 1971, 302:1. 1981, 87:1. 1985, 103:4, eff. Jan. 1, 1986; 402:6, I(a)(7), (b)(7). 1997, 52:1, 2, eff. July 18, 1997.

236:14 Penalty.

– Any person who violates any provision of this subdivision or the rules and regulations made under authority thereof shall be guilty of a violation if a natural person, or guilty of a misdemeanor if any other person; and, in addition, shall be liable for the cost of restoration of the highway to a condition satisfactory to the person empowered to give such written permission.

Source. 1917, 96:3. PL 91:3. 1939, 109:2. RL 107:5. 1945, 188:1, part 19:13. RSA 249:18. 1973, 530:26. 1981, 87:1, eff. April 20, 1981.

CHAPTER 236
HIGHWAY REGULATION, PROTECTION AND
CONTROL REGULATIONS

Obstructions and Encroachments

236:15 Purprestures; Barbed Wire.

– If any building, structure or fence is erected or continued upon or over any highway, or if any fence, any part of which within 6 feet from the ground is barbed wire, is erected, maintained or continued adjoining or adjacent to any street or highway within the compact part of any town or within the limits of any village district or city, it shall be deemed a public nuisance. Cornices or other projections upon buildings, extending a reasonable distance into a highway, 12 feet or more above the surface of the highway, shall not be considered obstructions within the meaning of this section. Superstructures from one building to another, extending over a highway, not less than 16 feet above the surface of the highway, approved by the governing body of a municipality charged with the duty of inspection or supervision of buildings, shall not be considered obstructions within the meaning of this section.

Source. RS 60:1. CS 64:1. 1862, 2622:3. GS 70:10, 11. GL 76:10, 11. PS 77:8. 1899, 59:1. 1921, 157:1. PL 92:8. RL 108:8. 1945, 188:1, part 19:14. RSA 249:19. 1961, 110:1. 1981, 87:1, eff. April 20, 1981.

236:16 Penalty.

– Any person so erecting or continuing any building, structure or fence, so as to interfere with, hinder or obstruct the public travel, shall be guilty of a violation, and the superior court may order such building, structure or fence to be removed, if it be found that the same does so obstruct or lessen the full breadth of the highway, or is dangerous to public travel thereon.

Source. RS 60:1. CS 64:1. 1862, 2622:3. GS 70:10, 11. GL 76:10, 11. PS 77:8. 1899, 59:1. 1921, 157:1. PL 92:9. RL 108:9. 1945, 188:1, part 19:15. RSA 249:20. 1973, 531:74. 1981, 87:1, eff. April 20, 1981.

236:17 Exceptions.

– Watch-houses and structures for public use erected by authority of the town or by its selectmen, and signs and awnings put up in conformity with the police regulations in force in the town, are excepted from the provisions of RSA 236:16.

Source. RS 60:2. CS 64:2. GS 70:12. GL 76:12. PS 77:9. PL 92:10. RL 108:10. 1945, 188:1, part 19:16. RSA 249:21. 1981, 87:1, eff. April 20, 1981.

Detail D2

236:18 Right to Air Space Above and Below Certain Highways.

– The state shall have exclusive rights, insofar as they do not conflict with any federal statute, to build into, lease or utilize for any public purpose the air space directly above or below the toll highways and the interstate system highways within this state. These rights to said air space shall extend upward or downward so far as is practical and reasonable for all purposes of the state and it shall be unlawful for any person or persons to violate said air space except as allowed by the state. The department of transportation shall be responsible for the administration and enforcement of this section. Nothing in this section shall be construed as prohibiting aircraft from flying through the air space above the herein mentioned highways. Notwithstanding the foregoing, public utilities shall have the right to erect lines through said air space in accordance with the provisions of this chapter relative thereto.

Source. RSA 249:21-a. 1969, 144:1. 1981, 87:1. 1985, 402:6, I(a)(7).

TITLE XX TRANSPORTATION

CHAPTER 236 HIGHWAY REGULATION, PROTECTION AND CONTROL REGULATIONS

General Provisions

Section 236:29

236:29 Removal of Obstructions. – The department of transportation may remove all obstructions in class I, class II, class III, or class III-a highways, and the highway agent of any city or town may remove all obstructions on any other highway and on town maintained portions of class II highways.

Source. 1917, 154:1. PL 91:10. RL 107:13. 1945, 188:1, part 19:24. RSA 249:29. 1981, 87:1. 1985, 402:6, I(a)(7). 1992, 265:16, eff. July 1, 1992

236:30 No Adverse Right. – No person shall acquire, as against the public, any right to any part of a highway by enclosing or occupying it adversely for any length of time.

Source. 1862, 2622:1. GS 70:8. GL 76:8. PS 77:7. PL 92:7. RL 108:7. 1945, 188:1, part 19:25. RSA 249:30. 1981, 87:1, eff. April 20, 1981

CHAPTER 236 HIGHWAY REGULATION, PROTECTION AND CONTROL REGULATIONS

Encumbrances on Highways

236:32 Removal. – If any timber, lumber, stone or other thing is upon a state-maintained highway, encumbering it, the department of transportation may immediately remove the encumbrance, and, if upon any other highway, the highway agent of the city or town may immediately remove the encumbrance, and the official shall hold the same in his possession until the costs of removal are paid.

Source. RS 59:1. CS 63:1. 1864, 2897:1. GS 70:1. GL 76:1. PS 77:1. PL 92:1. RL 108:1. 1945, 188:1, part 19:26. RSA 249:31. 1981, 87:1. 1985, 402:6, I(a)(7).

236:33 Disposal. – He shall deliver to the owner the encumbrance removed, on being paid the cost of removing and keeping it, within 30 days after its removal; if the cost is not so paid he may sell the same, on giving 4 days' notice thereof, by posting notices in 2 public places in the town.

Source. 1864, 2897:2. GS 70:2. GL 76:2. PS 77:2. PL 92:2. RL 108:2. 1945, 188:1, part 19:27. RSA 249:32. 1981, 87:1, eff. April 20, 1981.

236:34 Proceeds of Sale. – The official shall pay to the owner of such encumbrance the balance of the money received on the sale thereof after deducting his costs of removal, keeping and sale.

Source. 1864, 2897:3. GS 70:3. GL 76:3. PS 77:3. PL 92:3. RL 108:3. 1945, 188:1, part 19:28. RSA 249:33. 1981, 87:1, eff. April 20, 1981.

236:35 Notice; Complaint. – The official may, if he chooses, give reasonable notice to the owner or person leaving any such encumbrance to remove the same; and upon his neglect or refusal, or if he is unknown, may make complaint thereof to a justice of the peace.

Source. RS 59:2. CS 63:2. GS 70:4. GL 76:4. PS 77:4. PL 92:4. RL 108:4. 1945, 188:1, part 19:29. RSA 249:34. 1981, 87:1, eff. April 20, 1981.

Detail D3

236:36 Hearing; Order. – The justice shall cause notice to be given to the owner or person leaving the same, if known, of the time appointed by him to view the encumbrance, and, after hearing such party if he attend, may upon his own view issue his warrant to the official to remove the same so far as he shall judge necessary for the public convenience, and to sell so much thereof as may be necessary to pay the legal costs, taxed by him, and 3 times the price of the labor of removing the same, to be estimated by the justice.

Source. RS 59:3. CS 63:3. GS 70:5. GL 76:5. PS 77:5. PL 92:5. RL 108:5. 1945, 188:1, part 19:30. RSA 249:35. 1981, 87:1, eff. April 20, 1981.

236:37 Authority to Sell; Deficit. – The official shall have the same powers in making such sale as a collector of taxes has in the sale of property distrained by him, and shall be governed by the same rules; and, if the proceeds of the sale are insufficient to pay the sums specified in the warrant, he may recover the balance unpaid by action on the case against the person leaving the same.

Source. RS 59:4. CS 63:4. GS 70:6. GL 76:6. PS 77:6. PL 92:6. RL 108:6. 1945, 188:1, part 19:31. RSA 249:36. 1981, 87:1, eff. April 20, 1981

**CHAPTER 236
HIGHWAY REGULATION, PROTECTION AND
CONTROL REGULATIONS**

Liability for Obstruction or Injury to Highway

236:38 Damaging Highway; Penalty. – If any person, without authority, willfully injures any highway or bridge thereon by destroying or taking away any plank, timber, stone or other material thereof, or by digging any pit therein, he shall be guilty of a misdemeanor.

Source. RS 58:1. CS 62:1. GS 66:26. GL 72:26. PS 77:13. PL 92:14. RL 108:14. 1945, 188:1, part 19:32. RSA 249:37. 1973, 528:131. 1981, 87:1, eff. April 20, 1981.

236:39 Civil Liability. – If any person shall place any obstruction in a highway, or cause any defect, insufficiency or want of repair of a highway which renders it unsuitable for public travel, without authority, he shall be liable to the state for all damages to the highway when maintained by the state, and to the town for all damages to other highways, and for all damages and costs which the town shall be compelled to pay to any person injured by such obstruction, defect, insufficiency or want of repair.

Source. RS 59:5. CS 63:5. GS 70:7. GL 72:27; 76:7. PS 77:14. PL 92:15. RL 108:15. 1945, 188:1, part 19:33. RSA 249:38. 1981, 87:1, eff. April 20, 1981.

**CHAPTER 236
HIGHWAY REGULATION, PROTECTION AND
CONTROL REGULATIONS**

Lights Along Highways

236:55 Prohibition. – It shall be unlawful to place any light along a highway so positioned as to blind or dazzle the vision of travelers on the adjacent highway. The commissioner of transportation shall enforce provisions of this section for lights along class I, II or III highways and the selectmen shall enforce the provisions hereof on class IV, V and VI highways. Whenever a person shall violate the provisions of this section he shall be given written notice to correct the location of the light. If he does not so correct the location of the light within a period of 30 days from the date of written notice to do so, he shall be prosecuted for violation of the provisions hereof. Whoever violates any provision of this section shall be guilty of a violation if a natural person, or guilty of a misdemeanor if any other person; and in either case shall cease all operation of such offending light.

Source. RSA 249:50. 1957, 159:1. 1973, 530:31. 1981, 87:1. 1985, 402:6, I(b)(7).

CHAPTER 237 TURNPIKE SYSTEM

237:5 Further Authority. –

I. Except as may be inconsistent herewith and except as hereinafter provided, the projects authorized by RSA 237:2, I and II shall be laid out, constructed and operated in accordance with, and shall be subject to, the provisions of RSA 237:17-28 inclusive until the eastern New Hampshire turnpike becomes part of the New Hampshire turnpike system, except that RSA 237:20 through 23 shall not apply and except that the bonds referred to in RSA 237:24 shall be deemed to include all bonds issued to finance the eastern New Hampshire turnpike. Subject to the same exceptions, the projects authorized by RSA 237:2, III shall be laid out, constructed and operated in accordance with, and shall be subject to, the provisions of RSA 237:29 through 39 until the central New Hampshire turnpike becomes part of the New Hampshire turnpike system, except that RSA 237:19 through 22 shall not apply and except that the bonds referred to in RSA 237:23 shall be deemed to include all bonds issued to finance the central New Hampshire turnpike. In addition to other project costs, the cost of constructing any portion of the central New Hampshire turnpike, the eastern New Hampshire turnpike or the New Hampshire turnpike system may include any required payment to the United States on account of the incorporation of a federally-aided highway in such turnpike or system.

II. The commissioner of transportation is further authorized to operate and maintain the New Hampshire turnpike system. In doing so and in constructing any portion thereof, he may, subject to the limitations set forth in this chapter:

(a) Determine the location of each portion of the system and fix the width of its right-of-way.

(b) Acquire in the name of the state by purchase or by exercise of the right of condemnation as provided by statute such lands, property, rights, easements and interests as may be deemed necessary for carrying out the provisions of this chapter.

(c) Designate the locations and establish, limit and control such points of ingress to and egress from the system as may be necessary or desirable to ensure the proper operation of the system and to prohibit ingress to or egress from the system at any points not so designated.

(d) Permit toll free use of certain sections of the system if it is for the public good.

(e) Construct grade separations at intersections of the system with public roads and private ways, and change and adjust the lines and grades of such roads and ways so as to accommodate the same to the design of such grade separations and to the design of the system.

(f) Construct, operate and maintain portions of the system within the compact areas of cities and towns.

Detail D5

(g) Grant permits or licenses to any corporation or person to place and maintain along, on, under or within the system ducts, pipes, pipelines, poles, wires or other structures, to be so located as not to be unsightly and not to interfere with the safe and convenient operation and maintenance of the system, and contract with any such corporation or person for such permit or licenses on such terms and conditions as may be deemed necessary for carrying out the provisions of this chapter. The appearance, construction, maintenance and repairs of any such ducts, pipes, pipelines, poles, wires or other structures shall be subject to such directions and regulations as may be imposed.

(h) Establish a temporary turnpike engineering section for the period of design and construction of any portion of the system, assign permanent employees of the department of transportation to duties and positions in said section and employ such engineers and assistants as may be necessary on a temporary basis for said period of design and construction. The costs of said turnpike engineering section shall be a charge against the funds made available under this chapter or otherwise for the system.

(i) Enter into contractual relations on behalf of the state.

(j) Do and perform all such acts as are necessary for the public good.

(k) Cause periodic traffic and economic studies to be made of the operation of the system.

(l) Make periodic studies of possible extensions or additions to the system.

(m) Employ such assistants, engineers or consulting services as may be necessary to carry out the studies authorized by paragraphs (k) and (l) herein and, upon approval by the legislature, extend or add to the system when recommendations of independent recognized consultants indicate that such extensions are economically feasible. The expense of the said studies shall be a charge upon the fund established under RSA 237:9.

(n) [Repealed.]

Source. RSA 256-C:4. 1971, 520:1. 1981, 87:1. 1985, 19:4; 402:6, I(a)(8), (b)(8). 1987, 403:3, eff. Jan. 1, 1988. 1996, 95:1, I, eff. July 14, 1996.

CHAPTER 374 GENERAL REGULATIONS

Underground Utility Damage Prevention System

374:48 Definitions.

– In this subdivision:

I. "Commission" means the public utilities commission.

II. [Repealed.]

III. "Excavate", "excavating", or "excavation" means any operation conducted on private property or in a public way, right-of-way, easement, public street, or other public place, in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by means of any tools, equipment, or explosive, and includes but is not limited to drilling, grading, boring, milling, trenching, tunneling, scraping, tree and root removal, cable or pipe plowing, fence or sign post installation, pile driving, wrecking, razing, rending, or moving any structure or mass material, but does not include the tilling of soil for agricultural purposes, landscaping and maintenance of residential property performed with non-mechanized equipment, landscaping activities performed with mechanized equipment that are intended to cut vegetation, including lawn edging, aeration, and de-thatching, excavations permitted or grandfathered under RSA 155-E, or replacement of department-of-transportation-installed delineator posts in the same location.

IV. "Excavator" means any person performing excavation.

IV-a. "Operator" means any public utility as defined by RSA 362:2 or RSA 362:4 and any cable television system as defined by RSA 53-C:1, that owns or operates underground facilities.

V. "Person" means any individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, state, municipality, commission, United States government or any agency thereof, political subdivision of the state, or any interstate body.

VI. "System" means the underground utility damage prevention system referred to in RSA 374:49.

VII. "Underground facility" or "facility" means any property which is buried, placed below ground, or submerged on a public way, private property, right-of-way, easement, public street, or other public place and is being used or will be used for the conveyance of cable television, electricity, gas, sewerage, steam, telecommunications, or water.

Source. 1983, 294:1, eff. Aug. 17, 1983. 1997, 298:3-5, 15, eff. June 20, 1997. 1999, 289:13, eff. Jan. 1, 2000. 2001, 186:1, 2, eff. Jan. 1, 2002.

Detail D6

374:49 Damage Prevention System.

– Each operator shall participate in an underground utility damage prevention system. The system shall operate during regular business hours throughout the year, except Saturdays, Sundays and legal holidays. The system shall receive notices of proposed excavations and transmit such notices to its members.

Source. 1983, 294:1, eff. Aug. 17, 1983. 1997, 298:6, eff. June 20, 1997.

374:50 Rulemaking.

- The commission shall adopt rules, pursuant to RSA 541-A, relative to:
- I. Minimum requirements for the operation of the system, including notification procedures.
 - II. Procedures for the investigation of complaints relating to this subdivision.
 - III. Emergency situations for which notice of excavation is not required.

Source. 1983, 294:1, eff. Aug. 17, 1983.

374:51 Notification by Excavator.

- I. No person shall perform an excavation within 100 feet of an underground facility, except in an emergency, without first giving notification as required by this section.
- II. At least 72 hours before a proposed excavation, but not including Saturdays, Sundays and legal holidays, each person required to give notice of an excavation shall notify the damage prevention system referred to in RSA 374:49. Such notice shall occur no more than 30 days before the proposed excavation is to be made.
- III. Notice may be in writing, by telephone or by any other reasonable means.
- IV. Prior to complying with the notification requirements of paragraph II, an excavator must premark the area as provided in this paragraph, which means identifying the perimeter of the proposed site of the excavation by marking the perimeter in an appropriate manner in the color white paint, stakes, or other suitable white markings on non-paved surfaces. No such premarking shall be acceptable if the marks interfere with traffic or pedestrian control, or are misleading to the general public. Premarking shall not be required on any continuous excavation that is over 100 feet in length, or any pole replacement that is within 5 feet of an existing location. If an excavation is over 100 feet in length or a pole replacement is within 5 feet of an existing location, the excavator shall communicate the perimeter of the excavation by means of a description of the area or construction plans, or have an on-site meeting with affected operators or other suitable means acceptable to the parties.

Detail D6

V. When making the notification required by this section, the excavator shall identify which of the methods described in paragraph IV will be used to identify the proposed excavation.

VI. The excavator's notification shall be valid for 30 calendar days from the date and time of confirmation of notification by the underground utility damage prevention system.

Source. 1983, 294:1, eff. Aug. 17, 1983. 1997, 298:7, eff. June 20, 1997; 298:8, eff. Jan. 1, 1998. 1999, 289:14, eff. Jan. 1, 2000. 2001, 186:3, eff. Jan. 1, 2002.

374:52 Notification by System.

– Upon receipt of notice of a proposed excavation, the system shall notify all affected members.

Source. 1983, 294:1, eff. Aug. 17, 1983. 1997, 298:9, eff. June 20, 1997.

374:53 Response by Operator.

– Within 72 hours after receipt of notice from a proposed excavator or from the system of a proposed excavation, but not including Saturdays, Sundays, and legal holidays, an operator shall mark the location of its underground facilities in the area of the proposed excavation. An operator and an excavator may by agreement fix a later time for the operator's marking of its facilities. Once an operator has marked the location of its facilities in the area of an excavation, the excavator shall be responsible for maintaining the markings. An operator who participates in an underground utility damage prevention system shall not be required to locate underground facilities not owned by the operator; underground facilities which the owner shall not be required to locate may include, but shall not be limited to, facilities running from a house to a garage or other outbuilding.

Source. 1983, 294:1, eff. Aug. 17, 1983. 1997, 298:10, eff. June 20, 1997. 2001, 186:4, eff. Jan. 1, 2002.

374:54 Notice of Damage.

– When any underground facility is damaged, the excavator causing the damage shall immediately notify the affected operator. The excavation shall not be backfilled without first receiving permission from the operator whose facility was damaged.

Source. 1983, 294:1, eff. Aug. 17, 1983. 1997, 298:11, eff. June 20, 1997.

Detail D6

374:55 Civil Penalty. –

I. Proof that an excavation has been made without compliance with the notice requirement of RSA 374:51 and that damage to an underground facility has occurred shall be prima facie evidence in any court or administrative proceeding that the damage was caused by the negligence of the excavator.

II. Any excavator who does not give notice of or identify the proposed excavation area as required by RSA 374:51 or rules of the commission regarding tolerance zones and marking procedures shall be subject to the penalties in paragraph VIII, in addition to any liability for the actual damages.

III. Any operator which does not mark the location of its underground facilities as required by RSA 374:53 or rules of the commission regarding tolerance zones and marking procedures shall be subject to the penalties in paragraph VIII.

IV. If underground facilities are damaged because an operator does not mark its underground facilities as required by RSA 374:53, the operator shall be subject to the penalties in paragraph VIII, liable for damages sustained to its facilities and, in addition, shall be liable for any damages incurred by the excavator as a result of the operator's failure to mark such facilities.

V. If marked underground facilities are damaged, the excavator shall be subject to the penalties in paragraph VIII and liable for the cost of repairs for the damage.

VI. Any excavator who damages an underground facility and fails to notify the operator, or backfills the excavation without receiving permission, as required by RSA 374:54, shall be subject to the penalties in paragraph VIII.

VII. The commission or any commission employee, involved in the "Dig Safe" program and designated by the commission, may enforce violations of this subdivision. Any excavator or operator that violates this subdivision shall be subject to the penalties in paragraph VIII. In addition, the commission may assess the excavator for expenditures made to collect the civil penalty. Any excavator or operator which suffers damage resulting from violation of this subdivision may petition the commission to initiate an enforcement action.

VIII. Any excavator or operator that does not comply with RSA 374:51-54 shall be required either to complete a "Dig Safe" training program, or to pay a civil penalty of up to \$500. The civil penalty may be up to \$5,000 if the excavator or operator previously violated RSA 374:51-54 within the prior 12 months or if the violation results in bodily injury or property damages exceeding \$50,000, excluding utility costs. This paragraph shall not apply to a homeowner excavating on his or her own property or to a legal occupant of residential property excavating on the property of his or her primary residence with the permission of the owner.

Source. 1983, 294:1. 1987, 72:1. 1990, 98:1, 2. 1991, 151:1, eff. Jan. 1, 1992. 1997, 298:12, eff. June 20, 1997, see also effective date 1997 amendment note set out below. 1999, 289:15, eff. Jan. 1, 2000. 2001, 186:5, eff. Jan. 1, 2002.

Detail D6

374:56 Injunctions. – If any person is making or proposes to make an excavation in a negligent or unsafe manner which may result in damage to an underground facility, the operator which owns or maintains such facility may commence an action for a temporary restraining order or injunction to prevent the excavation.

Source. 1983, 294:1, eff. Aug. 17, 1983. 1997, 298:13, eff. June 20, 1997.

**CHAPTER 228
ADMINISTRATION OF TRANSPORTATION
LAWS**

**Commissioner, Deputy and Assistant
Commissioners**

228:22 Cost of Trenching for Relocation of Underground Utilities. – When the commissioner shall determine that a highway reconstruction, relocation, or maintenance project financed in whole or in part by state funds and conducted under department of transportation supervision or control necessitates the relocation of any municipally-owned subterranean utilities facilities, any trenching and backfilling required for such relocation shall be part of the cost of such reconstruction, relocation, or maintenance and shall be provided by the governmental agency which is carrying out such highway work at no cost to the municipally-owned utility, and the governmental agency shall pay the municipality for the book value (original cost less allowable depreciation) at the time the municipally-owned subterranean facility is retired. Provided, however, that if a public utility other than a municipally-owned utility makes use of a relocation trench provided for in this section, said utility shall pay the governmental agency carrying out such work its proportionate share of the cost of such trenching and backfilling.

Source. RSA 229:6-a. 1971, 78:1. 1981, 87:1. 1985, 402:6, I(a)(1).

TITLE I

THE STATE AND ITS GOVERNMENT

CHAPTER 9-E

OUTDOOR LIGHTING EFFICIENCY

Section 9-E:1

9-E:1 Definitions. – In this chapter:

I. "Fixture" means the assembly that holds a lamp and may include an assembly housing, a mounting bracket or pole socket, a lamp holder, a ballast, a reflector or mirror, and a refractor or lens.

II. "Fully shielded luminaire" means a luminaire that allows no direct light emissions above a horizontal plane through the luminaire's lowest light-emitting part.

III. "Glare" means direct light emitting from a luminaire that is significantly greater than luminance to which the eyes are adapted which causes reduced vision or momentary blindness.

IV. "Illuminance" means the unit measure of light at a surface.

V. "Light trespass" means light emitted by a luminaire that shines beyond the boundaries of the property on which the luminaire is located.

VI. "Lumen" means a unit of measure of luminous flux.

VII. "Luminaire" means the complete lighting system, including the lamp and the fixture.

VIII. "Lamp" means the component of a luminaire that produces the specific form of radiant energy that is observed as light.

IX. "Permanent outdoor luminaire" means any luminaire or system of luminaires that is outdoors and intended to be used for 21 days or longer.

X. "State highway" means any of the highways of the state classified in RSA 229:5.

Source. 2009, 212:1, eff. Sept. 13, 2009.

Section 9-E:2

9-E:2 State Purchase of Permanent Outdoor Lighting Design. –

I. No state funds shall be used to install or replace any permanent outdoor luminaire unless:

(a) The luminaire is a fully shielded luminaire when the rated output of the luminaire is greater than 1,800 lumens.

Detail D 8

(b) The maximum illuminance at the designated surface does not exceed the minimum illuminance level recommended for that purpose by the Illuminating Engineering Society of North America or the Federal Highway Administration.

(c) The director of the agency responsible for the funding of such luminaire or having authority over the illuminated infrastructure ensures that consideration is given to minimizing glare and light trespass.

II. The requirements of paragraph I shall not apply if:

(a) Compliance would create a conflict with federal laws or regulations;

(b) The director of the agency responsible for funding the installation of such luminaire or having authority over the illuminated infrastructure determines that there is a compelling safety interest that cannot be addressed by any other method;

(c) With respect to roadway lighting on state highways, when in specific instances the commissioner of transportation determines that use of a fully shielded luminaire would compromise the safety of the public utilizing the highway, increase the cost of the lighting plan or lighting replacement for the highway, or violate any provision of federal law; or

(d) The luminaire shall be used to illuminate designated public and historic structures, monuments, and flags of the United States of America and the state of New Hampshire.

III. No public utility company may install or replace a permanent outdoor luminaire for roadway lighting if the cost of operating such luminaire is paid for by municipal funds, unless:

(a) The luminaire is a fully shielded luminaire when the rated output of the luminaire is greater than 1,800 lumens.

(b) The maximum illuminance at the designated surface does not exceed the minimum illuminance recommended for that purpose by the Illuminating Engineering Society of North America or the Federal Highway Administration.

(c) The governing body of a municipality may waive the provisions of subparagraphs (a) and (b) when, after written notice from the public utility company 30 days prior to the installation or replacement of the luminaire, the governing body determines that a waiver is necessary for the lighting application. Such notice shall be in such form as the governing body shall prescribe and may include a description of the lighting plan and a description of the efforts that have been made to comply with the provisions of RSA 9-E:3. The governing body may consider design safety, costs, and other factors deemed appropriate by the governing body.

Source. 2009, 212:1, eff. Sept. 13, 2009.

Detail D 8

Section 9-E:3

9-E:3 New Hampshire Dark Sky Policy. – It shall be the policy of the state of New Hampshire to encourage municipalities to enact such local ordinances and regulations as they deem appropriate to conserve energy consumed by outdoor lighting; to minimize light pollution and glare; and to preserve dark skies as a feature of rural character wherever practicable.

Source. 2009, 212:1, eff. Sept. 13, 2009.

Section 9-E:4

9-E:4 Part-Night Rate for Roadway and Area Lighting. – To encourage cost savings and energy conservation, the public utilities commission shall, subject to its ratemaking authority under RSA 378, develop a rate for part-night or midnight service for unmetered street or area lighting. Such a rate shall be revenue neutral with respect to utility distribution revenue.

Source. 2009, 212:1, eff. Sept. 13, 2009.

Section 9-E:5

9-E:5 Report by Department of Transportation. – The department of transportation shall:

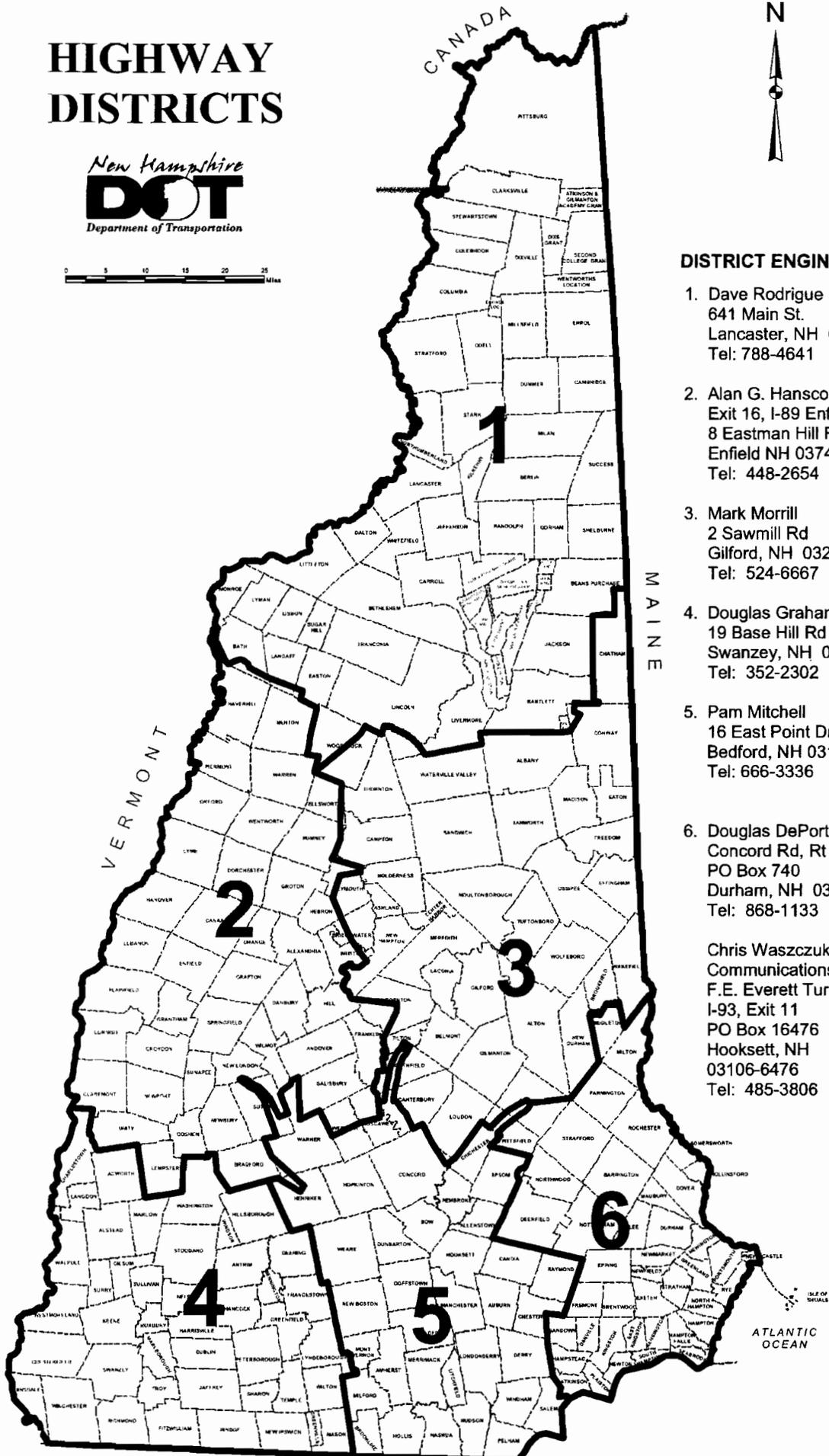
- I. Review and update its criteria for roadway lighting to ensure that its current standards and procedures conform to commonly accepted best practices.
- II. Explore how energy and maintenance costs can be reduced by replacing existing luminaries with lower-wattage, fully shielded luminaries or by eliminating roadway lighting altogether where appropriate.
- III. Beginning November 1, 2009 and each November 1 thereafter, submit an annual report of its activities and findings to the office of energy and planning.

Source. 2009, 212:1, eff. Sept. 13, 2009.

APPENDIX E

Figure E1 **DEPARTMENT OF TRANSPORTATION MAINTENANCE
DISTRICT BOUNDARY MAP AND ADDRESSES.....E-1**

HIGHWAY DISTRICTS



DISTRICT ENGINEERS

1. Dave Rodrigue
641 Main St.
Lancaster, NH 03584
Tel: 788-4641

2. Alan G. Hanscom
Exit 16, I-89 Enfield
8 Eastman Hill Rd
Enfield NH 03748
Tel: 448-2654

3. Mark Morrill
2 Sawmill Rd
Gilford, NH 03246
Tel: 524-6667

4. Douglas Graham
19 Base Hill Rd
Swansey, NH 03446
Tel: 352-2302

5. Pam Mitchell
16 East Point Dr
Bedford, NH 03110
Tel: 666-3336

6. Douglas DePorter
Concord Rd, Rt 155A
PO Box 740
Durham, NH 03824
Tel: 868-1133

Chris Waszczuk
Communications Section
F.E. Everett Turnpike
I-93, Exit 11
PO Box 16476
Hooksett, NH
03106-6476
Tel: 485-3806

APPENDIX F

EXCAVATION PERMIT (SAMPLES)

Detail F1	Long Form Permit.....	F-1.1 to F-1.6
Detail F2	Short Form Permit.....	F-2.1 to F-2.3
Detail F3	Encroachment Permit (Turnpikes).....	F-3.1 to F-3.4

Detail F1

PERMIT NO: _____
TOWN/CITY: _____
ROAD/ROUTE: _____
DATE: _____

TRENCH PERMIT

District 1, 641 Main St, Lancaster, NH 03584
District 2, 8 Eastman Hill Road, Enfield, NH 03748
District 3, 2 Sawmill Road, Gilford, NH 03249

District 4, 19 Base Hill Road, Swanzey, NH 03446
District 5, PO Box 16476, Hooksett, NH 03106
District 6, PO Box 740, Durham, NH 03824

I. Pursuant to Chapter 236:9-11 and/or 231:184-186, New Hampshire Revised Statutes Annotated, 2007, and amendments thereto, permission is requested to disturb the pavement, shoulders and slopes within the right-of way (ROW) of

_____ in the Town/City of _____ for the purpose of _____

LOCATION/DESCRIPTION: _____

as shown on the attached plans, sketches, letters, and notes which shall be made a part of this permit. Construction shall be performed as shown on the attached plans, typicals and description of work. Any variation shall require prior approval from the District Engineer.

This permit concerns only the type and manner of work to be performed in the New Hampshire Department of Transportation (NHDOT) ROW. The Department cannot and does not hereby grant permission to enter upon or utilize any privately owned land.

I/We _____, Contractor, and I/We _____, Owner agree to conform to the NHDOT Standard Specifications for Road and Bridge Construction (SSRBC), latest version, the following provisions, instructions and regulations in processing the work under this request, and to any additional instructions issued by the District Engineer or his representative during the process of the work.

STATE LAW REQUIRES THAT "DIG SAFE" BE NOTIFIED 72 HOURS IN ADVANCE OF EXCAVATION. (1-888-344-7233).

**THE DISTRICT CONTACT PERSON MUST BE NOTIFIED AT LEAST FORTY EIGHT (48) HOURS BEFORE PERFORMING ANY WORK.
A COPY OF THIS PERMIT SHALL BE PRESENT AT THE WORK SITE AT ALL TIMES.**

1. Photographs or video of sufficient detail to show the existing condition of the area to be disturbed within the ROW shall be furnished to the District Engineer prior to the start of work. Photographs of all State underground structures shall be taken just prior to backfill and furnished to the District Engineer.

- 2. No work in the highway ROW shall be permitted during the following conditions:
 - a. Inclement weather.
 - b. The hours of darkness*.
 - c. Saturdays, Sundays or Holidays.
 - d. During the period from November 15th to April 15th. **

* Work after dark may be permitted if adequate lighting is in place and is sufficient to protect the traveling public and workers.

** Work during this period may be permitted at the discretion of the District Engineer.

- 3. Traffic must be maintained in accordance with the Manual on Uniform Traffic Control (MUTCD), latest version, during the performance of the work. Traffic shall be protected by suitable barricades, standard warning and advance warning signs, flaggers during the day and proper lighting at night. Uniformed special traffic officers shall be provided whenever two-way traffic cannot be maintained and at such time as the District Engineer deems necessary for the protection of the public. All signs shall be kept clean and in good repair.
- 4. Detour of state highway traffic requires prior approval by the District Engineer and shall be in accordance with an approved Traffic Control Plan.
- 5. All interim yellow centerline pavement markings in place on two-way roadways prior to placement of full MUTCD standard pavement markings shall be removable raised pavement markers. The markers shall be placed in pairs, separated by a lateral space of approximately three (3) inches, using a maximum cycle length of eighty (80) feet. On sections of roadway with severe curvature, lesser cycle lengths should be used so that at least three (3) pairs of markers are visible to approaching traffic at all times.
- 6. During the hours the job is inactive, a standby crew shall be available in case they are needed for the protection and maintenance of traffic. One or more telephone numbers, which will reach the standby crew, shall be furnished to the following people: The local NHDOT District Dispatch, the local police chief, the local superintendent of public works or road agent (if the project is municipally owned), and the local NHDOT highway patrolman foreman.

The standby contact people will be: (List two)

NAME:	_____	_____
ADDRESS:	_____	_____
CITY/TOWN:	_____	_____
TEL# (DAY):	_____	_____
(NIGHT):	_____	_____

- 7. The contractor shall be responsible for the acquisition of all other applicable permits and compliance with all local, state or federal rules, ordinances and regulations.
- 8. The Contractor shall be responsible for the construction and maintenance of all necessary sediment and control facilities required to protect stormwater runoff.
- 9. In areas where the pavement is to be excavated, it shall be neatly and uniformly cut, with square edges by machine, at each side of all trenches. Every precaution shall be used to prevent undermining of the remaining pavement, utilizing sheeting as required, to prevent cave-in. Undermined areas inadvertently developed shall have the projecting pavement cut square and removed.

10. Excavation and handling of material shall be performed in a manner that will minimize trench width and the possibility of cave-ins. The pavement and base coarse materials are to be discarded. Excavation below subgrade is to be saved and used for backfill to prevent differential frost heaving. Any blasting required shall be cautiously performed to minimize disturbance beyond the trench limits. Overburden will be removed prior to blasting.

All backfill material in trenches and below base courses shall consist of the excavated material* and shall be compacted at or near optimum moisture content, in layers not exceeding twelve (12) inches loose depth, using pneumatic tampers, vibratory compactors or other approved means. The material shall be compacted to not less than ninety five (95) percent of maximum density as determined by AASHTO T99 (Standard Proctor Test). Water shall be uniformly applied during compaction in the amount necessary for proper compaction. *Excavated material shall be suitable for backfill as defined in SSRBC, Section 603.3.5.

11. Within paved areas, crushed gravel, SSRBC Item 304.3 or approved equal to the existing gravel course, shall be placed in layers not exceeding eight (8) inches loose depth, and thoroughly compacted. An approved bituminous plant mix, SSRBC Section 401, shall be placed the same day and carefully graded and rolled to the adjacent pavement grade, as a temporary patch. Just before completion of the project and after suitable exposure of temporary patches to traffic compaction, the pavement shall be sawn, as directed, on either side of the trench to provide a two (2) foot minimum overlap of the final patch on undisturbed material. Within the sawn limits the existing pavement and temporary patch material shall be removed, the sawn edges tack coated and the material replaced with an equal depth, but not less than four (4) inches, of hot bituminous concrete, placed as directed, and compacted to meet the existing pavement edge exactly. Finished pavement must replicate the original pavement design including normal crown, superelevations, and breaks in superelevated shoulders. Saw cuts for final patching shall be as directed by the District Engineer. In all cases, trench is to be flush with the existing pavement at the end of each working day.
12. Shoulders, other than paved, disturbed during the construction, shall be restored by providing a minimum of three (3) inches of crushed bank run gravel which shall be graded and compacted on a slope of 5/8" per foot away from the pavement or as directed by the District Engineer.
13. In other areas, the present surface type shall be restored, by placing similar material to a depth and quality equal to that existing before excavation. Reestablish existing grassland to equal what existed before excavation. Re-establish lawns to pre-construction condition, using a minimum of four (4) inches of loam, lime, fertilizer, similar seed, and mulch. The surface shall be reasonably smooth, free of stones larger than two (2) inches, debris and be graded to drain.
14. No trench shall be left open at night or over weekends. Suitable unrestricted ingress and egress to properties abutting the highway shall be maintained at all times. Two-way traffic shall be maintained at all times during nights, weekends and holidays.
15. Any future surface distortion within the trench area, due to settlement or other causes attributable to the construction shall be corrected as required during construction and for a period of two (2) years following the acceptance of the project by others.
16. The roadway shall be cleared of all foreign material at the end of each working day or as directed by the Engineer.

17. Equipment must be removed to a minimum distance of eight (8) feet from the edge of pavement during weekends, holidays, and periods of shutdown. Suitable barricades shall be erected to properly protect the work areas. Periodic maintenance of signs during periods of shutdown is required to restore blown over or missing signs, cones, and other traffic control devices. Routine NHDOT maintenance operations shall not be hindered by the Contractor's activities.
18. Pipe, equipment, and supplies shall not be stored within the State's ROW without prior approval by the Engineer. Pipe or materials shall not be laid out ahead of construction.
19. Water shall not be pumped onto the State highway pavement. The Contractor may be required to plow, salt, and/or sand any portion of the State highway that becomes encumbered due to the Contractor's operations. NHDOT snow removal and maintenance operations shall not be impeded.
20. The District Engineer shall have the right to suspend any or all construction activities, which, in his opinion are unsafe to the traveling public.
21. Damage to existing drainage structures and systems shall be repaired in a manner approved by the District Engineer. Methods and materials utilized shall be subject to prior approval. Drainage structures or systems shall be cleaned of all material that has accumulated as a result of the work.
22. Damage resulting from work or detoured traffic to the roadway shall be repaired to the District Engineer's satisfaction.
23. If a highway sign or guardrail must be moved to allow construction of the facility, said sign and guardrail shall be reinstalled or replaced at the location of removal at the end of each work day or replaced by approved temporary devices pending permanent installation.
24. The District Engineer may inspect, test or monitor any and all of the contractors activities within the highway ROW to insure compliance with this permit.
25. Following completion of the construction activities, the District Engineer will inspect the completed work. Final acceptance may be reasonably withheld should the work not be completed in a workmanlike manner and in accordance with the terms of this permit.
26. The owner shall, upon project completion, submit a complete set of "as-built" drawings to the District Engineer.

II. I/We, the Contractor, agree to save harmless the State of New Hampshire from any and all claims arising from the construction, trench settlement, pavement damage or other deficiencies attributable to the said construction for a period of two (2) years following the acceptance of the project by the Owners.

I/We, the Contractor, agree to assume such additional cost as the State may incur by reason of failure to perform this work in the manner prescribed above and in accordance with said plans and specifications, and are familiar with the penalty imposed by Chapter 236, and amendments thereto.

I/We, the Contractor, agree to furnish a continuing Surety Bond in the amount of \$### dollars guaranteeing the fulfillment of the provisions, instructions and regulations prescribed herein, and any later instructions that may be issued by the District Engineer during the performance of the work. Following the acceptance of the project by the Owners, the bond amount may be reduced to \$### guaranteeing satisfactory maintenance of the disturbed areas for a period of two (2) years.

CONTRACTOR:	_____	SIGNATURE:	_____
ADDRESS:	_____	PRINTED NAME:	_____
TOWN/CITY	_____	TITLE	_____
STATE/ZIP CODE:	_____	TELEPHONE NO:	_____

III. I/We, the Owners, agree to save harmless the State of New Hampshire from any and all claims arising from the construction, maintenance and operation of the said facility and its appurtenances and agree to obtain permits from the District Engineer before performing any future excavation for maintenance or renewal of the facility or appurtenances thereto within the ROW limits.

I/We, the Owners, agree to assume such additional cost as the State may incur due to the maintenance, operation, renewal or extension of said facility or appurtenances thereto within the highway limits.

I/We, the Owners, understand and agree that this permit is for the right of construction, operation and future maintenance of the said facility and occupancy is by sufferance only, with the State reserving the right to require, in event of future alterations of the highway or highway ROW, certain alterations, relocations or complete removal of said facility.

I/We, the Owners, agree to perform required alterations, relocations or removal of said facility promptly and at our own expense upon notification by the State.

Where Applicable, in accordance with RSA 72:23, I(b), this agreement is made between the parties subject to the condition that the owner/ operator shall pay all properly assessed real and personal property taxes. Failure of the owner/ operator to pay duly assessed personal and real taxes when due shall be cause to terminate this agreement. In accordance with the requirements of RSA 72:23, I(b), the owner/operator shall be obligated to pay real and personal property taxes on structures or improvements added.

OWNER:	_____	SIGNATURE:	_____
ADDRESS:	_____	PRINTED NAME:	_____
TOWN/CITY	_____	TITLE	_____
STATE/ZIP CODE:	_____	TELEPHONE NO:	_____

IV. Permission for the above described construction, maintenance and operation is granted, subject to the instructions, regulations, conditions and agreements above.

This permit does not abrogate the rights of abutting owners.

WORK TO BEGIN: _____

WORK TO END: _____

Date: _____

By: _____

District Engineer
For Director of Administration
NH Department of Transportation

Before using permit, The Contractor shall notify the District Office and Patrol Foreman:

District Office Tel.: (603) ### - ####

Patrol Foreman in Charge: _____

Patrol Foreman Telephone #: _____

DISTRIBUTION: District Office, Patrol Foreman, Utility Owners and Contractor

Rev. 9/11/07

Detail F2

PERMIT NO: _____
TOWN/CITY: _____
ROAD/ROUTE: _____
DATE: _____

EXCAVATION PERMIT

District 1, 641 Main St, Lancaster, NH 03584
District 2, 8 Eastman Hill Road, Enfield, NH 03748
District 3, 2 Sawmill Road, Gilford, NH 03249

District 4, 19 Base Hill Road, Swanzey, NH 03446
District 5, PO Box 16476, Hooksett, NH 03106
District 6, PO Box 740, Durham, NH 03824

Pursuant to R.S.A. 231:184, 185, 186 and R.S.A. 236:9, 10, 11, permission is requested to disturb the surface, shoulders, ditches or slopes as described below:

- 1) on the _____ side of Route _____ or _____ Road,
- 2) in the town of _____,
- 3) for the purpose of _____

- 4) located (give distance to nearest crossroad and/or other local landmark and include sketch or plan)

- 5) during the period of dates between _____ and _____
DIG SAFE PERMIT REQUIRED BY LAW (CALL 1-888-DIG-SAFE)

I/We hereby agree to conform to the following instructions and regulations in regards to the performance of the work proposed under this request. I/We also agree to any additional instructions issued by the District Engineer, or his authorized representatives during the process of the work.

If the pavement has to be disturbed, it must be sawcut, unless otherwise directed, prior to excavating. The pavement and base coarse materials are to be discarded. Excavation below subgrade is to be saved and used for backfill to prevent differential frost heaving. The disturbed area must be backfilled in layers not exceeding EIGHT inches (8") and thoroughly compacted. The base coarse shall be replaced as constructed. Hot bituminous pavement (HBP) shall be used for all patching material at a depth equal to the existing, unless otherwise stated. All excavations shall be completely backfilled at the end of each day. Earth areas disturbed will be replaced in kind, loamed, fertilized, seeded and mulched. All material and construction practices shall conform to the NHDOT Standard Specifications for Road and Bridge Construction, latest edition, and any amendments thereto. Interruptions to traffic shall be kept to a minimum and be maintained in accordance with the most current edition of the Manual on Uniform Traffic Control Devices. When conditions warrant, flaggers and or uniformed officers shall be utilized and be of a competent nature. No work shall be performed between November 15 and April 15, between dusk and dawn, or during periods of inclement weather, unless otherwise directed.

I/We agree to indemnify, defend and save harmless the State of New Hampshire from any and all claims arising from the construction, maintenance, and operation of the said item(s) and appurtenances as described in this Permit and agree to obtain permits from the District Engineer before performing any future excavation for maintenance or renewal of the said items(s) or appurtenances within the highway limits. I/We agree to assume such additional cost as the State may incur due to the maintenance, operation, renewal, extension, inspection, or of my/our failure to perform this work in the manner prescribed. It is understood and agreed that this Permit is for the right of construction, occupancy, operation and future maintenance of the said items(s) or appurtenances as described in the Permit and is by sufferance only. In the event of future alterations to the highway or highway right-of-way, the State reserves the right to require certain alterations, relocations, or complete removal of said item(s) promptly by the utility and at no expense to the State. I/We are familiar with the penalty imposed by R.S.A. 236:14.

**THE DISTRICT CONTACT PERSON MUST BE NOTIFIED AT LEAST FORTY EIGHT (48) HOURS BEFORE PERFORMING ANY WORK.
A COPY OF THIS PERMIT SHALL BE PRESENT AT THE WORK SITE AT ALL TIMES.**

By signature below, I/We agree to the conditions and/or additional requirements as set forth in this document.

Where Applicable, in accordance with RSA 72:23, I(b), this agreement is made between the parties subject to the condition that the owner/ operator shall pay all properly assessed real and personal property taxes. Failure of the owner/ operator to pay duly assessed personal and real taxes when due shall be cause to terminate this agreement. In accordance with the requirements of RSA 72:23, I(b), the owner/operator shall be obligated to pay real and personal property taxes on structures or improvements added.

(PLEASE PRINT)

CONTRACTOR: _____ TEL. NO. _____

ADDRESS: _____
Street City / Town State Zip Code

SIGNATURE: _____ TITLE: _____

PRINTED NAME: _____

OWNER: _____ TEL. NO. _____

ADDRESS: _____
Street City / Town State Zip Code

SIGNATURE: _____ TITLE: _____

PRINTED NAME: _____

24 HOUR CONTACT PERSON: _____ TEL. NO. _____



**THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION**



Detail F3

**GEORGE N. CAMPBELL, JR.
COMMISSIONER**

**JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER**

Date:
Permit No.:

Turnpike Encroachment Permit

1. Pursuant to RSA 230:46, 236:11 and 236:13 New Hampshire Revised Statutes Annotated and amendments thereto, permission is granted to disturb the Turnpike Right-of-Way in the City/Town of _____ for the purpose of: _____

2. The procedures and stipulations set forth within this permit are not intended to supersede or relieve _____ from complying with all applicable laws, regulations, codes or orders issued by the Department of Transportation or other appropriate agencies.

3. General Provisions:

- a. All work permitted under this encroachment permit shall be conducted at all times in a manner that maintains safety and minimizes inconvenience to the traveling public.
- b. Any aspect of the work described herein which has the potential to impact the free flow of traffic on any portion of the Turnpike system shall require preparation and approval of a traffic control plan. Approval as to conformance with applicable traffic control standards shall be obtained from the Administrator of the Turnpikes Bureau, Harvey S. Goodwin, or his authorized representative. The traffic control plan shall utilize uniformed officers as required and adhere to the Manual on Uniform Traffic Control Devices, as it may be amended from time to time.
- c. Approval of the traffic control plan in no way transfers liability from the permittee and/or his agents to the State of New Hampshire, its agents and/or employees. Permittee agrees to indemnify and hold harmless the State of New Hampshire, its agents and employees from any and all claims arising from or which can be claimed to arise from the implementation of the traffic control plan.
- d. No work shall be done on holidays, weekends, or periods of restricted visibility.

F-3.1

- e. All trees, fences, shrubbery, etc., shall be protected. No trees or shrubs shall be cut or trimmed within the Turnpike right-of-way without specific authorization. All disturbed areas shall be restored to an improved condition.
- f. Any future surface distortion due to settlement or other causes attributable to installation or operation of this encroachment shall be corrected as required.

4. Special Provisions:

- a. _____ shall notify the New Hampshire Department of Transportation Public Information Officer, Mr. William Boynton, at Tel. #603-271-6495 of any work within the State Right-of-Way and provide all pertinent information to allow for sufficient public notice prior to any work within the Turnpike Right-of-Way being performed.
- b. _____ shall notify in advance all emergency service potentially affected by the work including but not limited to fire, police, home security officials, ambulance and local hospitals. Notification shall include opportunity to review and comment on the traffic control plan and/or evacuation plan.
- c. The Bureau of Turnpike's representative, Nasser Yari, Tel: #603-485-3806, shall be notified 24 hours in advance of the beginning of work and be notified upon completion.
- d. Special attention is directed to RSA Chapter 374:48 to 374:55 relative to underground utility damage prevention systems. _____ is required to notify "Dig Safe" at least 72 hours in advance of any excavation. (Tel: #1-888-DIG-SAFE).
- e. All equipment and materials shall be parked or stored a minimum of 30 feet from the paved roadway shoulders unless protected by guardrail or concrete barriers.
- f. The contractor's work shall be limited to Monday through Friday between the hours of: 7:00 am to 4:00 pm. all work beyond these limit shall require prior approval by the administrator of Turnpikes.

5. I/We, _____ agree:

- a. to defend, indemnify, and hold harmless the State, its agents and employees, from and against any and all losses suffered by the State, its agents or employees, and any and all claims arising from or which can be claimed to arise from performance under this permit.
- b. to assume such additional costs as the State may incur by reason of failure of my/our agents to perform the work in the manner prescribed herein and in accordance with applicable plans and specifications, if any.
- c. to reimburse the State of New Hampshire for the cost of State inspection services and administrative overhead assigned to this project and for any emergency work required by the Turnpike forces because of this encroachment.

- d. that this permit is for the right of construction, occupancy, operation and future maintenance of said _____ and is by sufferance only with the State reserving the right to require, in event of future alterations of the highway or highway right-of-way, certain alterations, relocations, or complete removal of said _____ and we, the owners agree to perform such work promptly at our own expense.

- e. to furnish a continuing Surety Bond naming the State as an additional insured in the amount of _____ guaranteeing the fulfillment of the provisions, instructions and regulations herein prescribed and later instructions issued by the Administrator of Turnpikes during performance of the work and satisfactory maintenance of the disturbed areas for a period of two years following the acceptance of the project by the Owners.

- f. to furnish a Certificate of Insurance for General Liability for a minimum of one million dollars (\$1,000,000), Aggregate and Worker's Compensation and Employer's Liability for a minimum of five hundred thousand dollars (\$500,000.00).

F-3.3

Petitioner: _____

Address: _____

Phone: _____

Signature: _____

Printed Name: _____

_____ having agreed to conform to all laws, regulations, standards, and codes applicable to the stipulations set forth in this permit are granted permission to

State of New Hampshire
Department of Transportation

by: _____

Administrator of Turnpikes
for the
Director of Administration

WORK TO BEGIN: _____

WORK TO END: _____ (unless permit is extended in writing)

Distribution: Jon Hanson

F-3.4

APPENDIX G

POLE LICENSING

Detail G1	Pole License Sample	G-1.1
Table G1	Chronology of DOT Min. Requirements for Pole Licensing Offsets	G-2.1
Detail G2	Pole Licensing Procedure Step-by-Step.....	G-3.1 to G-3.2
Detail G3	Pole Location Plans (Blank & Filled Out).....	G-4.1 to G-4.2

Detail G1
PETITION AND POLE LICENSE

License No. _____

PETITION

[City Name], New Hampshire

[Date]

To the Department of Transportation of the State of New Hampshire _____
and _____, requests a license to install and maintain underground conduits,
cable and wires, and maintain poles and structures with wires, cables, and devices thereon, together with
such sustaining, strengthening, and protecting fixtures as may be necessary along, and under the following
public ways:
_____.

[Company Name]

[Company Name]

By: _____

By: _____

LICENSE

Upon the foregoing petition and it appearing that the public good so requires, it is hereby

ORDERED

this _____ day of _____, [year], that [Company Name] _____
and [Company Name] _____ be and hereby granted a license to erect
and maintain poles and structures, with wires, cables, conduits, and devices thereon, together with
sustaining, strengthening and protecting fixtures, in the public ways covered by said petition. All of said
wires except such as are vertically attached to poles and structures shall be placed in accordance with the
National Safety Code in effect at the time of petition and/or license is granted.

Where Applicable, in accordance with RSA 72:23, I(b), this agreement is made between the parties subject
to the condition that the owner/ operator shall pay all properly assessed real and personal property taxes.
Failure of the owner/ operator to pay duly assessed personal and real taxes when due shall be cause to
terminate this agreement. In accordance with the requirements of RSA 72:23, I(b), the owner/operator
shall be obligated to pay real and personal property taxes on structures or improvements added.

The approximate location of the poles and structures shall be shown on plan marked _____
_____ and _____ No. [License No.] _____
dated _____, attached to and made a part hereof.

State of New Hampshire

By: _____
For the New Hampshire Department of Transportation, District No. [##]

Received and entered into the records of the Town/City of _____ New Hampshire,
Book _____, Page _____
Date: _____ Attest: _____

Town Clerk

Detail G2

Pole Licensing Procedures- Utility Accommodation Manual (Step-by-Step)

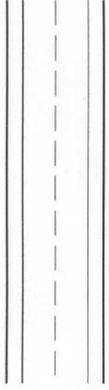
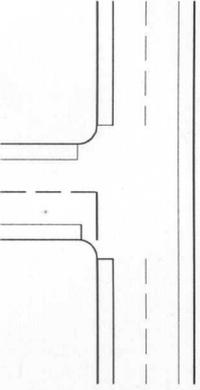
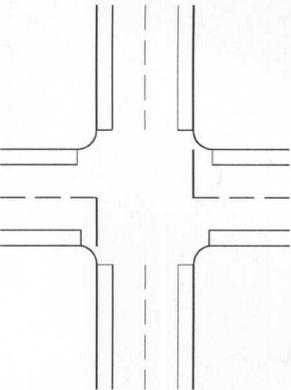
1. Initially, the utility company shall submit to the NHDOT Highway Maintenance District or Turnpikes office, a transmittal letter of request along with two (2) copies of a preliminary plan (utility)
2. Prior to any poles being set or facilities being constructed, the utility shall stake out the proposed work in the field (utility)
3. The District office shall be notified so that the proposed locations can be field reviewed to confirm that the locations comply with this Manual. (utility)
4. District informs the utility that the sites selected meet policy requirements. (NHDOT)
5. The utility may proceed with the installation (utility)
6. Notice by the utility that the new poles have been installed (utility)
7. The District will again field review to ensure that the locations on the preliminary plan conform to the actual constructed locations. (NHDOT)
8. Measurement of the horizontal distance from the face of pole to edge of pavement is taken for each pole and recorded on the preliminary plan.(NHDOT)
9. Each pole on the preliminary plan is stamped either “Approved” or “Not Approved” (with the reason for disapproval noted). (NHDOT)
10. The District office will notify the utility of the results of the field review by letter. (NHDOT)
11. The District office will record the date of final review and “approval” on the plan (NHDOT)
12. One (1) copy of the preliminary plan will be returned to the utility for a formal license request. (NHDOT)
13. The utility company will prepare and submit a formal petition and request for a license (Utility)

Detail G2

14. Four (4) copies of petition and license forms with sufficient extra copies in the case of joint-ownership, duly signed by the Owner(s), are to be forwarded to the appropriate Maintenance District office at the New Hampshire Department of Transportation, (NHDOT)
15. Upon receipt of a formal petition and license, the District office will review to verify that the poles shown on the accompanying plan are identical to those approved poles on the preliminary plan and that all offset dimensions and ties are the same. (NHDOT)
16. Upon verification, the District will prepare all copies of the license (NHDOT)
17. The District will retain one (1) copy of the petition and license with accompanying plan, and forward remaining copies to the Utility company. (NHDOT)
18. The utility will forward a copy to the Town Clerk in the town where poles are situated and to other owners if applicable. (UTILITY)

Appendix G.4 POLE LOCATION PLAN

UTILITY COMPANY _____
 DATE _____ LICENSE NO. _____
 MUNICIPALITY _____ HWY. DIV. NO. _____
 STREET OR ROAD _____
 NH DISTRICT OFFICE _____ SHEET ____ OF ____

POLE NOS.		LOCATION PLAN	DIST. FROM T/W	SPAN	OWNER- SHIP	REMARKS
ELEC.	TEL.					
						
						
						

APPENDIX H

Detail H1 USE AND OCCUPANCY AGREEMENT (SAMPLE) H-1.1 to H-1.5

Detail H1
USE AND OCCUPANCY AGREEMENT

1. The following entities shall be parties to this Agreement made in duplicate this _____ day of _____, _____, and shall be bound by its provisions:
 - A. The _____, hereinafter called the "*", incorporated in the State of New Hampshire, having a principal place of business at _____.
 - B. The STATE OF NEW HAMPSHIRE, hereinafter called the "State", acting by and through the Commissioner, New Hampshire Department of Transportation (NHDOT), 7 Hazen Drive, PO Box 483, Concord, NH, 03302-0483.

Note (Search and Replace): * Utility Company Name or substitution in 1A above
** (Water)(Sewer)(Power)(Gas)(Telephone)()

2. The *, through its consultant, has submitted a set of plans to the State to be incorporated in the Excavation/Encroachment Permit for installation of facilities within the highway right-of-way; and the State has reviewed and approved these plans.
3. This Agreement covers the Use and Occupancy of the Limited/Controlled Access Right-of-Way (LAROW/CAROW) of _____ as shown on the attached plans. Such occupancy having been granted by execution of this document and issuance of Excavation/Encroachment Permit # _____ covers the installation of ** facilities at the location described as follows:

_____ in the City/Town of _____, County of _____, New Hampshire.

The approved plans titled _____, dated _____ as prepared by _____ are hereby incorporated in this Agreement.

4. The * shall submit any proposed alterations to said plans in writing to the State for review and approval by the State.
5. The * shall submit proof of Bonding and Insurance required for the Excavation/Encroachment Permit.

6. All materials supplied and work performed by the * or its contractor in the installation of the ** facilities shall be subject to the inspection of a representative of the State. Any deficiencies in materials, methods of construction, or workmanship shall be promptly corrected to the mutual satisfaction of the * and the State.
7. The State has initiated the development of a Global Information System (GIS) to identify facilities, including drainage and utilities within the ROW. The * shall submit GPS coordinates based upon the New Hampshire State Plane coordinates system on the North American Datum of 1983 (1996 adjustment by NGS) of the as built **. The coordinates shall be submitted to the attention of Charles R. Schmidt, Chief of Design Services, NHDOT, 7 Hazen Drive, PO Box 483, Concord, NH, 03302.
8. The * shall submit its written maintenance policies and procedures which are to be used for the inspection, repair, and maintenance of said facilities to the State for review and approval. Such procedures shall be approved by the State prior to initial operation of the constructed facilities.
9. The * shall give the State reasonable notice of scheduled or nonscheduled maintenance of the ** facilities except emergency repairs, for which the * shall contact the State while such emergency repairs are being done. Regular maintenance, inspection, and updating by the * shall not be conducted without prior notification to the State.
10. The costs and expenses for the installation and maintenance of the ** facilities shall be the responsibility of the *.
11. The * or their contractor is solely responsible for the presence of their equipment along the State's LAROW/CAROW. The * agrees the installation shall be consistent with the State's right to access if necessary.
12. The * agrees that access to the ** facilities for scheduled or nonscheduled maintenance or for any other purpose shall be made in accordance with the following procedure:

[To be negotiated with and approved by the NHDOT Bureau of Highway Maintenance District ____/Turnpikes and inserted in document here or by reference.]
13. The Use and Occupancy of the LAROW/CAROW by the * shall be at the sufferance of the State. The State may terminate this Agreement upon ten (10) days notice in writing to the * at the above address. Upon the termination of this Agreement pursuant to this paragraph, the * shall have ninety (90) days to remove said ** facilities and all appurtenances from the LAROW/CAROW.

14. The * shall promptly and at its sole expense make such relocations and adjustments, including removal of facilities if required by the State, as may be necessary to accommodate highway or bridge construction, reconstruction, repair, or maintenance. Such relocation and adjustment shall be at the sole expense of the *. Notwithstanding any statute or regulation to the contrary which may now exist or hereafter be created, no cost of such relocation or adjustment shall be eligible for participation by the State or
15. Federal Highway Administration (FHWA); and the * hereby waives any right it may now have or hereafter acquire to request such participation. EXCEPT THAT, the provisions of RSA 228:22 shall govern where applicable.
16. Where Applicable, in accordance with RSA 72:23, I(b), this agreement is made between the parties subject to the condition that the * shall pay all properly assessed real and personal property taxes. Failure of the * to pay duly assessed personal and real taxes when due shall be cause to terminate this agreement. In accordance with the requirements of RSA 72:23, I(b), the * shall be obligated to pay real and personal property taxes on structures or improvements added.
17. The * agrees that the State, its agencies and their employees, agents, and representatives shall not incur any legal liability whatsoever to the * for any damage to the ** facilities or to any other property or employee of the * or to any other person or entity hired by or affiliated with the * resulting from or arising out of any ownership and use of and operations within the LAROW/CAROW, including but not limited to inspection, maintenance, cleaning, snow removal, construction, reconstruction, rehabilitation, and repair.
18. The * shall indemnify, defend, and hold harmless the State, NHDOT, United States Department of Transportation (USDOT), FHWA, and their employees, agents, and representatives against any and all claims, actions, causes of action, demands, liabilities, losses, penalties, damage of any kind, and failure to comply with any utility-type commission's permitting, regulations, and guidelines, including all actions for indemnity and/or contribution, and including reasonable attorneys' fees, resulting from or arising out of any * or State ownership, use of, and operations within the LAROW/CAROW, including but not limited to inspection, maintenance, cleaning, snow removal, construction, reconstruction, rehabilitation, and repair of either the ** or the highway facilities. The indemnification provided under this paragraph shall include, but not be limited to, any and all claims or demands for loss of revenue, income, business or economic opportunity, customers, profits, presence of and occupation of, and service resulting from or arising out of any inability or failure of the ** facilities to provide service as intended by the *.

19. The * shall, at the request of the State and at the expense of the *, provide whatever protection is deemed necessary by the * or by the State in the event the State performs any work on the highway, including but not limited to inspection, maintenance, cleaning, snow removal, construction, reconstruction, rehabilitation, and repair of the highway facilities.
20. Any damage to the LAROW/CAROW and the highway facilities contained therein which, as determined by the State, is caused by, results from, or arises out of the installation, maintenance, or presence of the ** facilities shall be repaired by the State. The * shall fully compensate the State for all costs associated with the repair of any such damage.
21. Upon breach of any provision of this Agreement by the *, the State may either (a) enforce the breach provision by means of an injunction proceeding, or (b) seek damages, including all consequential damages which arise out of the breach, or both. In any such action to enforce the Agreement or collect damages for its breach, the * shall reimburse the State for all attorneys' fees reasonably incurred by the State in such action.
22. Notwithstanding any provision of this Agreement, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant shall survive the termination of this Agreement.
23. This Agreement may be amended only by an instrument in writing signed by the parties hereto and only after approval of such amendment by the State of New Hampshire and the FHWA, if applicable.
24. This Agreement shall be construed in accordance with the law of the State of New Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns including all agencies, departments, bureaus, authorities, boards, commissions, and committees of the State.
25. The parties hereto do not intend to benefit any third parties and this Agreement shall not be construed to confer any such benefit. The State also shall not be responsible for any negligent/intentional acts of third parties.
26. The * shall not assign or otherwise transfer any interest in this Agreement without the prior written consent of the State, except that no consent shall be required for a transfer or assignment to a wholly owned subsidiary or affiliate of the * or any parent company of the *.
27. This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire Agreement and understanding between the parties, and supersedes all prior Agreements and understandings relating hereto.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

THE STATE OF NEW HAMPSHIRE
Department of Transportation

UTILITY COMPANY NAME

BY: _____
Lyle W. Knowlton, P.E.
Director of Operations

BY: _____
(Signature)

(Typed Signature)

(Title)

_____ CAG

Document4

APPENDIX I

UTILITY REPORT FORM (Filled-in).....I-1

New Hampshire
Department of Transportation

UTILITY REPORT

Highway Project Milton #14077 Route 125 Utility Work Order No. Milton RT 15-4
 Utility Company New Hampshire Northeast Corp
 Subcontractor (Utility) DiAngelo's Railroads Contractors Inc
 Location of Work Milton RT 125
 Beginning Date of this Report Sept 28, 2008 Ending Date Oct 4, 2008

PERSONNEL (Classification/Hrs)	Day	Sun	Mon	Tue	Wed	Thur	Fri	Sat
	Date	9/28	9/29	9/30	10/1	10/2	10/3	10/4
Anthony Romeo		-	6	-	7 1/2	-	-	-
Joseph A. DiAngelo		-	6	-	7 1/2	-	9 1/2	-
Joseph Auger		-	6	-	-	-	-	-
SEAN Donald		-	-	-	-	-	9 1/2	-
RAND LABASK		-	-	-	-	-	9 1/2	-
MARVIN ARCOVER		-	-	-	-	-	9 1/2	-
EQUIPMENT (Type and Hours)								
T-23 TRUCK		-	6	-	7 1/2	-	9 1/2	-
T-25 TRUCK TRUCK <u>CRANE</u>		-	6	-	7 1/2	-	-	-
LB-20 LOW BED		-	6	-	7 1/2	-	-	-
C-27 RAIL BACKLASH		-	-	-	-	-	4	-
T-14 CRANE TRUCK		-	-	-	-	-	9 1/2	-

Material Installed During Week 9/29/08 Mobilization T-47 Tamping T-25 TRUCK CRANE LB-20
LOW BED WORG TO MILTON 10/11 HAULING TIES 75x8'6" FROM WORG TO MILTON
T-25 TRUCK CRANE T-23 TRUCKS 10/3/08 TAKE RAIL TIES PLATES, TAKE JOINT BOL
APART NORTH-SOUTH LAST TRAIN 11:05 AM MOBILIZATION C-15 PONG
FROM WORG TO NH.

Material removed during week:
 (When determination cannot be made in field regarding final disposition, so indicate by appropriate explanation such as:
 "Subject to further tests," "Subject to determination based on engineering or accounting records," or other brief descriptive
 phraseology.)

Material Removed During Week	Reuse	Sale As Junk	Abandon

Inspection of Removed Materials By State and/or Federal Highway Administration Personnel:
 Date _____ Location: _____
 Accepted By: _____

Submitted By: Joseph A. DiAngelo (Utility Supervisor) (Agree/Disagree) By: _____ (Project Engineer)

Remarks: _____

APPENDIX J

**TYPICAL UTILITY INSTALLATION STANDARDS BENEATH
RAILROADS**

Table J1 – Railroad Installation Minimum Cover DepthsJ-1

Figure J1 Clearance of Bridges or Other Overhead Structures: RSA 373:39J-2

Figure J2 Railroad Land Transactions.....J-3

Appendix J - Table J1
State of New Hampshire
Department of Transportation - Bureau of Rail & Transit

RAILROAD INSTALLATION MINIMUM COVER DEPTHS

INSTALLATION MUST MEET ALL CONDITIONS

UTILITY FACILITY TYPE	A	B	C
	PERPENDICULAR * AND BELOW TRACKS	LONGITUDINAL 25' TO 50' FROM CL OF TRACKS	LONGITUDINAL MORE THAN 50' FROM CL OF TRACKS
FLAMMABLE LIQUIDS			
1. UNENCASED - EXIST.	NOT ALLOWED	6' (1.8m)	5' (1.5m)
UNENCASED - NEW	NOT ALLOWED	6' (1.8m)	5' (1.5m)
2. ENCASED - EXIST.	10' (3.0m)	6' (1.8m)	5' (1.5m)
ENCASED - NEW	10' (3.0m)	6' (1.8m)	5' (1.5m)
WATER AND SEWER			
EXIST.	5 1/2' (1.7m) ENCASED	4' (1.2m)	3' (.9m)
NEW	5 1/2' (1.7m) ENCASED	4' (1.2m)	3' (.9m)
DRAINAGE			
EXIST.	5 1/2' (1.7m)	4' (1.2m)	3' (.9m)
NEW	5 1/2' (1.7m)	4' (1.2m)	3' (.9m)
POWER (ALL TO BE IN CONDUIT)			
EXIST.	5 1/2' (1.7m) ENCASED	4' (1.2m)	3' (.9m)
NEW	5 1/2' (1.7m) ENCASED	4' (1.2m)	3' (.9m)
COMMUNICATIONS			
EXIST.	5 1/2' (1.7m) ENCASED	4' (1.2m)	3' (.9m)
NEW	5 1/2' (1.7m) ENCASED	4' (1.2m)	3' (.9m)

* ALL UTILITIES SHALL CROSS TRACKS AT APPROXIMATELY RIGHT ANGLE, BUT NOT LESS THAN 45 DEGREES.

NOTES: ALL DEPTHS INDICATED ABOVE ARE MEASURED FROM THE TOP OF THE CROSSTIES.
3' MINIMUM DEPTH AT DITCHES AND SLOPES.
EXCEPTIONS TO MINIMUM DEPTHS AND OFFSETS INDICATED ABOVE MAY BE GRANTED.
REFER TO AREMA MANUAL SECTION 1-5 FOR SPECIFIC REQUIREMENTS.
UTILITIES SHALL BE INSTALLED UNDER TRACKS BY BORING OR JACKING, IF PRACTICAL.
CL = CENTER LINE

**TITLE XXXIV
PUBLIC UTILITIES**

**CHAPTER 373
CROSSINGS, STATIONS, FENCES, CATTLE
GUARDS, BRIDGES, AND BRIDGE GUARDS**

Bridges and Bridge Guards

Section 373:39

373:39 Clearance of Bridges or Other Overhead Structures; Height of Cars. – No overhead bridge or other structure shall hereafter be constructed across a railroad track in this state with less than 22 feet between the top of the rails and the lowest point of the overhead structure, except with the written consent of the department of transportation, and no railroad corporation shall receive or haul any freight car exceeding 16 feet in height from the rails to the top of the running board.

Source. 1893, 39:2. PL 249:50. RL 299:58. 1951, 203:58 par. 39. RSA 373:39. 1957, 58:1. 1985, 402:6, I(e)(5).

Figure J2 **Railroad Land Transactions**

Sale

Use for: Ancillary parcels or property not needed for future railroad operations
Approval by: CORD, Long Range, G & C following internal DOT review
Document: Deed

Lease

Use for: Various uses by abutters; parking , storage, use of old buildings, etc.
Approval by: CORD, Long Range, G & C following internal DOT review
Document: Lease

Dock Lease

Use for: Use of RR land on public waters by abuttor per RSA 57-a
Approval by: CORD, Long Range, G & C following internal DOT review
Document: Lease (Usually includes pedestrian crossing)

Crossing Agreement

Use for: Private roadway, pedestrian, and/or utility crossing
Approval by: Bureau (and AG)
Document: Crossing Agreement

Temporary Use Agreement

Use for: Use of RR land for short term projects, e.g. access for adjacent construction
Approval by: Bureau (and AG) following internal DOT review
Document: TUA

Rail Trail Agreement

Use for: Town/City for trail improvements and management on *inactive* lines
Approval by: Bureau (and AG) following DRED approval of proposal and internal DOT review. Also signed by DRED
Document: Rail Trail Agreement

Rail Trail Agreement

Use for: Town/City for trail improvements and management on *active* lines
Approval by: Bureau (and AG) following internal DOT and operating railroad review
Document: Rail Trail Agreement

Release of Rights

Use for: Release of whatever rights the State may have in land previously sold by a RR
Approval by: Bureau
Document: Quitclaim Deed

APPENDIX K

Detail K1	SAMPLE SURETY BOND (Single Project).....	K-1
Detail K2	SAMPLE SURETY BOND (Long Term/Multiple Projects).....	K-2
Detail K3	SAMPLE LETTER OF CREDIT (Irrevocable).....	K-3

Sample Letter of Credit

Detail K-3

IRREVOCABLE STANDBY LETTER OF CREDIT No. _____

Dated: _____

To: State of New Hampshire
Department of Transportation
District # _____ Office
City, State, Zip

We hereby establish our IRREVOCABLE LETTER OF CREDIT in your favor and authorize you to draw on us, for the account of:

up to an aggregate amount of _____ U.S. dollars (U.S. Dollars \$ _____) available by your draft(s) at sight to be accompanied by:

A signed statement from an authorized official of the New Hampshire Department of Transportation stating the following: “ _____ “ has failed to comply with and perform all of the terms and provisions of Permit No. _____, (and other rules and regulations of the New Hampshire Department of Transportation referred to therein) relating to _____ and related construction for the _____ to be constructed as described according to a plan by _____ dated _____ and recorded in the _____ County Registry of Deeds as plan No. _____.”

Special Instructions:

All Banking Charges other than issuing Bank’s for beneficiary’s account.

Partial drawings are (not) permitted.

All drafts must be marked “Drawn under _____ letter of credit # _____ dated _____.”

This letter is subject to the Uniform Customs and Practice for Documentary Credit (1983 revision), International Chamber of Commerce Brochure #400. We agree with you to pay draft (s) drawn under and in compliance with the terms of this Credit presented at this office together with this Letter of Credit and documents specified on or before the close of our business on _____.

Authorized Signature